DIALOGUE WITHOUT BARRIERS

A comprehensive approach to dealing with stuttering

DIALOGUE WITHOUT BARRIERS

A comprehensive approach to dealing with stuttering

Iceland
Liechtenstein
Norway grants

Reviewers
Tim Anderson, Jessica Harasym, Henriette W. Langdon, and Glen Tellis

Language editor
Tim Anderson

Translation
Aleksandra Boroń, Grete Roland, and Peter Schneider

Graphic design
Beata Klyta

Cover design
Jarosław Telenga

ISBN 978-83-951069-8-9

First edition, Chorzów 2023

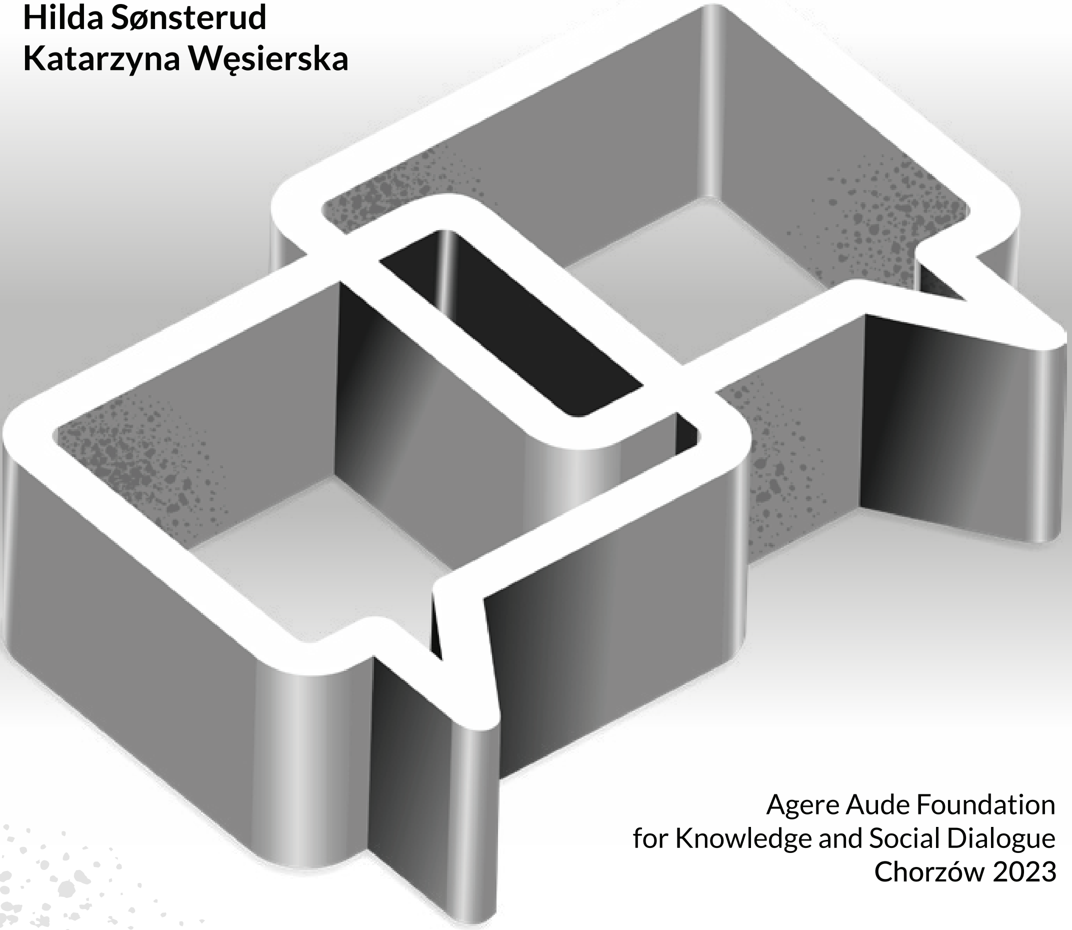
Agere Aude Foundation for Knowledge and Social Dialogue
www.agereaude.pl

The project *LOGOLab – Dialogue without Barriers* benefits from a grant of EUR 139,838 received from Iceland, Liechtenstein, and Norway under the EEA funds. The aim of the *LOGOLab* project is to raise the quality of speech-language therapy, and to adapt the stuttering therapy into the principles of *Evidence-based practice*, as well as the community-based model of intervention. Three partner institutions have been involved: the University of Silesia in Katowice, the UiT Arctic University of Norway in Tromsø and the Agere Aude Foundation for Knowledge and Social Dialogue.

DIALOGUE WITHOUT BARRIERS

A comprehensive approach to dealing with stuttering

Editors
Hilda Sønsterud
Katarzyna Węsierska



Agere Aude Foundation
for Knowledge and Social Dialogue
Chorzów 2023

AGERE
AUDE

Table of Contents

Foreword

The book *Dialogue without barriers: A comprehensive approach to dealing with stuttering* is the result of Norwegian-Polish cooperation undertaken in the project *LOGOLab – Dialogue without barriers*. Three partners have been involved in the production of this book, namely, the University of Silesia in Katowice, Poland, the UiT Arctic University of Norway in Tromsø, and the Agere Aude Foundation for Knowledge and Social Dialogue. The project was implemented under the Education Program financed by the EEA Grants (EEA / 19 / K1 / D1 / W / 0031). The EEA Grants represent the contribution of Iceland, Liechtenstein, and Norway towards a green, competitive, and inclusive Europe. The most important goal of the *LOGOLab* project was to raise the standards of speech-language therapy in stuttering by incorporating the principles of *Evidence-based practice*, taking into account the assumptions of inclusive education and community-based model of intervention. An essential strategy for achieving this goal has become the dissemination of reliable and up-to-date knowledge about stuttering, and the development of appropriate social attitudes towards stuttering. The improvement of the quality of academic education for speech-language therapy students and of vocational training for certified speech-language therapists should also be mentioned. An additional aim was to provide reliable information for leaders of the self-help movement, who support people with stuttering non-institutionally.

We wanted to provide comprehensive coverage of current issues in the field of stuttering, and invited an international group of specialists to write chapters for the book. The result is a collaborative effort of researchers, practitioners, and professionals, some of whom have personal experience with stuttering. In addition to authors from Norway and Poland, other experts from Australia, Belgium, Canada, United Kingdom, Greece, Germany, Lebanon, Malta and the United States have contributed. The book consists of 16 chapters, involving 25 contributing authors. Thanks to their generosity, the English version of this volume was created, which we are presenting to you herewith.

We expect the book to be useful for diverse groups worldwide. The book's authors present a holistic approach to speech therapy intervention in stuttering, taking into account the multi-faceted nature of the phenomena that concern them, and the consequences for speech therapists' work. They consider effective prevention strategies, multi-dimensional diagnosis, and *Evidence-based treatment* methods. The book describes in detail topics related to the change of social attitudes towards stuttering and *Evidence-based practice*. The following contemporary therapeutic programs are also presented: *Camperdown Program*, *KIDS* (German title: *Kinder dürfen stottern*, which translates to: *Children should be allowed to stutter* in English), *Lexipontix Programme*, and MIST (*Multidimensional Individualized Stuttering Therapy*). Topics such as becoming an SLT with high competence in developmental and acquired stuttering, practical aspects of group therapy, prevention of school bullying, and stuttering and multi-lingualism are also covered. Furthermore, issues such as the use of humor, creativity, and modern technologies in speech therapy interventions are included.

This is a unique book. The authors emphasize the importance of focusing on people and their experiences and implementing a community-based model of intervention. This publication intends to help its readers to see the person with a stutter, not just the stuttering itself. It enables them to fully understand that the main task of speech therapy intervention in stuttering is to improve the quality of communication, and then – the quality of their life. It is, therefore, obvious that the concept of acceptance appears repeatedly on the pages of this book. The term is not understood to be a state of passivity and withdrawal, rather it means that a person's own potential, along with his/her challenges, can be fulfilled. This, in turn, leads to the implementation of change in the process as harmonious on the person's own terms.

We are convinced that the reader will find these materials to be inspiring, reflective, and motivating. The widespread availability of the handbook on the *LOGO-Lab* and the partner institutions' websites is undoubtedly another of its advantages. We hope that the book will be positively received by teachers, SLT students, SLTs, and other specialists who deal with stuttering in their professional work or support activities. Wishing our readers pleasant reading, we also wish this work to contribute to the improvement of the quality of speech therapy not only in Poland, but also worldwide. We believe that the true success of disseminating the publication will be to change the perception of stuttering and people who stutter. It is hoped that this book will achieve useful outcomes for the many children, adolescents and adults who may experience challenges with stuttering. Our dream is for SLTs to feel more comfortable in undertaking a therapeutic intervention related to stuttering. In fact, the project will promote the rethinking of stuttering as it is experienced by individuals who stutter: while disfluency is what might distinguish them, it does not have to limit them!

Hilda Sønsterud and *Katarzyna Węsierska*
Oslo/Tromsø and Katowice

Acknowledgements

There are many individuals we would like to acknowledge. Each author has brought their extensive academic and clinical expertise to this book. We have enjoyed collaborating with them all, and have benefitted to large extent from the knowledge and experience they have in their respective areas of speech-language therapy. Finally, we have been supported by dedicated people worldwide. A special thank you to Tim Anderson (music R&D for disabled students, SKUG centre, Tromsø), who has proofread and commented on all the chapters. Furthermore, warm thanks to Marta Margiel (University of Silesia), Signhild Skogdal (University of Tromsø), Tor Gisle Lorentzen (University of Tromsø), and Elin Margrethe Ryseth (University of Tromsø). The chapter about *KIDS* was originally prepared in German, and the translators were Aleksandra Boroń, Grete Roland, and Peter Schneider. In addition to Tim Anderson's thorough work, Jessica Harasym, Henriette W. Langdon and Glen Tellis have contributed as consultants, as well as reviewers for three of the chapters.

About the Authors

Joseph G. Agius (PhD) is a Registered European Fluency Specialist with special interest in creativity and humour research. He holds a Master of Science degree in Clinical Speech and Language Studies from Trinity College, Dublin and a Doctor of Education degree from the University of Sheffield. Dr. Agius is involved in the development and delivery of the ‘*European Clinical Specialization Course in Fluency Disorders*’ (ECSF) and is a steering committee member. He is Executive Speech and Language Practitioner at the Speech Language Department, Government of Malta. Visiting senior lecturer at the University of Malta, he lectures on ‘*Fluency Disorders’ and ‘Public Speaking*’. He is author of the iOS application ‘*Fluency SIS*’ – Smart Intervention Strategy for school age children who stutter.

Stine Brubak is a speech and language pathologist (SLP) and fluency specialist in Norway. She finished 10 years of studies in SLP and psychology at the University of Oslo (UiO) in 1999, and then a Fluency specialist PG diploma (ECSF) at Lessius Mechelen in 2012. She also did several certification courses in stuttering treatment programs and cognitive therapy approaches abroad. She founded the first private fluency specialist clinic in Norway, started working with stuttering and cluttering in all age groups, and now holds extensive clinical experience of stuttering treatment options. The past 10 years, she run courses and workshops for colleagues, been involved in clinical training of SLP students, and worked as a guest lecturer and sensor for MaS students at UiO. In recent years, she has developed a special interest for neurogenic and psychogenic fluency disorders in people with congenital or acquired diagnoses, progressive diseases, and trauma conditions.

Carolyn Cheasman has worked with adults who stammer, mainly in group settings, at City Lit, London since 1979. She has experienced interiorised stammering herself and so brings both personal and professional interests to the field. Having done post-qualification training in personal construct psychology and person-centred counselling she went on to train as a mindfulness teacher and now teaches mindfulness and *Acceptance and Commitment Therapy* to people who stammer, speech and language therapists and the general public. In 2012 Carolyn was honoured to receive the International Fluency Association clinician of distinction award. She became interested in the influence of the social model of disability in the late 1990s and has been involved in the development of self-advocacy groups. She has a particular interest in interiorised stammering.

Kirsten Costain holds a PhD in Health Psychology from the University of Leeds, UK, and a Master's degree in Communication and Congenital Deafblindness from the University of Groningen, Netherlands. Her previous research includes topics such as experiencing treatment for cancer, qualitative research methodology, palliative care and the therapeutic encounter. She has worked since 2011 as first a teacher for children with congenital deafblindness, and then as Senior Adviser at the National Unit for Combined Visual and Hearing Loss and Deafblindness, Statped, Oslo, Norway. She has written about embodied cognition, communication and language development of people with congenital deafblindness.

Kurt Eggers is professor at Ghent University, Thomas More and Turku University. He is chair of the European Stuttering Specialization, president of the World Stuttering and Cluttering Organization, secretary of the European Fluency Specialists and associate editor for Journal of Fluency Disorders. Kurt has worked clinically for many years and his research focuses on temperament, attention, and executive functioning in stuttering and speech disfluencies in different populations.

Rachel Everard is a specialist speech and language therapist whose decision to train as a therapist stemmed from the fact she stammers herself and from her life-changing experience of receiving therapy at City Lit. Since qualifying in 1996, she has worked in a variety of settings including community clinics and mainstream primary schools before joining the City Lit speech therapy team in 2001 where she worked until 2019. Due to her own personal experience of stammering, she strongly believes in empowering people who stammer and the importance of developing stammering communities as well as educating the general public about stammering.

George Fourlas is a Speech & Language Therapist, Fluency Specialist (EFS), head of the Stuttering Research and Therapy Centre (ΚΕΘΤ) in Athens, Greece (www.travlismos.gr). He is lecturer and coach in the European Clinical Specialization in Fluency (ECSF). He is involved in clinical work with children and adults, research, teaching, and clinical coaching. He has published research papers and chapters in books, he has given presentations at national and international conferences and workshops and he is co-author of the *Lexipontix Programme*. He is a member of the IALP Fluency Committee and member of the Special Interest Group in Fluency Disorders of the Panhellenic Association of Logopedists-Speech Therapists.

Kirsten Howells is a speech and language therapist who stammers, and who has gradually become more comfortable and open about stammering over the years. She specialises in working with people who stammer or clutter and has worked in the UK's National Health Service, in the Norwegian state service, in private practice and in the charitable sector. She's also been sufficiently fortunate to live and work in the UK, Norway and the USA, and experience the role of speech and language therapists across settings and countries. In 2018, along with co-chair Jenny Packer, Kirsten received the International Fluency Association's *Unsung Hero Award* for her involvement in the collaborative world congress of the International Cluttering Association, International Fluency Association and International Stuttering Association.

Anke Kohmäscher works as a professor at Münster University of Applied Sciences directing a speech language bachelor program. She obtained a bachelor's degree in speech language therapy at HAN University of Applied Sciences (Nijmegen, The Netherlands) and a master's degree in speech language therapy in research and teaching (RWTH Aachen, Germany), as well as Public Health (University Lüneburg, Germany). Having specialized in treatment of stuttering, she worked in several private practices. In 2010 she finished her doctoral studies on a measuring instrument for speech fluency after stuttering treatments. Since 2005 she is doing research on stuttering, including being the head of the multi-site randomized controlled trial PMS *KIDS* on the effectiveness of stuttering treatment in school-aged children (2018-2022).

Aleksandra Krawczyk (M.A) completed her Master of Arts in Communication Sciences and Disorders at The University of Central Florida. She was a Student Fulbright grant recipient during the 2015–2016 year to Poland, where she helped organize workshops for children and adults who stutter and taught English at the University of Białystok. Currently, she is a school-based speech-language pathologist as well as an adjunct clinical educator in the University of Central Florida Communication Sciences and Disorders Clinic. In addition, she completed the European Clinical Specialization in Fluency Disorders (ECSF) certification in June 2020. Her research interests include understanding the cross-linguistic aspects that may influence disfluencies in bilingual individuals who stutter.

Marilyn Langevin is former Director of Research at the Institute for Stuttering Treatment and Research at the University of Alberta. She obtained her PhD at the University of Sydney. She currently holds an Adjunct Associate Professorship at the University of Alberta. Dr. Langevin's research interests include treatment outcomes, the social impact of stuttering on school-age and preschool children, teasing and bullying prevention, and more recently, decision making in treatment programming. Her research interests derive from her clinical work and the many clients to whom she remains grateful. In 2021 Dr. Langevin also completed a Bachelor of Fine Arts at the University of Alberta and has become a multi-media/multi discipline artist.

Dimitris Marousos, is a Speech and Language Therapist, Fluency Specialist (EFS) and clinical supervisor of the Speech and Language Centre EU-LEGEIN in Volos, Greece. He has been trained and certified to Solution Focused Brief Therapy. He has graduated from and is currently a mentor in the European Clinical Specialization in Fluency (ECSF). He has extensive experience in clinical work, mentoring and clinical supervision with children, teenagers and adults who stutter of all ages, and he conducts research in the area of stuttering. He is a member of the IFA Practice Committee and a member of the Greek SIG in fluency disorders. He is one of the authors of *Lexipontix Therapy Programme* for school age children who stutter, and he conducts workshops for speech and language therapists.

Sue O'Brian is a speech pathologist with many years clinical and research experience with adults and children who stutter. She has published around one hundred papers in professional journals and contributed to several books in the area of stuttering. Her particular interests involve the measurement of stuttering, the development of internet treatment programs for stuttering, and research in the *Camperdown Program* for adults who stutter. Sue is founding member of the *Camperdown Program Trainers Consortium* and has presented many workshops both locally and internationally for this program and the *Lidcombe Program*.

Jenny Packer is a Highly Specialist Speech and Language Therapist working for the National Health Service in the South East of England. Jenny currently works with children who stutter and their families but also has experience and specialist training working with adults who stutter. Jenny's qualifications include a post-qualification Master's degree (Trinity College, Dublin) with stuttering as a specialism and completion of the European Clinical Specialisation in Fluency Disorders program. Jenny participates nationally and internationally in the wider stuttering world and enjoys being an ally within the stuttering community. As well as her role within the National Health Service, Jenny supports STAMMA in a voluntary capacity.

Erik X. Raj (PhD) holds a Certificate of Clinical Competence from the American Speech-Language-Hearing Association and is a practicing speech-language pathologist who works with school-age children with various communication difficulties. He is currently an associate professor in the Department of Speech-Language Pathology at Monmouth University in New Jersey (United States) where he teaches undergraduate and graduate courses in the areas of fluency disorders and research methods. Also, Dr. Raj is a facilitator at Camp Shout Out in Michigan (United States), which is a summer camp for young people who stutter. Dr. Raj regularly presents interactive workshops demonstrating how speech-language pathologists can use mobile and Internet-based technologies to educate and motivate school-age children. In addition to developing over 25 mobile apps and websites for children with communication difficulties, he is the creator of SLPVideoGames.com, a website that features a collection of online video games with built-in speech and language flashcards.

Selma Saad Merouwe is a Slovak-Lebanese SLT. She is specialized in fluency disorders

(ECSF, EFS) and a PhD candidate (University of Turku, Finland and Saint-Joseph University, Lebanon). She is a lecturer, graduate program coordinator, researcher and clinical supervisor at the Higher Institute of Speech-Language Therapy of Saint-Joseph University. Her research, clinical practice and teaching focus on fluency disorders, and bilingualism. She is a national representative of the Stuttering Committee (Lebanon), member of the Practice Committee in the International Fluency Association, and national representative in the International Cluttering Association.

Patricia Sandrieser (PhD) is a trained speech and language therapist and followed the studies Speech and Language Therapy in Research and Teaching at the university of Aachen. She works at the head of the department Speech and Language Therapy at the Catholic Clinic in Koblenzans Montabaur. She has worked in the field of childhood stuttering for 25 years. She is working as a lecturer in several universities of applied sciences in Germany, Austria, and Switzerland and together with Peter Schneider she developed the treatment approach "*KIDS*" and participated in the development of the Clinical Guidelines for Fluency disorders.

Peter Schneider graduated as a primary school teacher and a speech language therapist. Between 1990 and 2019 he lectured at the School of Logopedics at the University hospital of the RWTH Aachen, where he specialized for childhood stuttering, treated clients and supervised students treating stuttering children. Together with Patricia Sandrieser he developed the *Stuttering Modification approach KIDS* (*School-KIDS* and *Mini-KIDS*) which became one of the most common approaches for stuttering children in Germany. He was part of the core-team of the German guidelines for fluency disorders. He was a staff member of the *European Clinical Specialization Course on Fluency Disorders*, and published about stuttering for specialists, stuttering children and their parents.

Kenneth (Ken) St. Louis, a mostly recovered stutterer, is an Emeritus Professor of speech-language pathology at West Virginia University (WVU). St. Louis has taught and treated fluency disorders for 45 years. His research has culminated in more than 200 professional publications and 400 presentations. He is an ASHA Fellow and was awarded the Deso Weiss Award for Excellence in Cluttering, WVU's Benedum Distinguished Scholar Award, and WVU's Heebink Award for Outstanding Service. He founded the *International Project of Attitudes Toward Human Attributes* and collaborates with numerous colleagues internationally on measuring public attitudes toward stuttering. He has also presented and published widely on cluttering and stories of stuttering.

Hilda Sønsterud (PhD) is a speech-language therapist and researcher in Oslo, Norway. She works as a Senior Advisor at Statped, National Service for special needs education, and as an Associate Professor II at Nord university, Faculty of Education and Arts. Hilda works primarily with treatment and clinical research related to fluency disorders. Hilda is EFS-certified (European Fluency Specialist), she runs courses for SLTs within the field of stuttering and cluttering, and she provides lectures, supervision, workshops, and clinical practice for SLT students. Hilda is the founder of the *Multidimensional Individualized Stuttering Therapy* (MIST) and has investigated the therapeutic alliance within stuttering treatment. She is particularly occupied about how researchers are defining evidence in clinical research. Hilda is a national representative in the International Cluttering Association.

Sabine Van Eerdenbrugh is researcher, lecturer, and the coordinator of the Bachelor Student Research at the Thomas More University College of Applied Sciences in Antwerp (Belgium). Sabine specialised in stuttering but has treated children and adolescents with a variety of speech and language disorders for many years. She developed the Internet-based *Lidcombe Program* Training for her PhD at the Australian Stuttering Research Centre and is a member of the International Lidcombe Program Trainers Consortium. Her research focuses on the domain of stuttering. Sabine recently became a member of the editorial board of EBPracticeNet at the Centre of Evidence-Based Medicine (Cebam) in Louvain.

Martine Vanryckeghem received her Substitute Ph.D. with PhD from Southern Illinois University after having worked as a speech-language pathologist in Belgium. Dr. Vanryckeghem is a Pegasus Professor at the University of Central Florida, ASHA fellow, a Board-Certified Fluency Specialist, and European Fluency Specialist. She has published widely in peer-reviewed journals and has given workshops, internationally, with respect to the assessment, differential diagnosis, and treatment of individuals who stutter. She is the co-author of the *Behavior Assessment Battery for Children and Adults who Stutter* and the *Communication Attitude Test for Preschoolers* (*KiddyCAT*). For her international endeavors, Prof. Vanryckeghem received ASHA's Certificate of Recognition for Outstanding Contribution in International Achievement. She has been a guest professor at the University of Gent, Belgium and the University of Utrecht, the Netherlands. From 1990 until 2000, she was managing editor of the Journal of Fluency Disorders. Dr. Vanryckeghem serves on the Scientific Board of different internationally-based organizations.

Mary Weidner is an Assistant Professor in the Department of Communication Sciences and Disorders at Edinboro University of Pennsylvania, USA. Mary's area of research focuses on measuring and changing children's attitudes toward peers who stutter. She developed the *Attitude Change and Tolerance* program (*InterACT*), an educational program that teaches children about awareness and acceptance of stuttering and other human differences. The program has been translated into various languages and has been shown to improve young children's stuttering attitudes. Mary has co-authored children's books about stuttering and assisted in the production of the documentary, *Stuttering: Part of Me*.

Katarzyna Węsierska is an Associate Professor at the University of Silesia in Katowice, Poland, and the founder and the president of the Logopedic Center Foundation. In her research and clinical practice, she focuses mainly on fluency disorders. She is a European Fluency Specialist and a coach of the EU postgraduate Clinical Specialization in Fluency Disorders. She has been actively involved in numerous research projects conducted in the *International Project on Attitudes Toward Human Attributes* – IPATHA. She has also been involved in other international research projects (e.g., in cooperation with the University of Central Florida, USA, or the University of Alberta, Canada). Recently, she has coordinated another international project: *LOGOLab – Dialogue without barriers* (collaboration with the Arctic University of Norway and the Agere Aude Foundation of Knowledge and Social Dialogue). She is the International Cluttering Association (ICA) secretary and the editor of the ICA newsletter. Dr. Węsierska co-organizes the International Conference of Logopedics: *Fluency Disorders: Theory and Practice*. At the 11th Oxford Dysfluency Conference, she was awarded the David Rowley Award for International Initiatives in Stuttering.

Marta Wesierska (PhD) graduated with a bachelor's degree in psychology from the University of Warwick in the UK in 2013 and continued her education by undertaking a master's degree in Developmental Psychology at the University of York (UK). In 2018 she defended her PhD thesis in Psychology at the University of York, her doctoral thesis researching bilingual language and reading development in early primary school children. She is currently working as a lecturer in Developmental Psychology at Liverpool Hope University (UK). Her research interests include developmental psychology, bilingualism, reading development in young children as well as language and communication disorders. She has written a number of publications in these areas of research. Additionally, she is involved in translating scientific and didactic materials on the subject of fluency disorders into Polish and has actively participated in organizing scientific conferences and workshops for speech-language therapists.

Chapter 1

Kirsten Costain & Hilda Sønsterud

The Gap between Research and Clinical Practice: Towards an Integrated Speech-Language Therapy

Purpose of the chapter

The gap between research and clinical practice is one of the main challenges in speech-language therapy. There have been many compelling reasons for this gap: lack of information exchange and dialogue between researchers and clinicians; the specific ways in which scientific inquiry has been conducted and scientific knowledge presented; lack of access to scientific journals; and sometimes, lack of interest in this knowledge on the part of clinicians themselves. The way knowledge is produced, and by whom, determines the specific nature of that knowledge, and the appropriateness and value of forms of knowledge must be established and re-established in any context of use, including that of theoretical discussions. Both research and practice are ongoing conversations. The continuous establishment (or not) of evidentiality of specific knowledge and forms of knowledge production should be facets of practice and research. This is a more realistic, and reality-based, way to cast the discussion than is the notion of achieving a fixed canon of evidence on which to base practice.

The ideas for a paradigm of practice- and client-based research and evidence presented here offer a variety of approaches to thinking about, and bridging the gap between, knowledge produced by research, and that produced in clinical practice within the field of speech-language therapy. Our central point is that this gap is best bridged by focusing on the client in a way that simultaneously advances the field. We advocate an active role for the client as chief stakeholder in speech-language therapy. This focus can be used to guide research on the efficacy and assessment of the explanatory value of research results by practitioners and researchers alike. We have chosen an eclectic and, we hope, inspiring mix of work from the social science and health research methodology fields spanning the past four decades. During this period, the processes of professionalization of the field of speech-language therapy and the development of practitioners into researchers have paralleled the development of other practice-based fields in the health care sciences. We focus on the intertwined themes of pluralism and contextualism, drawing on work arising out of the ethnographic social science research tradition, and its more modern iterations in terms of forms of action research, and research on psychotherapy. Our account here is suggestive rather than prescriptive, underscoring our view that embracing the challenge and complexity of knowledge production requires us to place it at the centre of any discussion of an evidence base for the field.

Delineations of the gap: epistemological tensions

The gap between knowledge produced by research, and that produced in clinical practice has traditionally been characterized as that between theory and practice, and between academic researchers on the one hand, and practitioners or 'professional knowledge workers' on the other (Van de Ven & Johnson, 2006). However, in recent decades there has been a move toward expert professional organizations outside of academe becoming 'learning organizations', in which ordinary employees are expected to have university degrees (Eikeland, 2009). Health practitioners have increasingly engaged in research, and professional advancement within many practice fields is increasingly attained through academic qualification (a well-known consequence of which is the practitioner departing from practice and becoming an academic, a researcher or a manager). Alongside this increased emphasis on theoretical knowledge and academic institutional involvement in practice is the powerful position held by the still-dominant 'traditional' positivist view of empirical science. In this perspective, science serves a supreme Platonic Rationalism in the value-free pursuit of true knowledge – theories and facts (see, for example, Crossley's account of these issues and the social control function served by positivist approaches to health research and health education; Crossley, 2000). At the same time, presentations of science in popular discourse and the media draw heavily on the accompanying assumption that the driving motivation for doing scientific research is emancipatory and humanitarian (Lupton, 1995). The health and social welfare professions have both gained greater status for their knowledge bases (and for their ways of knowing), as well as higher moral ground by doing, or appearing to do, scientific assessment and investigation of practice (Murray & Chamberlain, 1999). Indeed, some form of research base for practice has long been a requirement rather than a choice or goal (Crossley, 2000), and *Evidence-based practice* has been an accepted framework in the field of speech-language therapy since the 1990s (McCurtin, Murphy & Roddam, 2019). Evidence in the literature is still equated with claims made through top-down, theoretical research paradigms and quasi-experimental designs, and the *Randomized Controlled Trial* remains identified as the 'Gold standard' for such claims (Greenhalgh, Howick, & Maskrey, 2014; Swift, Langevin, & Clark, 2017).

However, what constitutes science and scientific knowledge in professional and policy terms (including official practice guidelines) at any historical turn can be seen to be a matter of political expedience and control (Friedson, 1970). Whether health research is funded by charitable foundations, through corporate investment, or by the State, decisions regarding funding do not necessarily support the ideal of a field shaped by best practice responses to real-world service users or client needs. Formal funding and publication decisions reflect prevailing ideas about what constitute worthwhile research topics and research questions, trustworthy knowledge and evidence within a given profession. These decisions are also contingent on value judgements made by bodies of individuals and groups, which are themselves selected and constrained by the institutions that support them (Friedson, 1994; Eikeland, 2012; McCurtin et al., 2019). With the increasing dominance of the market economy and the corresponding corporatizing of public institutions including universities, the gap between professional knowledge producers and the consumers of this knowledge has arguably become larger, yet also less visible (Lupton, 1995), and this has implications for gaps between research-based and practice-based knowledge.

Practitioners, as (knowledgeable) first-hand knowledge producers, have a somewhat more robust claim than institutional scientists to being engaged in emancipatory scientific knowledge production, grounded in their proximal, *in situ* connection with the world of practice. Here as well, claims can be made about the nobility of cause and purity of motive in pursuit of truth (and here too, knowledge developed in everyday practice can be portrayed by practitioners as equally value-free and incontrovertible as that produced by academic researchers). The knowledge production – and thus evidence-base – of the practitioner, and ultimately of the field of practice, is nevertheless equally constrained by the same institutional, political, and strategic priorities and imperatives imposed on the activities of non-practitioner researchers (Eikeland, 2012; McCurtin, Murphy & Roddam, 2019). These constraints on scientific research, on practice, and on citizens ('clients', 'patients', 'service users' or 'recipients'), combine with the persistent on-the-ground urgency of real individuals needing professional help in real time. Thus arises the equally urgent question for both practitioner and researcher in the field of speech-language therapy: how can research bridge the gap between practice-based evidence and *Evidence-based practice*?

Engagement and the gap

Van de Ven and Johnson (2006) offer a detailed presentation of what they call ‘engaged scholarship’, in a pluralistic approach to methods and methodology used in research on management and organizations that reverses the top-down privileging of scientific, formal-technical knowledge, and bestows the status of derivative on the practical aspects. They argue for a reflexive, critical, realist approach (Azevedo, 1997) that uses multiple models and methods, and acknowledges both the limitations on knowing (all knowledge is partial, and all knowledge is contextually and historically situated), and the fact that different models serve different points of view and the interests of different stakeholders in the research. They point to Kondrat’s (1992) now 30-year-old review and her point that what is missing are empirical studies of knowledge from practice in terms of *knowing in* practice, rather than *knowledge for* practice. The use of the verb form here (‘knowing in’) highlights knowledge as being performative, processual, and intimately caught up in the untidy everyday reality of the context in which it must be realized, rather than a static, finished product (‘knowledge for’) that is made externally, then imported into the context of practice. With this emphasis on knowing over knowledge, the intrinsic embodiment of the context in which knowledge for practice must be useful and trustworthy also becomes harder to ignore.

These points bring us closer to two of the three ‘pillars’ of evidence-based research: quality research evidence, clinician judgement, and knowledge derived from the experiences and reflections of clients. McCurtin et al. (2019) refer to the general acceptance in speech-language therapy of some version of these three pillars, and argue that there is too little emphasis on, and specificity regarding, the second two of these pillars. Their approach to remedying this situation echoes the call to engaged scholarship above. They argue for a *Total Evidence and Knowledge Approach* (TEKA) that seeks to critically examine knowledge and expertise on which interventions are based, and for practitioner-clinician and client knowledge bases to both be part of this synthesis. Here, they are keen that while both implementation and knowledge translation goals will, and should, be served by this process, the critical and comprehensive synthesis and assessment of knowledge should be a systematic part of practice-improvement processes for the clinician. Their suggestions for what this should include, and how it can be systematized (thus also raising to visibility what might otherwise remain tacit or hidden in clinician and client-based knowledge) provide a good example of how practitioners can avoid remaining within a narrow focus on ‘what works’ or seems useful in dealing with a problem, or in defining research narrowly in terms of usefulness, with no recognition of how different ways of knowing and forms of knowledge are connected to theory (Eikeland, 2012).

Tacit and explicit knowledge

Engaged scholarship involves pluralist knowledge-building in which practical knowledge is produced by the subjective knower who operates from a position of engagement with, rather than distance from, practice and practitioners (Van der Ven & Johnson, 2006). Van der Ven and Johnson argue for engagement of both research and practical knowledge forms as presented in Aristotle's three categories of knowledge: *Techne* (instrumental, means-ends), *Episteme* (fundamental theoretical-analytical), and *Phronesis* (practical, how best to act in the situation, also toward ambiguous social or political aspects as they arise). They take their application of Aristotle's categories further by adding Habermas' distinctions between technical and practical knowledge that overlap those of Aristotle (Pezdek, Dobrowolski, & Michaluk, 2020; Van De Ven & Johnson, 2006), pointing out that Habermas "viewed practical knowledge as tacit, and embodied in action and technical knowledge as formal, explicit, propositional, and discursive" (Van de Ven & Johnson, 2006, p. 805). In contrast, the work of Latour (1986), Latour and Woolgar (1986), Polanyi (1962) and others describes how the tacit and explicit dimensions are present in both scientific and practical knowledge, as evidenced in their studies of scientists at work, which highlight the mixing of tacit and informal with technical-theoretical methods and practices. Latour and Woolgar (1986) introduce the notion of improvisation as the central process underlying scientific work-in-practice, a hard-to-define mesh of processes intimately connected with flow and creativity, but also with doing the right thing at the right moment. The latter requires technical skill and decisiveness supported by sound theoretical analysis and intimate engagement with the situatedness of the work of doing science, in what can be called the specific demands of the moment.

The word tacit means silent, and indeed, research reports and publications continue to remain largely silent about many of the messier aspects of doing the research that formal reports are based on, including the making-sense work of data analysis. There has traditionally been greater honesty about the non-linear (more organic) aspects of knowledge production in qualitative-interpretive research than in quantitative, positivist/post-positivist research accounts, though this belies the fact that statistical data can be just as unruly and bewildering as interview transcripts (Silverman, 1993). De Certeau's (1984) distinction between tactics and strategies provides another way of conceptualizing the distinction between formal-theoretical and tacit knowledge, or between Aristotle's 'episteme', 'techne', and 'phronesis' knowledge categories. De Certeau (1984) defines strategy as an expression of the "force-relationships" that become possible when a subject, a professional, a proprietor, a business, a scientific institution, or a field of practice consolidates power by becoming isolated from the environment (p. 36). The terms strategy and tactics are familiar to us from everyday conversation, but they originate from the Chinese military strategist Sun Tsu's texts on the art of war, and the inherent tension between them points to how everyday practices are frames for intimate power struggles. Strategies are generated from within the place or location demarcated by this isolation, a space "that can be circumscribed as proper" (from the French *propre;* p. xix; a space of practice owned and under the control of an expert). They thus serve as the means for generating relations with the occupants of an exterior outside this official, proper space, such as clients, competitors, or objects of research. A 'tactic' on the other hand, is employed in response to a pragmatic, situated need, and is placeless – only appearing at the moment it is used. Tactics depend on timely cleverness (for example, a speaker's pragmatic 'trick' to stop stuttering in the middle of a sentence), whereas the strategic solution emanates from an institutional space that is timeless or outside of the ordinary moment-to-moment of everyday life (the professional discipline of speech-language therapy) and is a statement of the authority of this space to define knowledge outside, and above, its chaotic detail. Thus, a *strategy* for controlling stuttering is described in academic textbooks, professional practice guidelines and the research literature. Viewed from this latter perspective, our speaker in the example above can be seen by the with speech-language therapy to be employing an anti-stuttering strategy in releasing a block in the moment of stuttering by performing a pull-out. The tactical (from the ground up) approach to the person's stuttering remains invisible in the research literature. Conversely, visibility is bestowed on approaches similar to those taken by specific clients when these are gathered, generalized, and articulated by the field of speech-language therapy in terms of theory (top-down explanation) and thus presented as examples of a strategy.

However, conversational (and many other) everyday practices are largely tactical in nature, and thus cannot be viewed in isolation from the circumstances in which they occur (de Certeau, 1984, p. 20). A therapist-researcher can observe a tactic or group of similar tactics for dealing with stuttering, or collect descriptions of them, but to achieve the status of strategies for management of stuttering, these must be given presence (be made visible) by a representative of institutional authority (a therapist-researcher in the field) and reworked into the forms and language acknowledged by the institution. Without this crucial transformation, such tactics cannot exist (for the field), cannot be studied, and have no reality beyond that of the individual client in the moment of their usefulness. Strategies for treatment are generated from a formal-theoretical knowledge base, produced through research, and incorporated into the field of speech-language therapy. Tactics for coping, on the other hand, are what the client employs in everyday life-management when seeking help for specific personal difficulties with speaking. Furthermore, evidence-based strategies employed by SLTs in their practice are those that emanate from formal research ('formal' because conducted by or under the auspices of a person with research qualifications and/or a research institution). It does not matter whether the research is practice-based or not – these strategies achieve their position in the field of speech-language therapy through being published in the scientific literature, cited by other researchers and practitioners, and presented at conferences.

The tactical discoveries of the client, by definition, do not have this institutional sanction: they are specific and individual – often remaining unknown to anyone other than the individual person – and have no established place outside of everyday life. The isolation of institutional disciplinary knowledge within a space all its own gives it the upper hand in relations between its representatives (practitioners and researchers) and their clients. This movement of an institution or field "splitting off the place of its own power and will from an 'environment'" (de Certeau, 1984, p. 36) is one of Cartesian rationalization, best known as the 'mind-body' split in the medical sciences (Yardley, 1999, for example). The Cartesian notion of the mind in isolation from an external physical reality lies at the root of the Western European conception of knowledge 'acquisition', as the process whereby the rational, individual mind can apply systematic observation to deduce the nature of the material world, and in this way gain the ability to predict and control physical events in this material world (Yardley, 1999, p. 33). The environment from which speech-language therapy emerges is an everyday world that is "permeated and metaphysically infiltrated by the invisible powers of the Other", that is, by the unknown difficulties and abilities of the client-individual presenting for therapy to the speech therapist-representative of the field. This environment is resistant to strategic control because it is complex, confusing, full of non-linear activity and unruly detail, and resists definition. The SLT stands with a foot, as it were, in both camps: the disciplinary-theoretical-institutional on the one hand, and the tactical everyday world of the clinic on the other. In the attempt to resolve the inevitable tensions of being in two camps, there is a temptation for the therapist to retreat, either by acquiescing to received institutional knowledge and method, thus risking losing sight of the individual speaker, or resorting to an attitude of 'fixing' technical problems in a way that loses sight of deeper theoretical understanding.

Regarding this problem, Eikeland (2012) points out that there is a difference between *praxis* and mere practice, in which clinical issues can be reduced to matters of the use value of both externally prescribed methods based on theory, and technical solutions to internally defined causes or problems. This problem-solving approach (whether from the top-down or from the ground-up, or both) keeps practice (and research on practice) within a superficial and fleeting present, in which the epistemological status of what is practiced remains obscure, or insufficiently recognised or questioned. Praxis research on the other hand, involves the critical engagement of the practically acquired experience of a practitioner-knower, rather than a spectator-outsider observing from a contemplative, institutionalized, theoretical height, or a mere technician fixing problems as they present themselves (Eikeland, 2012). When practitioners perform praxis research, they are helping to bridge, to narrow, and ultimately to rework the epistemological gap between practice- and research-based knowledge. By deepening their relationships with both systems of knowledge they can create a multi-dimensional *nexus* for clinical and research work. This *nexus* of knowledge and ways of knowing forms both a central or focal point, and a means of connecting separate things in the sense of binding them together (as reflected in the 17th century origins of the word; Oxford English with Dictionary; Simpson & Weiner, 1989). For this to be successful, both the everyday details of treatment and research processes and contexts, and the overarching theoretical concerns of practitioners and researchers must be viewed as equally important and reciprocal elements.

The importance of embodiment in both research and practice

Concepts such as praxis and nexus, engagement, knowing, action, and tactics suggest the centrality of process, movement and interaction within practice and research, and thus the importance of embodiment for both. The clinical encounter is one of lived bodies, and the speaking, vocal voice as an embodied phenomenon is an obvious fact and topic of significance in the field of speech therapy (Gilman, 2014). Embodiment is also a feature of field research, although the consistent failure to recognise this fact in research reports is a reminder that the Cartesian mind-body division is still dominant within the health research field (Crossley, 2000; Ellingson, 2006). Embodiment is of course far more than a mere *feature*; rather it is the foundational and overriding condition of being for researchers, practitioners, clients, and participants. An embodiment perspective highlights the inherent complexity and non-linearity of research and practice and the phenomena of interest common to both. This involves recognising the inherent tensions between the strategic and tactical modes of understanding and acting in a way that does not force participants into a retreat from one camp to the other. As the field of speech-language therapy has become a sovereign, professionalized arena in which practitioners also do research, the engagement challenge is that of negotiating the gap between the knowledgeable expert practitioner and the knowing client – the one who lives in an intimate relationship with their (specific version of) speech/speaking challenge.

To be successful, SLTs must address the embodiment of the voice, not merely treat, or study the objectified, problematic voice in a body. Ellingson (2006) points out that 'the body' – also that of the researcher, therapist, or client – is a site of knowledge production, and that whatever is 'wrong' with it (outside the normal) serves as an implicit referent for what is 'right' or correct (normal). Normativity is not a state, but a process in which "we are always responding to, and reinforcing, social power constituted in normative performance" (op. cit., p. 300), and perhaps nowhere is this made clearer than when one presents to a therapist for treatment for some problematic element of one's embodiment. More than 15 years after Ellingson's comment, social media, and constant surveillance (both voluntary and enforced) have made this performance a full-time preoccupation. What is 'normal' is both endlessly redefinable and equally impossible to obtain, despite attempts to police language, redact descriptions, augment images, and so on. However, the missing body of the researcher in the research literature (or of the therapist in the clinical encounter) is an absence that maintains the superior position of the unseen expert – one who is not troubled by a disordered body (Ellingson, 2006). As Thomson (1997) puts it, the unseen researcher-expert represents "the ultimate control group" of normal functioning.

Outside of the formal literature however, practice, research and everyday life are arenas of embodied performance. In positive, ordinary face-to-face interactions, participants address each other as specific 'someones', and offer one another the feeling of being met and seen, however fleetingly; in such meetings, participants communicate reciprocal respect for the (different) contributions and interests of one another in a way that imparts a feeling of liveliness that can be moving and transformative, however apparently trivial the connection appears from the outside (Skatvedt & Costain-Schou, 2008, 2010). Often, what is communicated in such moments is done so without words or much action (that is, without theory, strategy, techniques, or method), and participants encounter one another with all their differences intact, and as concrete persons (Asplund, 1987) rather than abstract members of society (as professional, or client) (Skatvedt & Costain Schou, 2008). Therapeutic change can only last or be capable of moving (motivating) a person to a new and more empowered position (functionally, emotionally, or biographically) if the form it takes is relevant for this concrete person. A dynamic approach to evaluating and developing knowledge from research and practice has several features: it acknowledges the interdependence of embodied personal or individual realities with abstract social or theoretical perspectives; it values the commonplace interaction as meaning-bearing and generating; it acknowledges the other (the person who stutters) without seeking change as a prior condition of engagement; and it recognises that otherness is a two-way street (Skatvedt & Costain Schou, 2010).

By recognising their own embodiment as intrinsic to research and to practice, therapists can develop greater sensitivity to the knowledge production contributed by individuals they see in the clinic, and greater honesty in terms of how they, as experts, know what they know. Greater engagement of the therapist-researcher in the ambiguity of lived experience than in the production of fixed categories can enrich understanding and open new ways of seeing and acting. Such engagement also demands a high level of reflexivity and discipline in the achievement of an attitude of dynamic stability between the roles of theoretician and practitioner. Categories and frameworks of knowledge can then be viewed as part of the ongoing research conversation rather than as defining a final theoretical destination, and this will bring greater transparency to the development and evaluation of theory.

Pragmatism and the contextual nature of phenomena

In any field of clinical practice, knowledge-producing processes of all kinds must take account of the tensions and constraints produced by the embodied and socially lived reality with which they seek to grapple (a tactical word) and to explain (theorize). Haigh et al. (2019) describe the four categories that underpin any conception of knowledge and knowing:

a) ontology – one's understanding of the nature of reality and what can be known about it
b) epistemology – understanding the nature of knowledge, the "getting to know" process, the relationship between the person who seeks to know and the knowledge they construct, and the criteria for making claims about knowledge
c) methodology – the approach taken to the construction of knowledge; and
d) axiology – the influence of values on the knowledge that is acquired, and how it is acquired.

A coherent set of views in relation to these four considerations constitutes a research paradigm (pp. 11–12). Methodology relates the conduct of research to all aspects of a scientific paradigm – its notions of reality, of knowledge as product and process, and of the values that influence these. The method, or the practical steps taken in a research study (i.e., sampling, data collection, analysis), is informed and guided by this larger philosophical stance. Research findings are only interpretable when the study provides a clear statement of the paradigmatic assumptions upon which it has been built.

Much scientific knowledge has relied on a pluralistic approach that combines aspects of pragmatism and contextualism (Benton, 2011; McLeod, 2018; Wampold, 2015). Pragmatism can be regarded as a position of epistemological compromise toward scientific goals and principles, and methodological pragmatism is compatible with the constraints of the clinic and clinical research as it recognises the demanding realities of social settings. Ramnerö and Törneke (2008) describe the pragmatic research tradition as one in which the value of knowledge is determined by its real-world clinical usefulness. They identify two central factors for describing, understanding, and influencing behaviour: the *function* of a behaviour, and the *context* within which it occurs – if one can understand the function of a behaviour, one can understand its purpose in producing specific consequences, and these always occur in a context (2008, p. 8). Their concept of contextualized consequences can provide us with a rubric for assessment of the value of practice interventions *in situ*, but also from a more meta-, or evidential-, research perspective that avoids a narrow definition of usefulness. Context and contextualization, like embodiment, are not mere features or neatly operationalized boxes to tick, but constantly shifting and evolving conditions and processes, both material and ideological.

Pragmatism is often associated with designs which involve mixed methods, where the qualitative elements of the research ask 'what' and 'how' to explore more deeply and gain insight into underlying issues, while the quantitative elements ask 'how many' and 'how strong' to measure, predict and/or correlate (Dures, Rumsey, Morris, & Gleeson, 2011). Historically, qualitative and quantitative approaches have been underpinned by fundamentally different assumptions about the nature of reality, and ways of knowing and understanding (Denzin & Lincoln, 1994). These differences are no longer drawn as sharply in current research practice; distinctions are made instead between ways of using the texts and images of qualitative data, and the statistics of quantitative data. The mixed-method approach is, therefore, able to go some way toward meeting the multi-dimensionality of everyday lives. This brings it into line with a pluralistic view of research in which multiple conceptual frameworks (from the full spectrum of 'stakeholders' in any context under investigation) are deliberately brought to bear on a research problem or question (Van de Ven & Johnson, 2006). Research design and data collection methods should be related to the specific research questions, rather than based on a predetermined preference for paradigmatic qualitative or quantitative approaches (Dures, 2012).

In taking up a critical realist perspective, pluralism adopts a tempered (compromise) approach to truth and the ability to achieve complete understanding of a phenomenon (Bhaskar, 1989). This perspective acknowledges that while there is a real world outside the consciousness of the researcher to be studied, scientific knowledge is inevitably structured through socio-cultural language systems, and that value-free observation is an impossibility (Azevedo, 1997). A reflexive and critical coordination of multiple models and perspectives can expose robust features of reality and distinguish them from those based solely on one model or framework (Van de Ven & Johnson, 2006). The use of accounts of reality based on a single idea, on the other hand, can lead to situations in which an overarching global theoretical perspective fails to be related to the complex detail of the dynamic real-world situations to which it is meant to be applied. For example, Haigh, Kemp, Bazeley, and Haigh (2019) describe how conceptualizations of the relationships between human rights and social determinants of health remain limited by both lack of clarity and ambiguity concerning how these rights and determinants interact with, and affect, each other. Even though global initiatives such as the WHO Commission on Social Determinants of Health have promoted the securing of human rights as central to addressing imbalances regarding these social determinants, there have been few actions taken which specifically use a human rights approach to identify the issue.

Contextualism highlights the importance of the concept of the act in context, where any event or ongoing activity must be seen and analysed in its current environmental or historical context (Ramnerö & Törneke, 2008). Benton (2011) points out how the contextual world-view mirrors ideas articulated in the early pragmatism of American philosophers such as Charles Sanders Peirce and William James, as well as its later formulation by John Dewey, among others. Contextualism emphasizes the practical application of ideas through implementation, to test the functional value of human experiences of knowledge, concepts, meaning and science in real world settings (Benton, 2011; Ramnerö & Törneke, 2008; Swift et al., 2017). In contextualism, truth claims cannot be made outside of the environmental context: analyses are judged true or valid only insofar as they lead to effective action or achievement of some goal in the context concerned. *Functional contextualism* emerges from contextualism (Ramnerö & Törneke, 2008), and is a holistic approach in which the whole must be understood in relation to context, rather than assembled retroactively from discrete elements (Hayes, Strosahl, & Wilson, 2012). In functional contextualism, the truth is regarded as local and pragmatic, and what is truth for one person does not need to be the truth (or the same truth/truth in the same sense) for another person. When clients approach a clinic, they usually want to change something in their lives, and whatever best serves this purpose in the helping process can be considered the truth (Egan, 2014; Ramnerö & Törneke, 2008). This pragmatic definition of truth value in knowledge production for practice contexts is a central concern in the production of clinically relevant scientific work in areas such as the field of fluency disorders.

Causality in a systemic perspective

The pragmatic focus above acknowledges the local and specific nature of truth or validity in the clinical context and locates assessment of outcome with the client and clinician. However, as mentioned earlier, a danger here is the narrowing of the clinical and research gaze to simply ‘what works’ in relation to specific local problems, or regarding specific methods, strategies, and/or techniques. This neglects the central overarching aim of knowledge production: that of *explanation*, which is a pragmatic word for theorizing. Strauss and Corbin (2015) for example, in their version of Grounded Theory coding processes for qualitative data, emphasize the importance of linking local, specific details from within the data to broader topics or themes through a constant comparison process in which the analyst uses hypothesis-testing in the form of questions posed to the data, and eventually to the emerging theoretical framework constructed by the researcher. This is an approach designed to ground theorizing in the data that views causation in terms of the inter-dynamics involved in complex social processes (such as those of the treatment clinic, or in the life of the client), This view emphasizes that a phenomenon is usually an interaction between several factors rather than the result of a singular, discrete event, substance, or technique. With regard to complex human systemic processes, what causes what is likely to be emergent and interactive rather than linear, and the variability and unpredictability of stuttering suggests that it can be regarded as a ‘complex system’ (Packman & Kuhn, 2009; Ward, 2018). In cases of complex system phenomena and intervention, there are many factors that can contribute to the results or outcomes of clinical practice, and those of research on clinical practice and therapeutic change. Cartwright and Hardie (2012), Kvernbekk (2016), Lambert (2013), Wampold (2015), and Anjum, Copeland, and Rocca (2020) have all tried to describe systemic causality as the sum of several interacting factors, both contextual and individual-specific. When an intervention is implemented, outcomes will be affected not only by the intervention itself, but also by these interactions.

Lambert’s (2013) research on psychotherapy outcomes grouped the factors contributing to successful therapy into a pie chart of four main factors, and determined the percentage of change in clients as a function of these: client/life factors (qualities of the client or the environment) 40%; shared factors (empathy and the therapeutic relationship) 30%; expectation (client’s expectations of help or belief in the therapy) 15%; and professional techniques (factors unique to specific therapies, and tailored to management of specific problems) 15%. In an alternative conceptualization, Cartwright and Hardie (2012) and Kvernbekk (2016) used the metaphor of a “causal cake” whose ingredients include the intervention and other relevant factors, with the intervention then interacting with these other ingredients to produce the outcome (Cartwright & Hardie, 2012; Kvernbekk, 2016). This metaphor indicates that no single treatment approach by itself can constitute a therapeutic process, just as one ingredient alone cannot make a cake. It also highlights the possibility that, just as different combinations of ingredients may create a variety of good- (or bad-) tasting cakes, different combinations of factors may result in a variety of treatment outcomes.

Manning (2010) and Plexico, Manning, and Dilollo (2010) describe other models, such as the *Common Therapeutic Change Principles* model (CTCP) and the *Contextual Model* (CM), which to some extent parallel the “causal cake” metaphor and Lambert’s pie chart. The CTCP consists of what Goldfried (1980) describes as “somewhere between theory and technique which, for want of a better term, we might call clinical strategies” (pp. 99–95); such “clinical strategies” are therapeutic techniques and clinical procedures at the lowest levels of abstraction. The premise of the CM model is that “the benefits of psychotherapy accrue through social processes and that the relationship, broadly defined, is the bedrock of psychotherapy effectiveness” (Wampold, 2015, p. 50). The model explicates three main pathways that promote change through therapy: 1) a real relationship between the client and clinician; 2) the creation of expectation through treatment rationale; and 3) therapeutic tasks and actions that correspond with that treatment rationale. The clinician and client have to establish an initial bond before these pathways can be employed (2015, pp. 53–54). The CM provides no estimation of the degree of influence exerted by different factors on treatment outcomes, as in Lambert’s pie chart (2013). Rather, it provides a more inclusive framework by allowing for the possibility that the relative influence of different factors may vary dependent on multiple additional elements. Such elements can include aspects of the speech impediment itself, general contextual variables, within- clinician or client variables (those pertaining to the personal processes of clinician or client) and between- clinician/client variables (those pertaining to the clinical relationship or interaction).

Dispositionalism and causality

Taking a complementarity perspective toward knowledge acknowledges the partiality of situated knowledge, the validity and scope of which will necessarily be constrained by the local contexts in which it is produced (Van der Ven & Johnson, 2006). Within such a pragmatic perspective, it is nonetheless important to link situated accounts together in meaningful ways through dialectical exploration of their similarities and differences, to create statements of cause and effect in the form of explanations or theories. One way to approach causality that recognises the limitations of producing linear accounts of cause in complex processes, is to adopt a dispositionalist position (Kerry, Eriksen, Lie, Mumford, & Anjum, 2012; Low, 2017). According to dispositionalism, a *cause* is some aspect of a situation that tends towards its *effect* with stronger or weaker intensity. The tendency for a causal factor to have a particular effect is not defined in terms of statistical regularity, but in terms of a real disposition toward the effect, or its causal power.

Each causal process must be viewed in terms of causal complexity, context sensitivity and causal singularism, and can include a unique combination of dispositions. In this view, there is no perfect method for establishing causality; rather, effect needs to be understood as the result of the intrinsic, interacting dispositions (Anjum et al., 2020). A dispositional account emphasizes the importance of personal background conditions to the understanding of cause and recognises that the intervention is not the only factor influencing outcomes. According to Kerry et al. (2012, p. 1008), "causation is what is added to a situation that interferes and changes the outcome", and within the framework of dispositionalism, the added factor is causally powerful only when it is causally related to at least some of the factors already present. Kerry et al. (2012) state that the greatest causal work can be seen in single-case studies, where the real nature of causation as non-linear is witnessed as "the interaction between causal agents; subtractive and additive forces tending towards and away from an effect" (2012, p. 1011). The effectiveness of a particular clinician, with a particular client, at a specific time-point, will be determined by this movement of forces in relation to possible effects; for example, an individual's fear of evaluation might influence avoidance behaviour, which again might hinder speaking ability in social settings or have the consequence of social withdrawal. Any discussion of causality must aim to identify such factors and describe their relationship to one another and to the outcome of an intervention, whether in the clinic or in the context of a research study.

Multiple components influence therapy outcome in stuttering research

The stuttering literature often divides stuttering treatment into two main traditions based on apparently divergent theoretical foundations, and further distinguishes it on the basis of behavioural or affective treatment goals, procedures and structure (Guitar, 2014; Shapiro, 2011). At the same time, integrated approaches highlight the principle that stuttering treatment should be tailored to the needs of each person (Guitar, 2014; Logan, 2015; Shapiro, 2011; Ward, 2018). Despite this apparent agreement about the importance of the client's own views, the literature continues to describe clinicians as divided into two dichotomous groups: those working with fluency shaping, and those using stuttering modification approaches. An illustration of this feature of the professional literature on stuttering is reflected in the title of an article representative of this debate: 'What do people who stutter want? Fluency or Freedom?' (Venkatagiri, 2009). An important question is whether this binary distinction is still valid in current clinical contexts, and the extent to which such an approach reflects real consensus within the practice field of fluency disorders.

Research on the efficacy of interventions for stuttering is of primary importance for future clinical development. Baxter et al. (2015) found that individual variability in response to different stuttering approaches is substantial across therapy studies, and there is a lack of research on stuttering approaches or specific therapy elements shaped by variations in response and effectiveness in the individual case. Especially within stuttering research, more work is needed regarding the challenge of tailoring the right approach to each person's individual needs (Hayhow, Cray, & Enderby, 2002; Sønsterud, 2020; Sønsterud, Halvorsen, Feragen, Kirmess, & Ward, 2020), and generating empirical data regarding which client will gain lasting benefit from which approach (Ward, 2018, p. 301). How, and to what extent, intervention outcomes are related to the communication and daily living of PWS is unclear in most studies, and there is a need to recognise their different subtypes and "deal with them in differential ways" (Nye et al., 2013, p. 930). The factors which an individual who stutters may view as significant in therapy are unlikely to be represented in stuttering intervention studies and have not been demonstrated empirically (Bothe & Richardson, 2011; Ingham, Ingham, & Bothe, 2012). In this regard, the individual-in-context perspective is highly relevant, and a key concept within it is that of *personal significance*. Inviting and actively utilizing the person's own evaluations is an essential element of *Evidence-based practice*, including treatment for stuttering (Bothe & Richardson, 2011; Ingham, Ingham, et al., 2012). This highlights the value of flexible treatments that can be adjusted to address aspects that are especially significant to the individual, and within this frame of understanding, it is relevant to assess success in terms of changes in behavioural, social, and emotional aspects – not simply the eradication of stuttering or increased fluency of speech.

Research in the field of psychotherapy has demonstrated that individually-centred treatment and self-managed training can be efficiently implemented by a trained clinician (for example, Benum, Axelsen, and Hartmann 2013; Nissen-Lie et al. 2013; Oddli and Halvorsen 2014; Oddli and McLeod 2016). Clinical experience and research on stuttering have similarly demonstrated that quality of life and psychological health can be significantly improved in adults who stutter when therapy is tailored to their specific needs (Baxter et al., 2015; Beilby, Byrnes, & Yaruss, 2012; Craig, Blumgart, & Tran, 2009; Langevin, Kully, Teshima, Hagler, & Narasimha Prasad, 2010) yet, to date, there has been little focus on the multiplicity of factors which can potentially influence treatment outcomes. Aiming to further increase knowledge in this area, the work of Sønsterud and colleagues (Sønsterud, 2020; Sønsterud, Feragen, Kirmess, Halvorsen, & Ward, 2019; Sønsterud et al., 2020; Sønsterud, Kirmess, et al., 2019) investigated some of these factors in greater detail from a context-sensitive and individualized perspective. Factors that influence therapy outcome were found to be personal characteristics (including motivation and expectations of a positive outcome) (Sønsterud, 2020); the quality of the working alliance (the relationship between client and clinician) (Sønsterud, Kirmess, et al., 2019); and the intensity of home-based training (Sønsterud et al., 2020). Interestingly, in this work the therapeutic approach in this work, the therapeutic approach itself – *Multidimensional Individual Stuttering Therapy* (MIST) – was also seen to be influential, and the extent to which this was the case was clearly identifiable using this research paradigm.

Just as in psychotherapeutic practice, joint clinical decision-making principles and a stable and positive working alliance can contribute to successful outcomes in speech-language therapy (Lawton, Haddock, Conroy, Serrant, & Sage, 2018; Lawton, Sage, Haddock, Conroy, & Serrant, 2018; Manning, 2010; Sønsterud, Kirmess, et al., 2019). The correlation between working alliance and treatment outcomes has been examined meta-analytically in psychotherapy several times, with only a slight variation in overall correlation ($r = .21$ to $r = .29$) (Flückiger, Del Re, Wampold, & Horvath, 2018; Horvath, Del Re, Fluckiger, & Symonds, 2011). These studies, and that of Sønsterud, Kirmess, et al. (2019), confirm that the working alliance is an important contributor to treatment outcomes, but the latter authors also highlight the presence of additional influential factors. Based on a meta-analysis, Del Re, Flückiger, Horvath, Symonds, and Wampold (2012) found that within-clinician variance in the working alliance in psychotherapy appears more important than within-client variance in producing improved client outcomes. Both forms of variance affect client contributions, as well as interaction between the clinician and client. Research further confirms that the variance between clinicians is often greater than that between different treatment modalities (Del Re et al., 2012; Goldfried, 2014; Lambert, 2013; Wampold, 2015), indicating that the choice of clinician potentially has a greater influence on treatment outcome than the choice of treatment approach. This view is echoed in the work of Bloodstein, Bernstein Ratner and Brundage (2021) who argue that "[...] to benefit best from therapy, the first step is not to find a specific "best" therapy, it's to find a good clinician – one with a broad skill set and one that the patient/family can establish a good working relationship with" (p. 416).

How do we measure therapy outcome, and who defines 'success'?

In line with a democratic stakeholder perspective, there is a need for clearer definitions of exactly what an improvement or therapeutic outcome consists of, and for whom (Bernstein Ratner, 2005). In their meta-review, Baxter et al. (2015) conclude that a significant proportion of participants benefit from a range of different types of intervention. Accordingly, Connery, Galvin, and McCurtin (2021) examined a diverse range of stuttering treatments and found no significant pooled differences between interventions and comparator groups in improved communication and psychosocial functioning. Baxter et al. (2015, p. 688) claim that, although both the range of interventions and volume of research have grown considerably, the evidence remains unclear as to what sort of client will benefit from which program (Baxter et al., 2015). A pluralist approach, as outlined earlier, lends credence to the view that people who stutter are the real heroes and heroines, and that the SLT has the lesser role of guide, or provider of resources (McLeod, 2018). There seems to be a clear need to acknowledge client responses to a greater extent, and to integrate this perspective into research, although current clinical guidelines commonly recommend stuttering therapy that is based on what has been proven to work best for most clients (Anjum et al., 2020). If we instead consider that all clients are different, and that causation is essentially contextually derived through a dynamic process, there then may be no 'average clients', and thus no therapy approach that 'fits all'. In many ways, the overall clinical challenge might be more related to how SLTs can adapt and integrate elements from an intervention, rather than the selection of a particular therapy approach.

The APA Presidential Task Force on *Evidence-Based Practice Policy Statement* by the American Psychological Association (APA, 2006) is the result of a collaboration which includes scientists and practitioners from a wide range of clinical fields, health services researchers, public health experts and consumers. Many clinicians and researchers within health education in Norway have aligned themselves with the APA policy statement (Rønnestad, 2008). The statement includes the definition of *Evidence-based practice* as practiced in psychology (EBPP) as the integration of the best available research with clinical expertise in the context of client characteristics, culture, and preferences (Levant & Hasan, 2008; Rønnestad, 2008). As Ratner (2005) points out, *Evidence-based practice* in stuttering therapy involves integrating best evidence, clinical expertise and client values, and accepting that the therapist must be prepared for several different outcomes which will require a broader definition of therapeutic progress and goals (p. 265).

Robey and Schultz (1998), among others, suggest making a distinction between efficacy and effectiveness, in that efficacy studies evaluate therapy under optimal conditions or laboratory settings, while effectiveness studies evaluate therapy under clinical conditions or in daily base settings. If a therapy works under optimal conditions, the natural next step is to test it in a daily life setting. Despite their status as the 'Gold Standard' for tests of efficacy, *Randomized Controlled Trials* (RCTs) have limitations when they are used to evaluate therapy provision for a particular client group: they may be more difficult to conduct in other areas of medical intervention, and the heterogeneity of groups as well as of the therapy approaches used makes it unlikely that significant results can be obtained that can provide useful information (Pring, 2004).

The APA statement acknowledges the way in which different forms of research contribute specific forms of valuable knowledge. However, when considering the impact of the dimensions of the statement, there are several caveats. Assessment of a therapy as effective can be made when the effects of the intervention are large enough to be of practical value to the participant or society; this means that a cause-effect relationship must be demonstrated (Gast and Ledford, 2014, p. 86). However, in scientific work on stuttering, there are few studies which involve a focus on what the client regards as effective therapy, and few studies of effect within the person's own environment. Clinical research on humans involves complex subjects who interact in complex ways with their (complex!) environments, all of which involve factors which can interfere with therapy processes and outcomes. Consideration must also be given to the person for whom the treatment study is being conducted, including whether the treatment study framework or treatment which the clinician or researcher regards as optimal is similarly suitable for the person who stutters. Furthermore, in real world situations, there are often limitations on resources, including that of time, and these may obscure or prevent an effect from becoming visible.

In clinical work, it seems an obvious point that therapists and researchers must consider stuttering from the perspective of the people who do it, and many PWS benefit from a mixture of behavioural and emotion-based approaches (Ward, 2018). Current stuttering therapy is usually based on the principle of joint decision-making between the PWS and the SLT. Improvement of the person's perceptions of their own speaking ability and confidence in communication are seen as important targets. According to the *International Classification of Functioning, Disability and Health* (ICF) (World Health Organization) (WHO, 2018), a person's ability to actively participate in life and their quality of life are central concerns in therapy. In line with the APA statement, an aim of stuttering therapy that should be considered fundamental is the identification of tasks, strategies, and therapeutic elements that function practically for a client at a particular point in his or her life, and the success of goal-led therapy depends on whether the client and the clinician are mutually engaged in constructing a meaningful path together. This path must be one of shared decision-making about tasks and personal goals, and involves the clinician and client exploring available possibilities and combining elements in a way that best fits the client's goals and preferences (Manning, 2010; Sønsterud et al., 2020; Sønsterud, Kirmess, et al., 2019). A central question for both clinician and client is: how is stuttering influencing life? For example, how is Chris interacting in real-life settings? Is he able to talk on the phone, join friends at the pub, or be actively involved in educational- or work-related meetings? Is he actively involved with his family, for example, by arranging birthday parties and being able to tell stories and read aloud to his children? Research and clinical experience suggest that a person's social functioning and degree of avoidance behaviour are significant factors affecting therapy outcomes.

With a clinical focus on enlisting clients' own functional analysis across self-selected parameters of personal significance, PWS can be helped to become active agents and researchers in their own communicative contexts, and it is arguably this effect that has the greatest potential for securing lasting positive change. Within this perspective, it is emphasized that clinical research on the effectiveness of therapy approaches must be supplemented by research on the therapeutic process, including the role of the working alliance (Rønnestad, 2008, Sønsterud et al., 2019). In a collaborative manner, the client and therapist can engage in observation of client communication as it is lived every day. This collaborative space can be used to gain a sense of the possibilities that exist for improvement of concrete skills such as overall speaking ability, and to pursue larger goals relevant to life quality. The idea that clients decide what constitutes successful therapy is highlighted in the working alliance literature (Flückiger et al., 2018; Nissen-Lie et al., 2013; Nissen-Lie, Monsen, & Rønnestad, 2010; Nissen-Lie, Havik, Høglend, Rønnestad, & Monsen, 2015; Oddli, Nissen-Lie, & Halvorsen, 2016; Wampold, 2015, Sønsterud et al., 2019). Relevant and specific quantitative and qualitative assessments for measuring the therapeutic alliance, particularly from the client's perspective, are needed to explore this concept more fully (Sønsterud, Kirmess, et al., 2019). The importance of a strong working alliance between clinicians and clients and how the quality of this alliance may influence therapy outcome is described in greater detail in chapter 9.

Challenges of outcome research and retaining the three pillars of the evidence base

Although there is a substantial body of knowledge about the assessment of the efficacy of therapeutic approaches to stuttering (Bothe, Davidow, Bramlett, & Ingham, 2006; Nye et al., 2013), the evidence base is weakened by the poor methodological quality of many studies, high dropout rate among study cohorts, small sample sizes, lack of long-term follow-up, and occurrence of relapses (Baxter et al., 2015; Bothe et al., 2006; Ingham, Bothe, Wang, Purkhiser, & New, 2012). Furthermore, the results of evidence studies point in multiple and sometimes divergent directions. Intervention studies, particularly longitudinal studies, are demanding and vulnerable to participant dropout or difficulties with recruitment of samples of a sufficient size (Baxter et al., 2015; Bothe et al., 2006; Nye & Hahs-Vaughn, 2011; Sønsterud et al., 2020), although they are needed to explore the long-term impact of an intervention. In studies of treatment elements, consistent problems are also created by continuing lack of conceptual clarity or insufficient provision of information (Baxter et al., 2015), while in the stuttering field, prolonged speech and speech restructuring therapy are regarded as standard or traditional treatments for adults who stutter (Bothe et al., 2006; Ingham, Bothe, et al., 2012; Neumann et al., 2019). In our own clinical work, however, we recognise that the choices many clients make do not always fit neatly within these paradigms. Indeed, the evidence base is limited by factors such as publishing bias and an over-emphasis on the concerns of previous research, and these limitations serve to illustrate some of the main challenges to its expansion. Furthermore, significant challenges remain of how to define positive therapy outcomes when interpreting study results. The risk of confusing statistical significance with genuine clinical significance is always present (Alm & Dahlin, 2015; Finn, 2003; Simmons, 2011). Both qualitative and quantitative research approaches are required to fill the gap between practice-based evidence and *Evidence-based practice*. Everard and Howell (2018), for example, examined the use of a stuttering modification approach with a group of adults who stutter, and described the need for more research from the 'consumer perspective', where client perspectives are elicited as data and are part of the evidence for efficacy.

One way to incorporate the three perspectives of *Evidence-based practice* is to locate the concept of evidence in a more context-sensitive frame (Manning, 2010; McLeod, 2018; Oddli et al., 2016; Swift et al., 2017; Wampold, 2015, Sønsterud et al. 2020). Swift et al. highlight the usefulness of critical realist evaluation (CRE) within individual contexts in speech-language therapy (2017). CRE is based on the principle that a behavioural intervention cannot be evaluated without considering the context in which it is provided (ibid.) The authors point out that RCTs by their very nature may sometimes 'wash out' individual factors and contextual elements that might influence therapy outcomes. Baxter et al. (2015) and Swift et al. (2017) state that there is a need for greater flexibility and creativity in support and clinical practice; and clinical practice; there is also a need to consider *Evidence-based practice* in stuttering therapy in the context of ideas generated from clinical research. For example, Haaland-Johansen (2007) describes how SLTs should ground their work in existing theory, research, knowledge and practitioner experience, but that it is in the encounter between the client and clinician that *Evidence-based practice* is created. Greenhalgh et al. (2014) argue that although research has produced many benefits, it also has limitations: "There is a lack of discussions on how to interpret and apply evidence to real and the sharing of collective knowledge and expertise" (p. 5). The authors go on to describe how the challenges of self-management are not always about making choices about type of therapeutic approach or technique, but rather are about the practical and emotional work involved in implementing these choices, and evidence-based guidelines might not always map to individual needs and/or complex multiple morbidity (Greenhalgh et al., 2014) and offer an agenda for the 'movement's renaissance' in terms of a refocusing on providing useable evidence that can be combined with contextual and professional expertise, so that individuals can engage in optimal treatment. They also claim that real *Evidence-based therapy* has the care of individuals as its top priority: the best course of action for the person, in these specific circumstances, and at this particular point in their condition. This perspective is shared by several authors (Kelly, Heath, Howick, & Greenhalgh, 2015; Kerry et al., 2012; McLeod, 2018; Wieten, 2018) and mirrors the ideals of pluralistic therapy (McLeod, 2018), and those espoused by Bothe and Richardson (2011), as well as Ingham, Ingham, et al. (2012). In summary, there appears to be a dichotomy between concerns described in the theoretical research literature and those of clinical practice, but also a shift toward recognising the importance of incorporating ideas about *Evidence-based practice* into a context-sensitive and individualized approach to treatment.

Robey and Schultz (1998) outline a five-phase model of clinical outcome research that addresses many of the issues discussed above. In Phase 1, the focus is on showing that a potential therapeutic effect of an intervention exists, along with no harmful side effects. Evidence in this initial phase is drawn from clinical reports and experimental investigations using small group and single case studies. Positive results indicate that a therapy deserves further investigation. In Phase 2, attempts are made to define how the therapy works. Decisions are made about which clients are suitable for the therapy, and exclusion criteria are defined to guide their selection. Outcome measures are selected, and the duration of therapy and its method of delivery is determined. In Phase 3, large-scale efficacy studies are carried out to obtain stronger evidence that a therapy works. In Phase 4, targeted effectiveness studies are conducted to assess whether the treatment works clinically. Efficacy studies may continue to define more precisely those clients who may benefit. Variations in the treatment and its delivery are explored, with the aim of maximizing its effects, and meta-analyses of previous studies may be conducted. In Phase 5, effectiveness studies continue to determine the cost effectiveness of the treatment and assess consumer satisfaction and the treatment's effects on quality of life, if not studied previously. This five-phase model addresses the concerns of, for example, Greenhalgh et al. (2014) regarding social differences and human rights, and Swift et al. (2017) in providing detailed contextual definitions of efficacy and outcome.

Reflections on 'optimal' research designs in stuttering therapy

Despite the good intentions of *Evidence-based practice*, there may still be a significant gap between *Evidence-based practice* and practice-based evidence in stuttering therapy (Bernstein Ratner, 2005; McCurtin, Murphy, & Roddam, 2019). It is possible to go further toward narrowing or re-working this gap through improving the design of studies of stuttering therapy. There is a body of research demonstrating that most therapeutic approaches to stuttering reach the level of statistical significance in cases of positive outcome (Baxter et al., 2015). There is clear evidence that most stuttering programs and types of therapy do work, or at least may benefit some people who stutter. At the same time, there are personal variations regarding response to these interventions. A central point is to recognise that results are shaped by the specific perspective and specific questions which are addressed in a study or a treatment program. Given the lack of client-specific evidence regarding effective therapy, a good starting point may be to explore issues and therapeutic approaches that matter most to people who stutter. There are many reasons to do research, and there appear to be good reasons for having multiple purposes in a single research project (Tashakkori & Teddlie, 2010). Goals for therapy studies include prediction of outcome, generation of new knowledge, exploration of personal and/or social impacts, measurement of change, and development of greater knowledge and understanding of themes identified in previous research.

A variety of designs are currently in use in the evaluation and improvement of stuttering therapy and outcomes. Design choice should depend most on the aim to contribute sound research-based evidence; thus it is important to choose research methods with the best suitability for answering specific research questions. Research design shapes data collection, and the careful selection of a design can help the researcher to gather and analyse the data more effectively, which in turn aids production of good answers to the research questions. Although RCTs can be a useful design for research on speech-language therapy, they are usually challenging to conduct in an optimal way within this field (Pring, 2016). There are many causally relevant factors which can be excluded from the results of RCTs, such as negative outcomes, risk groups, personal variations, and useful details about the intervention and it is important to take this into account when interpreting results from RCTs and utilizing the information they provide in decision-making (Pring, 2004). Such limitations should therefore make us more cautious about applying the results of RCTs universally and unconditionally. The best possible RCTs might show which of the known interventions benefit the greatest number of people, but there is no treatment policy that automatically follows from such a result. Robey and Schultz (1998) point out that if a researcher really wants to maximize utility and make a considered design choice, then a choice other than the RCT may be a better course of action. In research which incorporates the possibility of exploring causal mechanisms and collecting information about local contexts, the more useful design choice is one that can provide more detail and more specific answers about effectiveness within a multiple case-study perspective, for example.

Any observation can be 'biased' in the sense of being too one-pointed or narrow, for example (it is beyond the scope of this chapter to discuss the issue of bias in greater detail), and all observation is theorized – there is no such thing as an unbiased observation (Azevedo, 1997). Thus, science requires replication, which means that other researchers in other settings with different samples should attempt to reproduce the research. If the results of this replication are consistent with those of the original research, there can be greater confidence in the hypothesis supported by the original study (note that replication does not prove results to be true; rather, successful replication increases credibility of results). It is essential to successfully replicate studies before claims of validity and reliability can be made. To establish external validity, a) research results need to be applied to a range of different settings and populations; b) the settings need to be specified and strict inclusion criteria applied to ensure transparency regarding participant and clinician factors; c) therapy interventions should be clearly defined and described in ways that allow replication; and d) clinicians should be trained in the use of the therapy to standardize its administration. The results of a study should gain acceptance if they are repeatedly supported in subsequent studies, and if they appear to account for the observations of several different researchers.

Guidelines exist for both randomized and non-randomized therapy studies to improve the quality of reported information in the research, for example, the *Consolidated Standards of Reporting Trials* (CONSORT) (Hemming et al., 2018), or the *Template for Intervention Description and Replication* (TIDieR) (Hoffmann et al., 2014). Stuttering is a complex disorder, and its evaluation and treatment require a comprehensive approach, such as for example the *Total Evidence and Knowledge Approach* (TEKA) of McCurtin et al. (2019). McCurtin and colleagues have developed an intervention evaluation approach which better supports explicit knowledge production to reflect the range of types of evidence and knowledge within therapy and expand existing guidelines and standards. The authors state that TEKA fosters clinical ownership of, and academic/clinical partnerships in, treatment evaluations, and that a more grounded clinical understanding of therapy should be incorporated more overtly into formal evaluations and clinical decision making (McCurtin et al., 2019). Positivist research designs alone are insufficient to fully reflect the effectiveness, impact, and client experience of complex interventions for heterogeneous populations. McCurtin et al. (2019) cite Dollaghan's (2007) contention that the emphasis on scientific evidence has overshadowed the other two of the three components of evidence: practice-based and client-based. The TEKA model appears to mesh well with calls made by Greenhalgh et al. (2014) for an approach to intervention research and/or assessment characterized by expert judgment-making rather than the following of mechanical rules, as well as the need to make the ethical care of clients the top priority.

An experimental research design can be suitable for studies of speech-language therapy. An experimental design is one that adheres strictly to the classical positivist model of the scientific research method. It includes a controlled test setting in which a hypothesis is tested, selected variables can be manipulated by the researcher (dependent), and other variables can be measured, calculated, and compared (independent). Though there are many factors that cannot be controlled in human research, there are relevant variables that can be experimentally studied in controlled environments. Adapting or tailoring an intervention to the unique needs and preferences of each client has become a strategy of clinicians and is increasingly a feature of health care in general. The rationale underlying this approach is that adherence to therapy and its effectiveness will be greater if the intervention accommodates personal variability in needs, preferences, and responses to therapy. An experimental design that can also be case based is therefore preferable, but replication of the results in other settings and with larger samples is still necessary. Here as well, there is a need to specify the qualifications and level of training of the SLTs involved, and it is essential that they receive additional training in the specific therapy and therapeutic procedures in use, so that the goal of standardization is attained. Replication requires the inclusion of detailed descriptions of both the client participants and the SLTs involved. The therapeutic procedures should be specified and described in as much detail as possible, as well as any modifications or adaptions of the therapy made to meet individual needs. The timeline must be standardized and structured, and the taking of multiple measurements using validated outcome measures should be included.

Some advantages of using an ‘n-of-1’ approach in therapeutic practice and research

There is growing awareness of how responses to therapy vary among PWS (Baxter et al., 2015; McCurtin et al., 2019). This aspect of variability may help to attract renewed interest in the benefits of the single case, n-of-1 research approach. Multiple single-case designs guard against threats to the internal validity of a study by including several baseline-dependent variables, then introducing an intervention, and documenting the effect of that intervention by taking repeated measurements. An advantage of the multiple single-case study design is its flexibility in allowing the researcher to tailor the evaluation to the individuals themselves and to their individualized therapy courses, from pre- to post-therapy. Taking measurements before, during, and following intervention in a single-case design such as this, produces relevant and detailed measurements for accurate comparison pre- and post-test, and this makes it useful in assessing the value of previously untested individualized therapy approaches (Gast & Ledford, 2014). Several direct inter-subject or inter-group replications using the same A-B-A design can be conducted subsequently to increase confidence in the effect of the therapy. A-B-A design refers to a design in which the research has a baseline period where no treatment is given, followed by a period in which the treatment or variable is introduced. Thereafter another period is established in which the treatment or variable is removed so that the baseline behaviour can be observed for a second time (Gast & Ledford, 2014). Effect can be further evaluated, and replication attempted by expanding the study to include additional participants or involving other clinicians. When an A-B-A analysis is supported by systematic replications, confidence in the influence of an intervention on behaviour is enhanced (Gast & Ledford, 2014). There are many designs to choose from, including robust experimental designs (i.e., A-B-A-B, A-B-A-C-A, and multiple-baseline designs) in which control of threats to internal validity is strong (for an overview, see Tate et al., 2016).

The APA recommends reporting on effect sizes for all statistical reports, and calculations of them may constitute valuable information in treatment studies. The *d* (Cohen, 1988) and Partial Eta Squared (η^2) (Richardson, 2011) measures may be used when assessing effect size, and are common in psychology and education research, though their interpretation is not straightforward. Even though Cohen himself introduced cut-offs as low as 0.2 = small, 0.5 = medium and 0.8 = large when interpreting the effect of an intervention, he also added a strong word of caution that drawing conclusions about the size of effect might be an “operation fraught with many dangers” (Cohen, 1988). It remains of greatest importance, therefore, to interpret findings critically within perspectives of practical, clinical, and personal significance. Given that there is still a lack of information about which elements of stuttering therapy are regarded as most effective by clients themselves, the central question should be about what works best for a person at a particular stage in his or her everyday life. In this sense, pre-/post designs, multiple-baseline designs, or single case experimental designs (Tate et al., 2016, Kratochwill et al., 2021) are all well-suited to the study of treatment for stuttering.

There are always barriers to doing research, however, and considerations of *Evidence-based practice* also reveal clinician-related, client-related, organization-related, and evidence-related barriers (Gravetter & Forzano, 2016). It must be remembered that if a particular stuttering approach is demonstrated as effective in a clinical setting but remains inadequate for, or unapplied in, a person's daily life, then no amount of evidence from the clinic will be able to compensate for this failure of the treatment to perform where it is really needed. Within the field of stuttering, there remain challenges in finding suitable and reliable tools for measuring stuttering, as well as defining clinically and personally significant outcomes. There are several advantages to using recognised and standardized international measurement tools, and several good measures have been developed (Iverach et al., 2016; Karimi et al., 2018; Wright & Ayre, 2000; Yaruss & Quesal, 2006). Regardless of the variables selected for study, measurement of outcomes of therapy for stuttering must consider the range of speech and psychological variables, and the potentially confounding effects of the appearance of other positive changes, such as increased quality of life, communicative confidence with an accompanying reduction in situation avoidance, and possible increased speaking frequency (including, for some, more stuttering). Bothe and Richardson (2011) recommend a combination of self-rating of the personal significance of treatment-induced changes, alongside professionally objective and defensible data on variables selected by the client as the ideal client-centred evidence base for clinical research. Relevant and specific quantitative and qualitative assessments for measuring emotional and cognitive processes and therapy outcome – particularly from the client's perspective – are needed to explore the concept of evidence in greater detail. Stuttering therapy should incorporate an evaluation of the working alliance as well, particularly from the perspective of the person who stutters. Incorporating such evaluations at an early stage in the therapeutic process may help ensure that well-defined context-sensitive goals, and meaningful tasks are in place, and this can enable SLTs and people who stutter to more easily identify and respond to challenges if and when they arise (Sønsterud, Kirmess, et al., 2019). Previous investigations of the range of treatment programs for stuttering have not identified precisely which factors account for individual change following successful treatment. Investigating the extent to which the stuttering therapy has personal significance for individuals within their daily lives, and whether therapy-produced changes can contribute to improved quality of life, is of great value for determining what constitutes the best evidence base for intervention (Bothe, 2003; Finn, 2003; Ingham, Ingham, et al., 2012). The inclusion of qualitative data and relevant interpretive methodologies, in addition to quantitative data and statistical analysis, is appropriate in the evaluation of whether and how interventions function in a meaningful and context-sensitive way for the person for whom they are intended (Dures, 2012).

Conclusion

In accordance with a pluralistic and pragmatic approach to knowledge production which is suitable and useful in clinical contexts, specialization within speech-language therapy must be pursued within a holistic and individual-sensitive framework. Such positioning allows research-theoretical, scientific, and clinical discussions to take place in an ongoing manner that acknowledges the inclusion of each as vital to the creation of knowledge in speech-language therapy. In other words, there appears to be good reason to take an eclectic approach to the study and practice of therapeutic elements drawn from across traditional approaches. Such combined, integrative approaches can yield effective speech-language therapy and give the SLT greater space and higher status in the speech and language therapy literature, including a more significant role in future research on stuttering. If clinical practice is to be more than the mere application of procedures and methods directed from above, it must be transformed into an 'art' which requires continuing development of speech-language therapy through a reflexive, critical and realist attitude that looks beyond construction of a purely theoretical or technical base. The SLT artist aims to be a master of techne, episteme and phronesis – all three. The master of speech-language therapy applies tacit, embodied-contextual action and technical knowledge in a context-sensitive, authentic, secure, and individually tailored ('extra-standardized') manner. This form of mastery requires hands-on experience. Observation of SLT students embarking on the practical phase of their education reveals that most have a distance to navigate before they have fully developed a real grasp of the clinical situation, although many may have already acquired technical or theoretical knowledge equivalent to that of their teacher, mentor or professional SLT.

If speech-language therapy is to be regenerated and revitalized as an art, then the more 'artistic' elements in it must be given renewed attention. There will no doubt continue to be theoretical debates about what constitutes evidence. Without clinical expertise of the SLT, the practice of speech-language therapy can be undone by the application of case-irrelevant strategic theoretical evidence, and even excellent research evidence of significance of effect of a therapy approach can be meaningless in the design or evaluation of treatment for a specific person who stutters.

In light of the interdependence of practice and research in producing quality evidence to guide the SLT, we hope this chapter will be a useful contribution to the continuing dialogue, and in this way help to re-work the research-practice evidence gap instead as a *nexus* of theory and practice knowledge. Good SLTs acting within an integrated stuttering therapy framework can and should make use of their individual clinical expertise and the best evidence from external research-theoretical work, in the continuing effort to construct powerful and transformative understanding and treatment approaches within stuttering therapy as well as within speech-language therapy as a whole.

Multiple choice questions

1. The three classes of knowledge denoted by Aristotle as 'techne', 'episteme', and 'phronesis' can be defined as:
   a) Instrumental, fundamental theoretical-analytical, and practical
   b) Technical, descriptive, and analytic
   c) Instrumental, fundamental theoretical-analytical, and human-relational.
2. Several guidelines for clinical studies of SLT exist. The *Total Evidence and Knowledge Approach* (TEKA) has been developed by:
   a) Hemming et al.
   b) Hoffmann et al.
   c) McCurtin et al.
3. The three pillars of evidence are:
   a) Research evidence, clinician judgement, and knowledge derived from the experiences and reflections of clients.
   b) *Randomized Controlled Trials*, single-case studies, and clinician reports.
   c) Peer-reviewed research articles, clinician case reports, and client feedback measures.
4. The main limitations of the *Randomized Controlled Trial* (RCT) are:
   a) Over-specificity of focus; lack of generalizability of results; difficulty in recruiting large enough samples.
   b) Heterogeneity of participant groups limits the possibility of achieving results of significance/usefulness; individual differences and contextual elements significant for therapy outcomes can be lost; relevant information such as negative outcomes can be lost.
   c) The requirement of more than 100 participants makes them unsuitable for clinical intervention studies in SLT; use of the RCT design involves ethical difficulties because of the nature of SLT therapeutic processes; they are only useful for identifying broad outcomes.

Suggested reading

Bloodstein, O., Bernstein Ratner, N., & Brundage, S. (2021). A handbook on Stuttering. Seventh Edition. Plural Publishing Inc.

Connery, A., Galvin, R., & McCurtin, A. (2021). Effectiveness of nonpharmacological stuttering interventions on communication and psychosocial functioning in adults: A systematic review and meta-analysis of Randomized Controlled Trials. *J Evid Based Med*, *14*(1), 17–26.

Kratochwill, T.R., Horner, R.H., Levin, J.R., Machalicek, W., Ferron, J., & Johnson, A. (2021). Single-Case design standards: An update and proposed upgrades. *Journal of School Pscychology*, 89, 91–105.

McCurtin, A., Murphy, C.-A., & Roddam, H. (2019). Moving Beyond Traditional Understandings of Evidence-Based Practice: A Total Evidence and Knowledge Approach (TEKA) to Treatment Evaluation and Clinical Decision Making in Speech-Language Pathology. *Seminars in Speech and Language*, *40*(5), 370–393.

Stewart, T. (2020). *Stammering Resources for Adults and Teenagers: Integrating New Evidence into Clinical Practice*. Milton, UNITED KINGDOM: Taylor & Francis Group.

Ward, D. (2018). *Stuttering and Cluttering: Frameworks for Understanding and Treatment* (Second ed.). New York Routledge.

References

Alm, P., & Dahlin, K. (2015). Hög eller låg evidens, vad betyder det? Tankar om riktlinjer för logopediskt arbete inom stamning och andra diagnoser. *Tidskriften Logopeden*, *4*, 20–23.

Anjum, R.L., Copeland, S., & Rocca, E. (2020). *Rethinking Causality, Complexity and Evidence for the Unique Patient: A CauseHealth Resource for Healthcare Professionals and the Clinical Encounter*. Springer International Publishing: Imprint: Springer: Cham.

APA Presidential Task Force on Evidence-Based Practice. American Psychological Association (2006). Evidence-Based Practice in Psychology. *The American psychologist. 61(4), 271–285*

Asplund, J. (1987). *Det sociala livets elementara former* (*Elementary forms of social life*). Bokforlaget Korpen.

Azevedo, J. (1997). *Mapping reality: An evolutionary realist methodology for the natural and social sciences*. State University of New York Press.

Baxter, S., Johnson, M., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., & Goyder, E. (2015). The state of the art in non-pharmacological interventions for developmental stuttering. Part 1: a systematic review of effectiveness. *International Journal of Language and Communication Disorders*, *50*(5), 676–718.

Beilby, J.M., Byrnes, M.L., & Yaruss, J.S. (2012). Acceptance and Commitment Therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders*, *37*(4), 289–299.

Benton, T. (2011). *Philosophy of social science : the philosophical foundations of social thought* (2nd ed. ed.). Basingstoke: Palgrave Macmillan.

Benum, K., Axelsen, E.D., & Hartmann, E. (2013). *God psykoterapi : et integrativt perspektiv*. Pax.

Bernstein Ratner, N. (2005). Evidence-based practice in stuttering: Some questions to consider. *Journal of Fluency Disorders*, *30*(3), 163–188.

Bloodstein, O., Bernstein Ratner, N., & Brundage, S. (2021). A handbook on Stuttering. Seventh Edition. Plural Publishing Inc.

Bhaskar, R. (1989). *Reclaiming reality: A critical introduction to contemporary philosophy*. Verso.

Bothe, A.K. (2003). Evidence-based treatment of stuttering: V. The art of clinical practice and the future of clinical research. *Journal of Fluency Disorders*, *28*(3), 247–258.

Bothe, A.K., Davidow, J.H., Bramlett, R.E., & Ingham, R.J. (2006). Stuttering Treatment Research 1970–2005: I. Systematic Review Incorporating Trial Quality Assessment of Behavioral, Cognitive, and Related Approaches. *American Journal of Speech-Language Pathology*, *15*(4), 321–341.

Bothe, A.K., & Richardson, J.D. (2011). Statistical, practical, clinical, and personal significance: definitions and applications in speech-language pathology. *American Journal of Speech-Language Pathology*, *20*(3), 233–242.

Cartwright, N., & Hardie, J. (2012). *Evidence-based policy : a practical guide to doing it better*. Oxford University Press.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed. ed.). Laurence Erlbaum.

Connery, A., Galvin, R., & McCurtin, A. (2021). Effectiveness of nonpharmacological stuttering interventions on communication and psychosocial functioning in adults: A systematic review and meta-analysis of Randomized Controlled Trials. *J Evid Based Med*, *14*(1), 17–26.

Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: techniques and procedures for developing grounded theory*. (4. Ed.). Sage.

Craig, A., Blumgart, E., & Tran, Y. (2009). The impact of stuttering on the quality of life in adults who stutter. *Journal of Fluency Disorders*, *34*(2), 61–71.

Crossley, M.L. (2000). *Rethinking health psychology*. Open University Press: Buckingham, UK.

De Certeau, M. (1984). *The practice of everyday life*. (Trans. S.F. Rendall). University of California Press.

Del Re, A.C., Flückiger, C., Horvath, A.O., Symonds, D., & Wampold, B.E. (2012). Therapist effects in the therapeutic alliance–outcome relationship: A restricted-maximum likelihood meta-analysis. *Clinical Psychology Review*, *32*(7), 642–649.

Denzin, N.K. & Lincoln, Y.S. (Eds.) (1994). *Handbook of qualitative research*. Sage.

Dollaghan, C.A. (2007). *The handbook for evidence-based practice in communication disorders*. Paul H. Brookes.

Dures, E. (2012). *Mixed Methods: the Best of Both Worlds?* : Oxford University Press.

Dures, E., Rumsey, N., Morris, M., & Gleeson, K. (2011). Mixed Methods in Health Psychology: Theoretical and Practical Considerations of the Third Paradigm. *Journal of Health Psychology*, *16*(2), 332–341.

Egan, G. (2014). *The skilled helper : a client-centred approach* (10th edition. ed.). Hampshire: Cengage Learning.

Eikeland, O. (2009). *Habitus*-validity in organizational theory and research – social research and work-life transformed. In: B. Brøgger & O. Eikeland (eds.), *Turning to practice with action research* (Chapter 1, pp. 33–66). Peter Lang Publishers.

Eikeland, O. (2012). Action research – applied research, intervention research, collaborative research, practitioner research, or praxis research? International Journal of Action Research 8, 1, pp. 9–44.

Ellingson, L.L. (2006). Embodied Knowledge: Writing Researchers' Bodies Into Qualitative Health Research. *Qualitative health research*. *16*(2), 298–310.

Everard, R.A., & Howell, P. (2018). We Have a Voice: Exploring Participants' Experiences of Stuttering Modification Therapy.(Research Article). *American Journal of Speech-Language Pathology*, *27*(3SI), 1273.

Finn, P. (2003). Evidence-based treatment of stuttering:: II. Clinical significance of behavioral stuttering treatments. *Journal of Fluency Disorders*, *28*(3), 209–218.

Flückiger, C., Del Re, A.C., Wampold, B.E., & Horvath, A.O. (2018). The Alliance in Adult Psychotherapy: A Meta-Analytic Synthesis. *Psychotherapy*, *55*(4), 316–340.

Friedson, E. (1970). *Professional dominance: the social structure of medical care*. Aldine.

Friedson, E. (1994). *Professionalism reborn: theory, prospect, and policy*. Polity Press.

Gast, D.L., & Ledford, J.R. (2014). *Single case research methodology : applications in special education and behavioral sciences* (2nd ed. ed.). Routledge.

Gilman, M. (2014). *Body and voice : somatic re-education*. Plural Publishing.

Goldfried, M.R. (1980). Toward the delineation of therapeutic change principles. *American Psychologist*, *35*(11).

Goldfried, M.R. & Shahar, G. (2014). On the Assumptions Underlying Therapy Change Principles. *Journal of psychotherapy integration*, *24*(4), 275–279.

Gravetter & Forzano, (2016). Research Methods for the Behavioral Sciences. Cengage.

Greenhalgh, T., Howick, J., & Maskrey, N. (2014). Evidence based medicine: a movement in crisis? *BMJ*, *348*, g3725–g3725.

Guitar, B. (2014). *Stuttering: An integrated approach to its nature and treatment* (4th ed. ed.). Lippincott Williams & Wilkins.

Haigh, F., Kemp, L., Bazeley, P., & Haigh, N. (2019). Developing a critical realist informed framework to explain how the human rights and social determinants of health relationship works. *BMC Public Health*, *19*(1), 1571.

Hayes, S.C., Strosahl, K.D., & Wilson, K.G. (2012). *Acceptance and Commitment Therapy: The process and practice of mindful change* (2nd ed. ed.). Guilford Press.

Hayhow, R., Cray, A.M., & Enderby, P. (2002). Stammering and therapy views of people who stammer. *Journal of Fluency Disorders*, *27*(1), 1–17.

Hemming, K., Taljaard, M., McKenzie, J.E., Hooper, R., Copas, A., Thompson, J.A., . . . Grimshaw, J.M. (2018). Reporting of stepped wedge cluster randomised trials: extension of the CONSORT 2010 statement with explanation and elaboration. *BMJ*, *363*, k1614-k1614.

Hoffmann, T.C., Glasziou, P.P., Boutron, I., Milne, R., Perera, R., Moher, D., . . . Michie, S. (2014). Better reporting of interventions: Template for Intervention Description and Replication (TIDieR) checklist and guide. *BMJ*, *348*(mar07 3), g1687-g1687.

Horvath, A., Del Re, A.C., Fluckiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy*, *48*(1), 9–16.

Haaland-Johansen, L. (2007). Evidensbasert praksis – av interesse for norsk logopedi? *Norsk Tidsskrift for Logopedi*, *53*(2), 5–9.

Ingham, R.J., Bothe, A.K., Wang, Y., Purkhiser, K., & New, A. (2012). Phonation interval modification and speech performance quality during fluency-inducing conditions by adults who stutter. *Journal of Communication Disorders*, *45*(3), 198–211.

Ingham, R.J., Ingham, J.C., & Bothe, A.K. (2012). Integrating functional measures with treatment: A tactic for enhancing personally significant change in the treatment of adults and adolescents who stutter. *American Journal of Speech-Language Pathology*, *21*(3), 264–277.

Iverach, L., Heard, R., Menzies, R., Lowe, R., O'Brian, S., Packman, A., & Onslow, M. (2016). A Brief Version of the Unhelpful Thoughts and Beliefs About Stuttering Scales: The UTBAS-6. *Journal of speech, language, and hearing research : JSLHR*, *59*(5), 964–972.

Latour, B. (1986). Vizualization and cognition: thinking with the eyes and hands. *Knowledge and Society: Studies in the Sociology of Culture Past and Present*, 6, pp. 1–40.

Latour, B. & Woolgar, S. (1986). *Laboratory Life: The Construction of Scientific Facts*. Princeton University Press.

Karimi, H., Onslow, M., Jones, M., O'Brian, S., Packman, A., Menzies, R., . . . Jelčić-Jakšić, S. (2018). The Satisfaction with Communication in Everyday Speaking Situations (SCESS) scale: An overarching outcome measure of treatment effect. *Journal of Fluency Disorders*, *58*, 77–85.

Kelly, M.P., Heath, I., Howick, J., & Greenhalgh, T. (2015). The importance of values in evidence-based medicine. *BMC Med Ethics*, *16*(1), 69.

Kerry, R., Eriksen, T.E., Lie, S.A.N., Mumford, S.D., & Anjum, R.L. (2012). Causation and evidence-based practice: an ontological review. *Journal of Evaluation in Clinical Practice*, *18*(5), 1006–1012.

Kondrat, M.E. (1992) Reclaiming the practical: formal and substantive rationality in in social work practice. Social Service Review, 166, pp. 237–255.

Kratochwill, T.R., Horner, R.H., Levin, J.R., Machalicek, W., Ferron, J., & Johnson, A. (2021). Single-Case design standards: An update and proposed upgrades. Journal of School Pscychology, 89, 91–105.

Kvernbekk, T. (2016). *Evidence-based practice in education : functions of evidence and causal presuppositions* (Vol. 147). Routledge.

Lambert, M.J. (2013). *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed. ed.). Wiley.

Langevin, M., Kully, D., Teshima, S., Hagler, P., & Narasimha Prasad, N.G. (2010). Five-Year Longitudinal Treatment Outcomes of the ISTAR Comprehensive Stuttering Program. *Journal of Fluency Disorders*, *35*(2), 123–140.

Lawton, M., Haddock, G., Conroy, P., Serrant, L., & Sage, K. (2018). People with aphasia's perception of the therapeutic alliance in aphasia rehabilitation post stroke: a thematic analysis. *Aphasiology*, *32*(12), 1397–1417.

Lawton, M., Sage, K., Haddock, G., Conroy, P., & Serrant, L. (2018). Speech and language therapists' perspectives of therapeutic alliance construction and maintenance in aphasia rehabilitation post-stroke. *International Journal of Language and Communication Disorders*, *53*(3), 550–563.

Levant, R.F., & Hasan, N.T. (2008). Evidence-based practice in psychology.(Author abstract) (Report). *Professional Psychology, Research and Practice*, *39*(6), 658.

Logan, K.J. (2015). *Fluency disorders*. Plural Publishing.

Low, M. (2017). A novel clinical framework: The use of dispositions in clinical practice. A person centred approach. *Journal of Evaluation in Clinical Practice*, *23*(5), 1062–1070.

Lupton, D. (1995). *The Imperatives of Health: Public Health and the Regulated Body*. Sage.

Manning, W.H. (2010). Evidence of clinically significant change: the therapeutic alliance and the possibilities of outcomes-informed care. *Seminar Speech and Language*, *31*(4), 207–216.

McCurtin, A., Murphy, C.-A., & Roddam, H. (2019). Moving Beyond Traditional Understandings of Evidence-Based Practice: A *Total Evidence and Knowledge Approach* (TEKA) to Treatment Evaluation and Clinical Decision Making in Speech-Language Pathology. *Seminars In Speech And Language*, *40*(5), 370–393.

McLeod, J. (2018). *Pluralistic therapy: Distinctive features*. Routledge. Taylor & Francis eBooks A-Z.

Miciak, M., Mayan, M., Brown, C., Joyce, A.S., & Gross, D.P. (2018). The necessary conditions of engagement for the therapeutic relationship in physiotherapy: an interpretive description study. *Archives of Physiotherapy*, *8*, 3.

Murray, M. & Chamberlain, K. (1999). Health psychology and qualitative research. In: M. Murray and K. Chamberlain (Eds.), *Qualitative health psychology: theories and methods* (Chapter 1, pp. 3–15). Sage.

Neumann, K., Euler, H.A., Zens, R., Piskernik, B., Packman, A., St Louis, K.O., . . . Finn, P. (2019). "Spontaneous" late recovery from stuttering: Dimensions of reported techniques and causal attributions. *Journal of Communication Disorders*, *81*, 105915.

Nissen-Lie, H.A., Havik, O.E., Høglend, P.A., Monsen, J.T., Rønnestad, M.H., & Tracey, T.J.G. (2013). The Contribution of the Quality of Therapists' Personal Lives to the Development of the Working Alliance. *Journal of Counseling Psychology*, *60*(4), 483–495.

Nissen-Lie, H.A., Monsen, J.T., & Rønnestad, M.H. (2010). Therapist predictors of early patient-rated working alliance: A multilevel approach. *Psychotherapy Research*, *20*(6), 627–646.

Nissen-Lie, H.A., Havik, O.E., Høglend, P.A., Rønnestad, M.H., & Monsen, J.T. (2015). Patient and Therapist Perspectives on Alliance Development: Therapists' Practice Experiences as Predictors. *Clinical Psychology & Psychotherapy*, *22*(4), 317–327.

Nye, C., & Hahs-Vaughn, D. (2011). Assessing methodological quality of randomized and quasi-experimental trials: A summary of stuttering treatment research. *International Journal of Speech-Language Pathology*, *13*(1), 49–60.

Nye, C., Vanryckeghem, M., Schwartz, J.B., Herder, C., Turner, H.M., & Howard, C. (2013). Behavioral Stuttering Interventions for Children and Adolescents: A Systematic Review and Meta-Analysis. *Journal of Speech Language and Hearing Research*, *56*(3), 921.

Oddli, H.W., & Halvorsen, M.S. (2014). Experienced psychotherapists' reports of their assessments, predictions, and decision making in the early phase of psychotherapy. *Psychotherapy (Chic)*, *51*(2), 295–307.

Oddli, H.W., & McLeod, J. (2016). Knowing-in-Relation: How Experienced Therapists Integrate Different Sources of Knowledge in Actual Clinical Practice. *Journal of Psychotherapy Integration*, *27*(1).

Oddli, H.W., Nissen-Lie, H.A., & Halvorsen, M.S. (2016). Common Therapeutic Change Principles as "sensitizing concepts": A key perspective in psychotherapy integration and clinical research. *Journal of Psychotherapy Integration*, *26*(2), 160–171.

Packman, A., & Kuhn, L. (2009). Looking at stuttering through the lens of complexity. *International Journal of Speech-Language Pathology*, *11*(1), 77–82.

Pezdek, K., Dobrowolski, R., & Michaluk, T. (2020). Habermas and the therapeutic function of language. *Nurs Philos*, *21*(2), e12290-n/a.

Plexico, L.W., Manning, W.H., & Dilollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. *Journal of Fluency Disorders*, *35*(4), 333–354.

Polanyi, M. (1962). *Personal Knowledge*. University of Chicago Press.

Pring, T. (2004). Ask a silly question: two decades of troublesome trials. *Int J Lang Commun Disord*, *39*(3), 285–302.

Pring, T. (2016). Inequalities in the provision of paediatric speech and language therapy services across London boroughs. *Int J Lang Commun Disord*, *51*(4), 442–446.

Ramnerö, J., & Törneke, N. (2008). *The ABCs of human behavior: behavioral principles for the practicing clinician*. Context Press. New Harbinger Publications, Inc.

Richardson, J.T.E. (2011). Eta squared and partial eta squared as measures of effect size in educational research. *Educational Research Review*, *6*(2), 135–147.

Robey, R.R., & Schultz, M.C. (1998). A model for conducting clinical-outcome research: An adaptation of the standard protocol for use in aphasiology. *Aphasiology*, *12*(9), 787–810.

Rønnestad, M.H. (2008). Evidensbasert praksis i psykologi. *Tidsskrift for Norsk psykologforening*, *45*(4), 444–454.

Shapiro, D.A. (2011). *Stuttering intervention: A collaborative journey to fluency freedom* (2nd ed. ed.). PRO-ED.

Silverman, D. (1993). *Interpreting qualitative data: methods for analyzing talk, text, and interaction*. Sage.

Simmons, B.M. (2011). The Complexity of Evidence-Based Practice: A Case Study. *Smith College Studies in Social Work*, *81*(2–3), 252–267.

Simpson J.A. & Weiner E. (1989). Oxford English dictionary. 2nd ed. Clarendon Press.

Skatvedt, A. & Costain Schou, K. (2008). The beautiful in the commonplace. European *Journal of Cultural Studies*, 1, pp. 83–100.

Skatvedt, A. & Costain Schou, K. (2010). The potential of the commonplace: A sociological study of emotions, identity and therapeutic change. *Scandinavian Journal of Public Health*, 38 (Suppl. 5), 81–87.

Swift, M.C., Langevin, M., & Clark, A. (2017). Using critical realistic evaluation to support translation of research into clinical practice. *International Journal of Speech-Language Pathology*, *19*(3), 335–343.

Sønsterud, H. (2020). *Stuttering therapy: What works for whom? Minding the body in speech – a multifaceted, individual approach to stuttering therapy.* (PhD), University of Oslo.

Sønsterud, H., Feragen, K.B., Kirmess, M., Halvorsen, M.S., & Ward, D. (2019). What do people search for in stuttering therapy: Personal goal-setting as a gold standard? *Journal of Communication Disorders*, 105944.

Sønsterud, H., Halvorsen, M.S., Feragen, K.B., Kirmess, M., & Ward, D. (2020). What works for whom? Multidimensional Individualized Stuttering Therapy (MIST). *Journal of Communication Disorders*.

Sønsterud, H., Kirmess, M., Howells, K., Ward, D., Feragen, K.B., & Halvorsen, M.S. (2019). The working alliance in stuttering treatment: A neglected variable? . *International journal of language & communication disorders*, *54*(4), 606–619.

Tashakkori, A., & Teddlie, C. (2010). *SAGE handbook of mixed methods in social & behavioral research* (2nd ed. ed.). Sage.

Tate, R.L., Perdices, M., Rosenkoetter, U., Shadish, W., Vohra, S., Barlow, D.H., . . . Wilson, B. (2016). The Single-Case Reporting Guideline In BEhavioural Interventions (SCRIBE) 2016 Statement. *Physical therapy*, *96*(7), e1.

Thomsen, R.G. (1997). *Extraordinary bodies: figuring physical disability in American culture and literature*. Columbia University Press.

Van De Ven, A.H., & Johnson, P.E. (2006). Knowledge for Theory and Practice. *The Academy of Management review*, *31*(4), 802–821.

Venkatagiri, H.S. (2009). What Do People Who Stutter Want-Fluency or Freedom? *Journal of Speech, Language, and Hearing Research*, *52*(2), 500–515.

Wampold, B.E. (2015). *The Great Psychotherapy Debate : The Evidence for What Makes Psychotherapy Work* (Second ed.). Taylor and Francis.

Ward, D. (2018). *Stuttering and Cluttering: Frameworks for Understanding and Treatment* (Second ed.). New York Routledge.

Wieten, S. (2018). 'What the patient wants': an investigation of the methods of ascertaining patient values in evidence-based medicine and values-based practice. *Journal of Evaluation in Clinical Practice*, *24*(1), 8–12.

WHO, World Health Organization (2018). *International Classification of Function, Disability and Health*. Geneva: World Health Organization: WHO. Online version.

Wright, L., & Ayre, A. (2000). WASSP: Wrigth and Ayre Stuttering Self-Rating Profile. In (Vol. 25). Winslow Press.

Yardley, L. (1999). Understanding embodied experience: Beyond mind-body dualism in health research, in M. Murray and K. Chamberlain (Eds.), *Qualitative health psychology: Theories and methods*, (Chapter 3, pp. 31–46). Sage.

Yaruss, J.S., & Quesal, R.W. (2006). Overall Assessment of the Speaker's Experience of Stuttering (OASES): Documenting multiple outcomes in stuttering treatment. *Journal of Fluency Disorders*, *31*(2), 90–115.

Chapter 2

Kurt Eggers

Becoming an Effective Clinician Specialized in Fluency Disorders

Purpose of the chapter

The purpose of this chapter is to focus on what speech-language pathologists working in the field of fluency disorders can do to become more effective clinicians. There is a need in the field for people specializing in the assessment and treatment of fluency disorders and for specific programs which provide such specialist knowledge and skills.

Although there seems to be an impetus for demonstrating the effectiveness of fluency treatment approaches and for comparing the effectiveness between approaches, the currently available data do not seem to support the idea that any one treatment approach is resulting in better treatment outcomes compared to others. Therefore, a common factors model or *Contextual Model* were employed to hypothesize about possible active components of stuttering treatments.

Strategies to improve the clinician's effectiveness in treating fluency disorders such as increased critical reasoning and improving facilitative interpersonal skills are also discussed.

Finally, a model for the education of fluency specialists is reviewed.

Introduction

Speech and language therapists (SLTs) are specialists in communication disorders. But Bernstein-Ratner and Tetnowski (2006) indicated that because the field of speech-language therapy has broadened considerably, more specialized knowledge is available and necessary. This ever-increasing evolution of the scope of the field led clinicians to develop specialist knowledge and skills for working with particular client populations, and to develop specific education courses leading to specialization. The call for such specialized education in fluency disorders is longstanding (e.g., Brisk, Healy, & Hux, 1997; Fibiger, Peters, Euler, & Neumann, 2008; Yaruss, 1999). Results of clinician surveys show that clinicians are 'less comfortable' in working with clients who stutter, because 'stuttering is one of the least understood of all communicative disorders' (e.g., Sommers & Caruso, 1995). The perception that stuttering is 'uncommon', and does 'not merit a prominent place in the curriculum and clinical training' was expressed by Yaruss and Quesal (2002). However, a wide-ranging international survey (Leahy, Delaney, & Murphy 2004) showed that a small number of students in each year of education have a specific interest in stuttering and fluency.

Stuttering is a disorder that SLTs commonly treat. From the data collected in the American Speech-Language-Hearing Association (ASHA) (2001) Omnibus Survey (Bernstein-Ratner & Tetnowski, 2006), typical clinician caseloads in the US across all settings show that as many as 65% of them see fluency clients (compared to e.g., 45% clients with voice problems and 25% clients with aphasia). Within school settings, 78% of the clinicians report seeing fluency clients. However, with regard to absolute numbers of individuals seen for a specific disorder, fluency ranks among the lowest of all conditions treated, at 2.4%. This leads the authors to observe that '*effective fluency treatment is not a skill that can be learned on the job*' since the absolute numbers of cases per clinician is the lowest of all disorders, allowing little opportunity to hone skills (Bernstein-Ratner & Tetnowski, 2006). Moreover, it does raise the question of how SLPs can become effective clinicians in the domain of fluency disorders, and which factors play a contributing role in this ongoing development.

One of the aspects that might shed some light on this, is to consider how successful SLPs are in general in helping clients, and how satisfied clients are with the received treatment. Keilmann, Braun, and Napiontek (2004) analyzed questionnaires from parents whose children had received speech-language therapy, and questionnaires from SLPs concerning their satisfaction with the outcome of the intervention. They found that the majority of parents were very satisfied with the outcome of the speech-language therapy, the professional knowledge of the SLPs, and the type of therapy. The individual therapeutic style of SLPs was partially determined by vocational experience. Parents whose children attended therapy more frequently and for longer periods, reported greater satisfaction than those parents whose children attended less frequently. On the other hand, in most cases the SLPs were also pleased with the compliance of the parents. These findings were confirmed by a more recent study on the pediatric service delivery of SLPs, which showed that around 60% of parents were (very) happy with their experiences, while 27% were unhappy (Ruggero, McCabe, Ballard, & Munro, 2012). Among the factors named by parents which contributed to dissatisfaction were insufficiently individualized services, not taking parents' perspectives into account in the clinical decision-making process, SLPs not genuinely engaging with families, and a lack of sincerity in the client-clinician interaction or therapeutic alliance.

Focusing specifically on interventions in fluency disorders, Salvo (2018) found that the majority (80%) of clients, children and adolescents, as well as their parents rated the different aspects of the fluency treatment as 'very positive' (i.e., four on a five-point Likert scale). Clients who received more than five years of treatment provided a wider range of scores. She concluded that in order to provide effective therapy, SLPs should consider the different treatment expectations of both the clients and their parents, and how these can impact treatment, including education, goal setting, interpretation of progress, and carryover. Yaruss (2004) concurs, and states that tailoring the intervention to the client's needs is one of the greatest challenges facing clinicians working with clients who stutter, but is an important factor for client and parent satisfaction. A one-size treatment does not fit all, and SLPs should therefore continually assess the outcomes of their intervention, to ensure that it is consistent with the principles of effective treatment and is actually helping clients improve their communication abilities. Clinicians should be aware that treatment satisfaction, especially for adult clients who stutter, is also related to the level of shared understanding, joint clinical decision-making, and therapeutic alliance. Croft (2018) showed that while clinicians relate therapeutic alliance to treatment effectiveness and client progress, clients associate therapeutic alliance most with outcome satisfaction.

Treatment and therapist effectiveness

Most people would agree that treatment and therapist effectiveness entail more than, and differ from, (simply) client satisfaction with the treatment, as previously discussed. Already in the eighties and the nineties, various authors discussed the effectiveness of stuttering interventions (e.g., Andrews, Guitar, & Howie, 1980; Bloodstein, 1995; Conture, 1996). Bloodstein (1995) and Bloodstein and Ratner (2008) discussed two seemingly conflicting impressions about the effectiveness of stutter treatments. On one hand, stuttering is a difficult problem to treat, especially in adults, but on the other hand, many different types of treatment are liable to work with people who stutter. Based on his analyses of treatment outcomes in over a hundred studies, one would be inclined to infer that substantial improvement occurs as a result of almost any kind of treatment in about sixty to eighty percent of cases. He concludes by stating that "it would seem that therapy itself, apart from what is done in therapy, has considerable capacity for effecting change" (Bloodstein, 1995,

p. 439). One important caveat is the substantial difference in scientific rigor, methodology and terminology used. Moreover, several studies have failed to document the client's progress outside the clinic, or whether the treatment benefits were maintained long-term. Bloodstein therefore described various criteria which must be met before an intervention can be considered successful. These include the use of objective speech behavior measures, sufficiently large participant groups, repeated evaluations extending to beyond-clinic measures, long-term monitoring, and evaluating the impact on one's worries for the future and self-concept as a person who stutters. Conture (1996) adds that not everyone seems to agree on how to judge the effectiveness or success of treatment. He suggests a consensus definition that involves a mix of both subject-independent measures (e.g., frequency and duration of moments of stuttering) and subject-dependent measures of changes in the client's speech, feelings and attitudes, and confidence and willingness to communicate in different situations. Despite this well-founded rationale, if publications still appear nowadays with limited treatment outcomes (e.g., only considering percentage of stuttered syllables), one must at least critically ask why this is the case and interpret the results with the necessary caution. However, most recent studies about treatment effectiveness do include a wider range of outcome variables, as suggested by many authors (e.g., De Sonneville-Koedoot, Stolk, Rietveld, & Franken, 2015; Euler, Lange, Schroeder, & Neumann, 2014; Nye et al. 2013).

Treatment outcome studies in fluency disorders, both in children and adults, seem to support the claim that stuttering treatment is effective in general, but the data do not support one approach as having a greater effect than another (De Sonneville-Koedoot, Stolk, Rietveld, & Franken, 2015; Herder, Howard, Nye, & Vanryckeghem, 2006). In psychological literature, this phenomenon is described as the dodo effect (e.g., Tallman & Bohart, 2004). It refers to the fact that most research into treatment outcome in social and psychological treatment approaches showed that having treatment was better than not having treatment, but hardly any differences were found between different treatment approaches. This led several authors to conclude that the similarities between the different approaches accounts for the similar treatment outcome, rather than the differences (e.g., Asay & Lambert, 2004; Wampold & Imel, 2015). Similarities across treatments are client and environmental characteristics, client-clinician interaction or therapeutic alliance, and the client and clinician's hopes or expectations for change. These variables, combined with specific therapy techniques, are referred to as the 'common factors' and are responsible for the treatment outcome (Zebrowski, 2007). Zebrowski and Arenas (2011) also documented the emerging evidence that these common factors may also be applicable to speech-language therapy and more specifically to stuttering treatment. Plexico, Manning, and DiLollo (2010) studied the underlying factors contributing to successful or unsuccessful client-clinician interaction in a group of twenty-eight clients who stutter. Important factors for an effective treatment were understanding the stuttering experience, developing a positive client-clinician alliance, and being knowledgeable about stuttering and its treatment.

These new insights also prompted a shift from a medical model for change to a common factors model (Wampold, 2010). In the medical model perspective, specific factors (i.e., therapy techniques) are seen as the reason for change. Common factor models emphasize the client-clinician interaction, and focus on the therapist, the client, and the structure of the treatment that is offered, while the specific ingredients of various treatments are relatively unimportant. Recent findings by Donaghy et al. (2020) showing that the verbal contingencies, previously believed to be the active therapeutic agents in the *Lidcombe Program* for preschool children who stutter, are most likely not responsible for the treatment effect, and these findings seem to map onto such a common factor model. More recently, a *Contextual Model* (see Figure 1) has been put forward, where clinical change is attributed to relationship factors which integrate common factors (such as relationship building and creating expectations) with specific factors (i.e., specific treatment goals and therapeutic actions) (Budge & Wampold, 2015; Wampold & Imel, 2015).

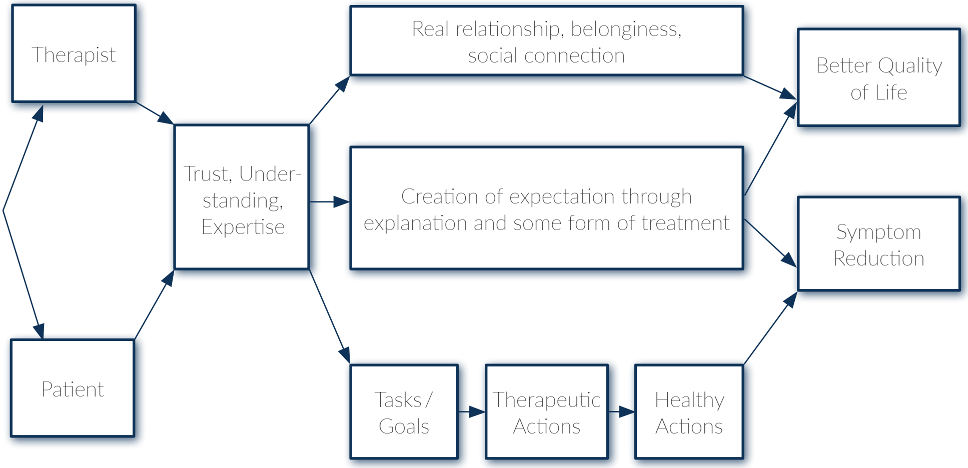


Figure 1: *Contextual Model* of change. Source: Reprinted from Wampold & Imel (2015).

One final important consideration is that there seems currently to be an emphasis on demonstrating the effectiveness of fluency treatment approaches, and on comparing the effectiveness of approaches, but a topic that is much less (or not at all) studied in the domain of speech-language pathology – and more specifically in fluency disorders – is the inter-clinician variability of treatment effectiveness (Eggers, 2018). Different therapists, using the same treatment approach, are not necessarily equally effective in improving client outcomes. Studies in the domain of psychotherapy (e. g., Miller, Hubble, Chow, & Seidel, 2013; Miller, Hubble, & Duncan, 2007) revealed a considerable degree of variability between therapists, with the most effective therapists averaging fifty percent better client outcomes and fewer dropouts than average therapists, and this group is counterbalanced by those therapists who produce, on average, almost no change. It seems logical to assume that developers of treatment programs for fluency disorders are more likely to turn to therapists with the best therapeutic skills to investigate the effectiveness of their program. The question is therefore to what extent these findings can be generalized to different therapists and moreover, how SLPs can become more effective in helping their clients with fluency disorders. While some argue that this can be achieved by simply doing it a lot – similarly to how athletes and musicians improve with time and experience in the right circumstances – others disagree (Rousmaniere, Goodyear, Miller, & Wampold, 2017). Research in the field of psychotherapy has demonstrated that a clinician's proficiency to change client behaviors does not necessarily increase with time and experience (Tracey, Wampold, Goodyear, & Lichtenberg, 2015; Tracey, Wampold, Lichtenberg, & Goodyear, 2014), and the effectivity of some even decreased slightly with more experience (Goldberg et al., 2016). In other words, gaining more experience with a specific treatment approach for stuttering might not automatically lead to becoming a more effective clinician.

Becoming a critical therapist

One of the current main strategies to improve therapist effectiveness in treating fluency disorders seems to be the dissemination of, and training in, *Evidence-based treatment* approaches. *Evidence-based treatment* is not similar to *Evidence-based practice*. *Evidence-based practice* (EBP) evolved from evidence-based medicine (Sackett et al., 1996), and integrates the best available research evidence with clinical expertise and patient values, in order to make well-informed decisions about clinical cases. Satterfield et al.'s (2009) revised EBP model emphasizes shared decision-making, and puts the model in an environmental and organizational context (see Figure 2). The environment is also an important factor to consider, since it can moderate the acceptability and feasibility of interventions. *Evidence-based treatments* (EBT) are those that have been published and evaluated for efficacy and effectiveness based on a (possibly limited) set of criteria. *Evidence-based treatments* in stuttering interventions include the *Demands and Capacities* based treatment and *Lidcombe* treatment (e.g., De Sonneville-Koedoot et al., 2015). These

Figure 2: Revised *Evidence-based practice* model. Revised from Satterfield et al. (2009).

relate to 'best available research evidence' in Figure 2 but do not necessarily include the other two components. EBP emphasizes the different processes which clinicians can use to integrate evidence with clinical expertise and client preferences, whereas EBT identifies treatments that are effective for specific conditions. Litell (2014) therefore stresses the importance of critical reasoning, since lists of EBTs do not provide sufficient evidence for an all-encompassing clinical intervention. She states that "clinicians must determine how credible evidence relates to particular needs, values, preferences, circumstances, and ultimately, the responses of their clients".

Stimulated by the EBP movement, different guidelines for the assessment and treatment of stuttering have been developed worldwide (e.g., Neumann et al., 2016; Pertijs et al., 2014). These guidelines cluster together all useful information for therapists, who would otherwise find it hard to process all this scattered information. These preset algorithms and practice guidelines are valuable tools that can help to improve the quality of care for people who stutter, but one has to be careful that they do not discourage therapists from thinking independently and creatively (Groopman, 2007). They should ideally be used as external clinical evidence that can inform, but not replace, the individual clinician's expertise (Masic, Miokovic, & Muhamedagic, 2008).

Training therapists to become critical thinkers is an essential component of becoming an effective clinician, and is crucial for an optimal clinical decision-making process that incorporates best evidence, clinician expertise, and client preferences. Finn, Brundage, and DiLollo (2016) describe the three main components for critical thinking: a) interpretation, evaluation, and metacognition skills; b) thinking dispositions (or in other words the tendency of a person to think/act in a specific way); and c) awareness of cognitive biases or thinking errors. The authors describe different instructional approaches for teaching and developing critical thinking.

Becoming an effective therapist

Manning (2010) starts his first chapter by stating that "the quality of the clinician is a central factor in determining the success of any therapeutic approach" (p. 1), and continues by discussing various personality attributes, attitudes, and skills that are desirable for a clinician to lead a client successfully through the process of change (see also Manning & DiLollo, 2017). Among the skills he discusses are avoiding dogmatic decisions, widening one's treatment focus, connecting with and challenging the client, modeling risk taking, and the use of humor. Effective clinicians are better at supporting and motivating clients and selecting appropriate therapeutic strategies, and are more effective in guiding clients along the path of treatment. Shapiro (2011) concurs by stating that "the clinician and the interpersonal relationship are among the most significant factors that influence, if not foretell, the outcome of treatment…" (p. 450). He focuses on intrapersonal and interpersonal factors of effective clinicians such as empathy, warmth, genuineness, personal magnetism, compatible friction, and realistic, focused optimism.

Different strategies for improving one's effectiveness have been promoted over the years. They range from the previously discussed training in *Evidence-based treatments* to clinical supervision, continuing education, and using feedback systems – where clinicians closely monitor their client's progress based on outcome data. Based on different studies on attaining expertise across a wide range of fields, Miller et al. (2007) identified three interrelated components for optimizing clinicians' performance, creating a 'cycle of excellence' (see Figure 3). Included components are: a) determining a baseline level of effectiveness, including which strengths and skills need improvement; b) obtaining systematic, ongoing, formal feedback; and c) engaging in deliberate practice (Rousmaniere et al., 2017).

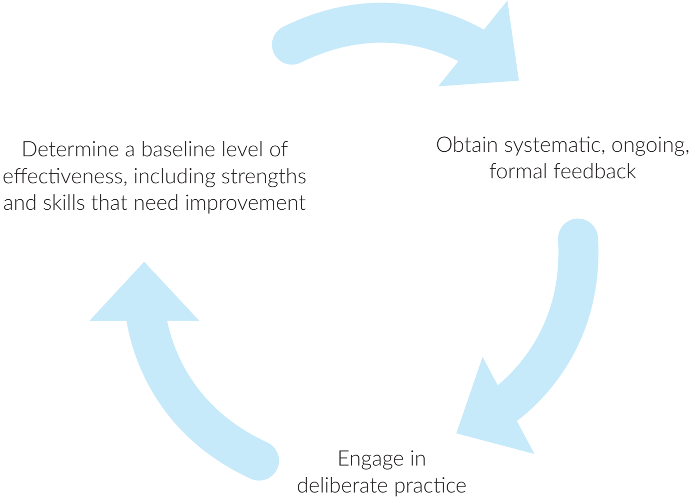


Figure 3: Cycle of excellence. Adapted from Rousmaniere, Goodyear, Miller, and Wampold (2017).

Since many clinicians have no clear information about how they are performing (in other words, their success rates), they therefore have no specific reference point for setting out a course of professional development. Duncan (2012) developed the *Partners for Change Outcome Management System* (PCOMS). It consists of brief client questionnaires (scales for outcome and session rating) designed to monitor therapeutic outcome, which are given to clients at the beginning of each treatment session, and also provides information on what happened between sessions. As these questionnaires were designed to be used across professional disciplines, they do not specifically focus on stuttering. However, they can be translated to the domain of fluency disorders or used as a guide to set up one's own client rating scales, including items related to relationship/client-clinician alliance (e.g., "I felt heard, understood, and respected"), goals and topics (e.g., "We worked and talked about what I wanted to work and talk about"), approach and method (e.g., "The therapist's approach is a good fit for me"), and overall (e.g., "Today's session was right for me" versus "There was something missing"). Additional skills and strengths that need improvement should be identified by clinical supervisors or coaches. This should be combined with formative and immediate feedback. This feedback can be provided by the completed questionnaires and senior, experienced coaches/supervisors. This is what SLPs should experience during clinical placements, i.e., clear and ongoing feedback from a local supervisor or mentor on their interaction and clinical conduct. Although feedback is important for improvement, it does not drive the improvement. The important steps are critical reflection on one's weaknesses, getting advice from a recognized expert and then developing, rehearsing and executing an improvement plan (Rousmaniere et al., 2017). This process aims at making specific skills routine and automatic, and involves reviewing videos of treatment sessions, with expert feedback and repeated role-playing to examine mistakes made.

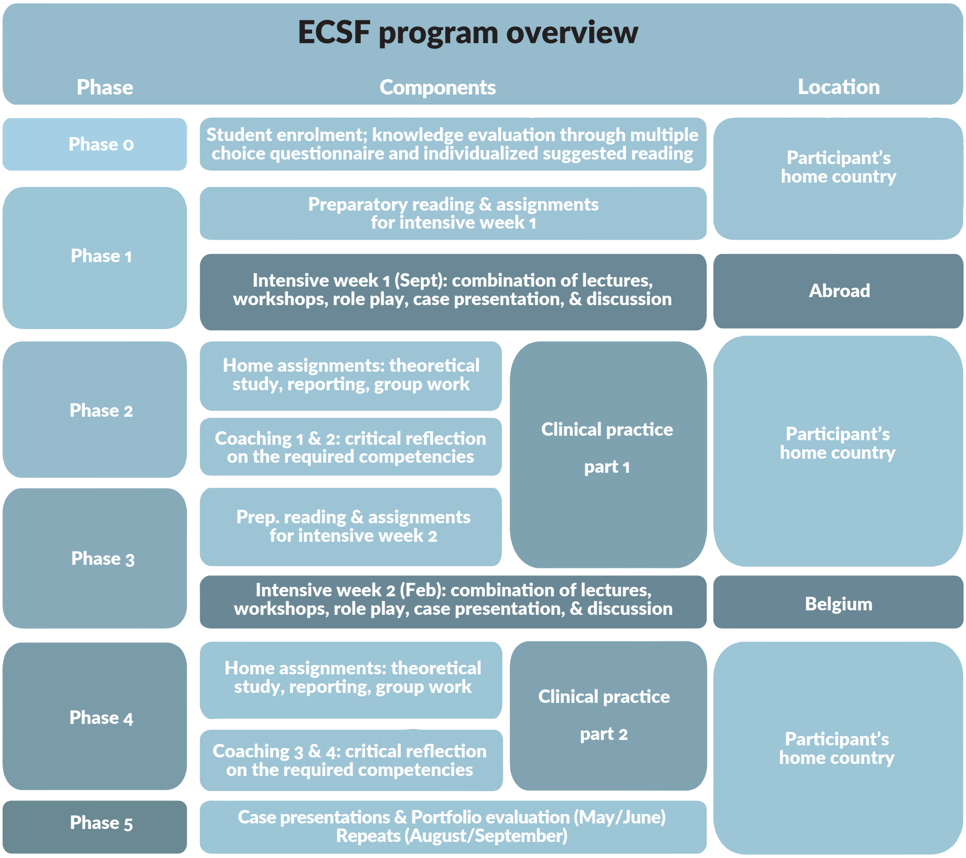
Wampold (2017) states that the specific skills that are indicated in the *Contextual Model* (see Figure 1) should be the focus of this deliberate practice, since they will lead to better treatment outcomes. So, the focus should be on e.g., a) the ability to build alliances across a range of different clients; b) providing a clear explanation of the treatment rationale and a clear description of treatment goals; c) developing joint clinical decision-making on treatment goals; and d) explaining to the client/ client system how specific actions relate to improvement. Effective therapist characteristics that should also be considered and possibly further developed are verbal fluency, warmth and empathy, emotional expression, persuasiveness, hopefulness, alliance-building capacity, problem focus, delivering a cogent treatment, and professional self-doubt.

Training the next generation of fluency specialists

Shapiro (2011) describes how the professional training of therapists working with clients who stutter should ideally consist of integrated academic, clinical, and supervisory processes to impact the affective, behavioral, and cognitive knowledge of future clinicians. The supervisory process includes – but is not limited to – different interaction analysis systems (e.g., client-clinician interaction or supervisee-supervisor interaction), analysis of the therapist's non-verbal interaction, and individually designed procedures. Moreover, professional competence is something that needs to be maintained through a process of lifelong learning.

A specifically designed program to train fluency specialists, adhering to previously discussed principles, is the *European Clinical Specialization on Fluency Disorders* (ECSF; www.ecsf.eu). This is a one-year specialization course in advanced vocational training, accessible to both EU and non-EU participants. Participants are SLPs who have graduated from qualifying programs in speech and language therapy, having covered courses in fluency and fluency disorders.

When this program was developed, the specialization course had to meet the following requirements: (a) create an optimal learning environment for participants to become more effective clinicians; (b) be compatible with the current workload of a practicing SLP; (c) be cost efficient; and (d) be optimal for student recruitment (Eggers & Leahy, 2011). Therefore, it includes lecturing and self-study, supervised clinical internship, and evaluation of acquired competencies. After careful weighing of different models, the consortium decided on a delivery model (see Figure 4) where modules are provided during 2 intensive weeks (taking place in September and February), scheduled during the academic year. This learning is combined with a minimum of 4 follow-up sessions, provided by ECSF coaches, who are partners in the consortium. For efficient learning, preparatory reading and home assignments form an integral part of the course, including access to an e-learning platform. The specialized clinical training that takes place in the participant's home country under the supervision of an external mentor (who is an ECSF-approved senior fluency specialist) can begin after the first intensive week. Evaluation is based on continuous assessment, the student's development of a portfolio, and specific appraisal points, including case presentations. The portfolio, prepared during the year, incorporates a comprehensive overview of the specialization process, including written reflective papers on the participant's clinical work and the fulfillment of reporting tasks (analytical exercises regarding assessment and therapy). The portfolio is further detailed below.



ECSF program overview

Phase	Components		Location
Phase 0	Student enrolment; knowledge evaluation through multiple choice questionnaire and individualized suggested reading		Participant's home country
Phase 1	Preparatory reading & assignments for intensive week 1		
	Intensive week 1 (Sept): combination of lectures, workshops, role play, case presentation, & discussion		Abroad
Phase 2	Home assignments: theoretical study, reporting, group work	Clinical practice part 1	Participant's home country
	Coaching 1 & 2: critical reflection on the required competencies		
Phase 3	Prep. reading & assignments for intensive week 2		
	Intensive week 2 (Feb): combination of lectures, workshops, role play, case presentation, & discussion		Belgium
Phase 4	Home assignments: theoretical study, reporting, group work	Clinical practice part 2	Participant's home country
	Coaching 3 & 4: critical reflection on the required competencies		
Phase 5	Case presentations & Portfolio evaluation (May/June) Repeats (August/September)		

Figure 4: *European Clinical of Specialization Fluency Disorders* (ECSF) program overview.

The curriculum consists of 2 main components: theoretical knowledge and therapeutic skills, along with specialized clinical training and the evaluation portfolio. The first component consists of 3 modules incorporating: (a) phenomenology (including causal and maintaining variables); (b) assessment, evaluation and diagnosis; and (c) intervention. The Phenomenology Module provides a comprehensive and critical review of the phenomenology of fluency disorders, from which the SLP gains an in-depth understanding of the factors involved in the etiology, development and maintenance of stuttering. Acknowledging that this knowledge is highly dynamic and in need of continuous updating, the module provides the SLP with tools and (research) strategies which are needed for continued professional and scientific development. The Assessment, Evaluation and Diagnosis Module has the goal of SLPs developing a detailed theoretical and clinical knowledge of the various components of the diagnostic process. Finally, the Intervention Module has the goal of SLPs gaining knowledge of, and developing a critical attitude towards, different aspects and elements of fluency treatment from broad perspectives. As a result, students are able to make critical decisions about intervention, and to formulate these into an evidence-based dynamic treatment plan tailored to clients' needs. The emphasis is on participants' continuous reflection to provide the client with best practice.

The second major component, the clinical training, consists of 120 hours of supervised clinical internship, to be completed in the clinic of the student or with the mentor. External mentors, all ECSF-approved senior fluency specialists, and ECSF coaches, who are partners in the consortium, closely guide the students. The role of the external mentors is to provide appropriate support to students so that they can gain personal insights and reflect on the quality of their professional practice. This involves determining the relationship between personal and professional values, standards, and behaviors. The mentor's primary role is to provide appropriate support and guidance to the participant as needed.

Being guided by a mentor is not necessarily applicable in cases where students have experience in treating persons who stutter, and no one with similar experience is available in the student's home country. In such a case, peer mentoring is a viable alternative. The role of the ECSF-coach is to guide the learning process, enhance participants' self-reflection competencies, and evaluate their portfolios and oral case presentations. Where there is no ECSF-coach in the home country of the student, coaching sessions can take another form such as web-based discussions, Zoom conferences etc.

Learning outcomes are defined in terms of both competencies related to prevention, assessment and intervention, as well as knowledge and skills regarding phenomenology, causal and maintaining variables, assessment, evaluation and diagnosis, and intervention. Professional attitudes reflecting ethical considerations in clinical relationships, and in projecting best practice, are integral to competency development and maintenance.

As described earlier, students prepare a portfolio for final evaluation, to demonstrate their acquired competencies. This portfolio consists of (a) a complete overview of the specialization process; (b) case studies with additional evidence (forms, questionnaires, therapy reports, video reports); (c) written reports of reflective activities; (d) mentor reports; and (e) continuous evaluation reports. As well as being a tool for final evaluation, the goals of the portfolio are for students to take responsibility for their learning process and demonstrate progress, and also to take control of learning through reflection, planning and execution.

Quality assurance within the ECSF program occurs through external and internal review processes (Leahy et al., 2014), which were carried out for the first time in 2009 by course participants, the EU commission and a senior ASHA Fluency Specialist. Participants were asked to rate the overall session formats, the practicality and usefulness of the information given, and the lecturer's ability to present information. They were also asked to provide an overall course rating, based on a 5-point scale. All ratings averaged 'very good' (4) to 'excellent' (5). The EU commissioner labeled it as "a very well performed and managed project where all planned outcomes are being fulfilled." and the senior ASHA Fluency Specialist praised the very suitable pedagogical approach, stating: "It is simply a miracle to see the level of organization, content and commitment that has gone into this effort." A recent evaluation in 2018 (Eggers et al., 2018) by one third of its graduates showed that the mentoring, coaching and lectures by the experienced staff members were rated as the best elements of the course. The course had a strong to very strong impact on the advancement of graduates' careers, and they reported that besides more knowledge, they had become more confident and skilled in treating clients with fluency disorders, and improved their critical reasoning.

The ECSF program – currently run by a consortium of 15 universities, colleges, and centers of excellence from 10 EU and non-EU countries – provides specialist knowledge and skills that can be recognized by local professional bodies as important elements which can lead to clinical specialization. The program is a well-designed combination of lectures, clinical practice, and home assignments. The course has been run for 13 consecutive years and has trained over 250 individuals, from 32 countries.

Graduates of this ECSF program can continue their specialization process by registering with the European Fluency Specialists (EFS; www.europeanfluencyspecialists.eu).

The process of becoming a European Fluency Specialist involves documentation of an additional 80 hours of clinical and/or academic activities, 35 hours of continued professional development activities, and 10 hours of participation in discussion groups, within a time frame of three years (Eggers et al., 2019). Certification is renewed every three years in order to maintain the highest standards of care to people with fluency disorders.

Conclusion and future directions

In order to become an effective clinician in the area of fluency disorders, SLPs need to gain more specialized knowledge and skills, in order to feel more comfortable when working with clients with fluency disorders. This could possibly be facilitated through a post-graduate specialization program, as discussed in this chapter, but there are more elements to consider. In addition, clinicians must be trained both in critical reasoning and in improving their facilitative interpersonal skills. This can be achieved using a range of instructional approaches. A specific example of such an approach is deliberate practice, which involves identification of one's performance shortcomings, receiving guidance from experienced specialists, reflecting on feedback received, and developing a plan for improvement.

Moreover, ongoing and future research will provide additional insights into the effectiveness of fluency treatment approaches and, more importantly, into the active ingredients of these interventions.

Multiple Choice Questions

1. Which of the following statements – regarding how satisfied SLPs, clients and parents are with the treatment process – are correct?
    a) The majority of clients' parents were very satisfied with the outcome of the speech-language therapy;
    b) Factors contributing to dissatisfaction were SLPs not engaging with families, and lack of sincerity in the therapeutic alliance;
    c) Only 50% of the clients, children and adolescents, as well as their parents rated the different aspects of the fluency treatment as 'very positive';
    d) Clients relate therapeutic alliance to treatment effectiveness and treatment progress, while clinicians associate therapeutic alliance most with outcome satisfaction.
2. Which of the following statements regarding treatment effectiveness are correct?
    a) More recent studies on the effectiveness of stuttering treatment map onto Bloodstein's finding that around 50% of treatments seem to be effective;

   b) The dodo-effect refers to the phenomenon that treatment outcome studies mostly result in considerable differences between treatments;
   c) Different therapists, trained in and using the same treatment approach, are not necessarily equally effective in improving client outcomes.
   d) A common factor model perspective emphasizes different therapy techniques as the active therapeutic agents.

3. Which of the following statements are correct? Miller’s cycle of excellence for increasing a clinician’s effectivity:
   a) Is based on training in *Evidence-based treatments*, clinical supervision, and continuing education;
   b) Consists of 3 independent and unrelated factors;
   c) Includes baseline determination, systematic formal feedback, and deliberate practice;
   d) Involves repetitive practicing of specific skills and reviewing videos of treatment sessions.
4. Which of the following statements – regarding the ECSF postgraduate specialization course – are correct?
   a) The curriculum of the postgraduate ECSF specialization includes lecturing and supervised clinical practice;
   b) To graduate from the ECSF specialization course, students have to pass an oral exam at the end of the program;
   c) During their specialization training, students are guided by an ECSF-coach and an external mentor;
   d) Students’ evaluations are executed via the use of a self-developed portfolio.

Suggested Reading

Duncan, B.L., Miller, S.D., Wampold, B.E., & Hubble, M.A. (Eds.). (2010). *The heart and soul of change: Delivering what works in therapy* (2nd *Edition*). American Psychological Association.

Rousmaniere, T., Goodyear, R.K., Miller, S.D., & Wampold, B.E. (Eds.). (2017). *The cycle of excellence: Using deliberate practice to improve supervision and training*. John Wiley & Sons, Ltd.

Shapiro, D.A. (2011). *Stuttering Intervention: a collaborative journey to fluency freedom*. PRO-ED. Chapter 11 [The clinician and the client-clinician relationship] and Chapter 12 [Professional preparation and lifelong learning: The making of a clinician] are recommended in particular.

References

Andrews, G., Guitar, B., & Howie, P. (1980). Meta-analysis of the effects of stuttering treatment. *Journal of Speech and Hearing Disorders*, 45, 287–307.

Asay, T.P., & Lambert, M.J. (2004). The empirical case for the common factors in therapy: Quantitative findings. In: M.A. Hubble, B.L. Duncan, & S.D. Miller (Eds.), *The heart & soul of change* (pp. 23–55). American Psychological Association.

Bernstein-Ratner, N., & Tetnowski, J.A. (2006). Stuttering treatment in the new millennium: Changes in the traditional parameters of clinical focus. In: N. Bernstein-Ratner & J.A. Tetnowski (Eds.), *Current issues in stuttering treatment and practice* (pp. 1–16). Lawrence Erlbaum Associates, Inc.

Bloodstein, O. (1995). *A handbook on stuttering (5th ed.)*. Thomson Delmar Learning.

Bloodstein, O., & Bernstein-Ratner, N. (2008). *A handbook on stuttering (6th ed.)*. Thomson Delmar Learning.

Brisk, D.J., Healey, E.C., & Hux, K.A. (1997). Clinicians' training and confidence associated with treating school-age children who stutter: a national survey. *Language, Speech and Hearing services in Schools*, *28*, 164–176.

Budge, S.L., & Wampold, B.E. (2015). The relationship: How it works. In: O.C.G. Gelo, A. Pritz, & B. Rieken (Eds.), *Psychotherapy research: Foundations, process, and outcome (p. 213–228)*. Springer-Verlag Publishing.

Conture, E.G. (1996). Treatment efficacy: Stuttering. *Journal of Speech, Language, and Hearing Research*, 39(5), 18–26.

Croft, R.L. (2016). *Clinician-client perceptions of the therapeutic alliance and perceived outcomes in stuttering treatment*. Master of science dissertation: Texas Christian University.

De Sonneville-Koedoot, C., Stolk, E., Rietveld, T., & Franken. M.C. (2015). Direct versus indirect treatment for preschool children who stutter: The restart randomized trial. *PLoSONE*, 10(7), E0133758.

Donaghy, M., O'Brian, S., Onslow, M., Lowe, R., Jones, M., Menzies, R.G. (2020). Verbal Contingencies in the Lidcombe Program: a noninferiority trial. *Journal of Speech, Language, and Hearing Research*, *63*, 3419–3431.

Duncan, B. (2012). The Partners for Change Outcome Management System (PCOMS): The heart and soul of change project. *Canadian Psychology*, 53, 93–104.

Eggers, K. (2018, July). *Improving the effectiveness of fluency therapists: above and beyond evidence-based treatments*. Lecture presented at the world congress of the International Fluency Association, Hiroshima.

Eggers, K., Agius, J., Leahy, M., Kelman, E., & Pertijs, M. (2019, August). *The education and registration of European Fluency Specialists.* Lecture presented at the 31st World Congress of the International Association of Logopedics and Phoniatrics, Taipei, Taiwan.

Eggers, K., Agius, J., Kelman, E., Leahy, M., & Pertijs, M. (2018, July). *The European Clinical Specialization on Fluency Disorders (ECSF): Review of ten course cycles.* Lecture presented at the world congress of the International Fluency Association, Hiroshima.

Eggers, K., & Leahy, M. (2011). The European Clinical Specialization on Fluency Disorders (ECSF). *Journal of Fluency Disorders*, 36, 296–301.

Euler, H.A., Lange, B.P., Schroeder, S., & Neumann, K. (2014). The effectiveness of stuttering treatments in Germany. *Journal of Fluency Disorders*, 39, 1–11.

Fibiger, S., Peters, H.F.M., Euler, H.A., & Neumann, K. (2008). Health and human services for persons who stutter and education of logopedists in East-European countries. *Journal of Fluency Disorders*, 33, 66–71.

Finn, P., Brundage, S.B., & DiLollo, A. (2016). Preparing our future helping professionals to become critical thinkers: A tutorial. *Perspectives of the ASHA Special Interest Groups*, 1(10), 43–68.

Goldberg, S.B., Rousmaniere, T., Miller, S.D., Whipple, J., Nielsen, S.L., Hoyt, W.T., & Wampold, B.E. (2016). Do psychotherapists improve with time and experience? A longitudinal analysis of outcomes in a clinical setting. *Journal of Counseling Psychology*, 63(1), 1–11.

Groopman, J. (2007). *How doctors think*. Houghton Mifflin Company.

Herder, C. Howard, C., Nye, C., & Vanryckeghem, M. (2006). Effectiveness of behavioral stuttering treatment: A systemic review and meta-analysis. *Contemporary Issues in Communication Science and Disorders*, 33, 61–73.

Keilmann, A., Braun, L., & Napiontek, U. (2004). Emotional satisfaction of parents and speech-language therapists with outcome of training intervention in children with speech and language disorders. *Folia Phoniatrica et Logopedica*, 56(1), 51–61.

Leahy, M.M., Delaney, C.M., & Murphy, K. (2004). Student clinicians' preferences for (not) working with stuttering. In: A. Packman, A. Meltzer, & H. Peters (Eds.), *Proceedings of the 4th World Congress of the International Fluency Association* (pp. 539–545). Nijmegen University Press.

Leahy, M, De Nil, L, Agius, J, Hylebos, C., & Eggers, K. (2014). European clinical specialization in fluency disorders: Participants review the first four years. *SIG4 Perspectives*, American Speech-Language and Hearing Association, 26–32.

Litell (2010). Evidence-based practice: Evidence or orthodoxy? In: B.L. Duncan, S.D. Miller, B.E. Wampold, and M.A. Hubble (Eds.). (2010). *The heart and soul of change: Delivering what works in therapy* (2nd *Edition*). American Psychological Association.

Manning, W.H. (2010). *Clinical decision making in the diagnosis and treatment of fluency disorders (3rd Edition)*. Delmar.

Manning, W.H., & DiLollo, A. (2017). *Clinical decision making in fluency disorders. (4th Edition).* Plural Publishing.

Masic, I., Miokovic, M., & Muhamedagic, B. (2008). Evidence based medicine – new approaches and challenges. Acta informatica medica : AIM : journal of the Society for Medical Informatics of Bosnia & Herzegovina : casopis Drustva za medicinsku informatiku BiH, 16(4), 219–225.

Miller, S.D., Hubble, M.A., Chow, D.L., & Seidel, J.A. (2013). The outcome of psychotherapy: Yesterday, today, and tomorrow. *Psychotherapy*, 50(1), 88–97.

Miller, S.D., Hubble, M.A., & Duncan, B.L. (2007). Supershrinks: Learning from the field's most effective practitioners. *Psychotherapy Networker*, 31, 26–35, 56.

Neumann, K., Euler, H.A., Bosshardt, H.G., Cook, S., Sandrieser, P., Schneider, P., Sommer, M., & Thum, G. (2016). *Pathogenese, Diagnostik und Behandlung von Redeflussstörungen. Evidenz- und konsensbasierte S3-Leitlinie*, AWMF-Registernummer 049–013, Version 1.

Nye, C., Vanryckeghem, M., Schwartz, J.B., Herder, C., Turner, H.M., & Howardd, C. (2013). Behavioral stuttering interventions for children and adolescents: A systematic review and meta-analysis. *Journal of Speech, Language, and Hearing Research*, 56, 921–932.

Pertijs, M.A.J., Oonk, L.C., Beer, de J.J.A., Bunschoten, E.M., Bast, E.J.E.G., Ormondt, van J., Rosenbrand, C.J.G.M., Bezemer, M., Wijngaarden, van L.J., Kalter, E.J., Veenendaal, van H. (2014). Evidence-based Richtlijn Stotteren bij kinderen, adolescenten en volwassenen *[Evidence-based guideline stuttering for children, adolescents, and adults]*. Nederlandse Vereniging voor Logopedie en Foniatrie *[Dutch Federation for Logopedics and Phoniatrics]*, Woerden.

Plexico, L.W., Manning, W.H., & DiLollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. *Journal of Fluency Disorders*, 35(4):333–54

Rousmaniere, T., Goodyear, R.K., Miller, S.D., & Wampold, B.E. (Eds.). (2017). *The cycle of excellence: Using deliberate practice to improve supervision and training*. John Wiley & Sons, Ltd.

Ruggero, L., McCabe, P., Ballard, K.J., Munro, N. (2012). Paediatric speech-language pathology service delivery: an exploratory survey of Australian parents. *International Journal of Speech and Language Pathology, 14*, 338–350.

Sackett, D.L., Rosenberg, W.M.C., Gray, J.A.M., Haynes, R.B., & Richardson, W.S. (1996). Evidence based medicine: what it is and what it isn't. *The British Medical Journal*, 312:71.

Salvo, H.D. (2016). *Perspectives of Stuttering Treatment: Parents, children, and adolescents*. Master of science dissertation: The University of Wisconsin-Milwaukee.

Satterfield, J.M., Spring, B., Brownson, R.C., Mullen, E.J., Newhouse, R.P., Walker, B.B., & Whitlock, E.P. (2009). Toward a transdisciplinary model of evidence-based practice. *The Milbank Quarterly*, 87(2), 368–390.

Shapiro, D.A. (2011). *Stuttering Intervention: a collaborative journey to fluency freedom*. PRO-ED.

Sommers, R.K., Caruso, A.J. (1995). Inservice training in speech-language pathology: are we meeting the needs for fluency training? *American Journal of Speech-Language Pathology, 4*, 22–28.

Sommers, R.K., & Caruso, A.J. (1995). Inservice training in speech-language pathology: Are we meeting the needs for fluency training? *American Journal of Speech-Language Pathology*, 4, 22–28.

Tallman, K., & Bohart, A.C. (2004). The client as a common factor: Clients as self-healers. In: M.A. Hubble, B.L. Duncan, & S.D. Miller (Eds.), *The heart & soul of change (pp. 91–131)*. American Psychological Association.

Tracey, T.J.G., Wampold, B.E., Goodyear, R.K., & Lichtenberg, J.W. (2015). Improving expertise in psychotherapy. *Psychotherapy Bulletin*, 50(1), 7–13.

Tracey, T.J.G., Wampold, B.E., Lichtenberg, J.W., & Goodyear, R.K. (2014). Expertise in psychotherapy: An Elusive Goal? *American Psychologist*, 69, 218–229.

Wampold, B.E., (2010). The research evidence for the common factors models: A historically situated perspective. In: B.L. Duncan, S.D. Miller, B.E. Wampold, & M.A. Hubble, (Eds.). *The heart and soul of change: Delivering what works in therapy (2nd Edition)*. American Psychological Association.

Wampold, B.E., (2017). What should we practice? A Contextual Model for how psychotherapy works. In: T. Rousmaniere, R.K. Goodyear, S.D. Miller, and B.E. Wampold (Eds.). *The cycle of excellence: Using deliberate practice to improve supervision and training*. John Wiley & Sons, Ltd.

Wampold, B.E., & Imel, Z.E. (2015). *The Great Psychotherapy Debate: The Evidence for What Makes Psychotherapy Work (2nd Ed.)*. Routledge.

Yaruss, J.S. (1999). Current status of academic and clinical education in fluency disorders at asha-accredited training programs. *Journal of Fluency Disorders*, 24,169–183.

Yaruss, J.S. (2003). One size does not fit all: special topics in stuttering therapy. *Seminars in Speech and Language*, 24(1), 3–6.

Yaruss, J.S., & Quesal, R.W. (2002). Academic and clinical education in fluency disorders: An update. *Journal of Fluency Disorders*, 27, 43–63.

Zebrowski, P.M. (2007). Treatment factors that influence therapy outcomes of children who stutter. In: E.G. Conture & R.F. Curlee (Eds.), *Stuttering and related disorders of fluency*. Thieme Medical.

Zebrowski, P.M., & Arenas, R.M. (2011). The “Iowa Way” revisited. *Journal of Fluency Disorders*, 36, 144–157.

Chapter 3

Mary Weidner & Kenneth O. St. Louis

Changing Public Attitudes toward Stuttering

Introduction

For decades, the general public has perpetuated inaccurate assumptions about the personality, intellect, and competency of people who stutter (St. Louis, 2015; Walden & Lesner, 2018; Woods & Williams, 1976). As a result, people who stutter often confront stigma and discrimination which pervade various aspects of their lives – their academic performance, emotional well-being, relationships, employment, and overall quality of life (e.g., Boyle & Blood, 2015; Boyle & Fearson, 2018; Briley, Gerlach, & Jacobs, 2021; Gabel, 2015; Craig, 2010).

Researchers around the world have worked to better understand the emergence, evolution, and nature of public attitudes to stuttering, with the goal of creating a more tolerant and supportive environment for people who stutter (see St. Louis, 2015 for a review). Although important nuances and complicated relationships exist, the extant stuttering attitude literature can boil down to two important findings: (1) Negative stuttering attitudes abound worldwide; and (2) They emerge at a young age.

We are at a critical yet exciting crossroads in stuttering attitude research. Now that we better understand the epidemiology of stuttering attitudes, the stuttering support community – people who stutter, researchers, clinicians, health professionals, and stuttering allies – must work together to achieve lasting change. Important strides have already been taken, but we still have a long way to go. This chapter provides seven practical, evidence-based steps about how you can plan, implement, and evaluate an effective stuttering intervention program.

STEPS FOR STUTTERING ATTITUDE CHANGE INTERVENTION PLAN

STEP 1. Consider the "big picture"
STEP 2. Understand the "attitude ABC" framework and its applicability to stuttering
STEP 3. Understand your audience in the context of public stuttering attitudes
STEP 4. Measure your audience's stuttering attitudes
STEP 5. Understand principles of attitude change and their applicability to stuttering

IMPLEMENT

STEP 6. Select and implement attitude change intervention

EVALUATE

STEP 7. Evaluate program efficacy and permanency of attitude change

Note that most steps that we will discuss deal with planning and evaluating – not *doing*. We typically place so much energy and importance on active implementation that we overlook the most critical element of successful programs – *planning*. The seven steps outlined in this chapter are not intended to be "prescriptive," but rather to provide a guide in your efforts to improve stuttering attitudes. They can be adapted for child and adult audiences, which we will explain throughout the chapter. Keep in mind that stuttering attitude change is not an "end game" – changing a culture of negative or misinformed stuttering attitudes is a process. We must engage in the hard work that is necessary. Let's get started.

STEP 1: Consider the "big picture"

Overview

The planning stages are conceptual and involve thinking about the "big picture." There are a lot of decisions, large and small, that need to be considered. We urge you to take the time you need to think, to brainstorm, and to develop a plan of action. We understand that planning is going to be unique to each undertaking, so here we will offer some "big picture" questions for your consideration.

Big Picture Questions for Consideration	Possible Responses
Who is the target audience?	*Children, adolescents, adults?*
What is the ultimate goal of the program?	*A prevention campaign to raise awareness about stuttering and people who stutter? An intervention program to lessen the effects of teasing and bullying toward a specific individual who stutters?*
Who will be involved in (or with whom will you consult about) program content and implementation?	*The speech and language therapist, teachers, a counselor, a special educator, the administration? A person who stutters?*
What is the size of the audience?	*Individual instruction, small groups, a class, a large group?*
Where will it take place?	*A clinic setting, a classroom, a group room, an online platform?*
What type of programming will you use?	*Something novel that you develop? Something that already exists?*
What are your constraints?	*Time, money, number of people to assist you?*
How will you determine if change was achieved?	*A one-time pre-post measure, focus groups, observations of peer interactions toward a peer who stutters? Long-term follow up?*
What challenges do you foresee and how can they be addressed?	*Participant attrition, disengagement, technological glitches, etc.*

Try this brief exercise. Let's imagine you completed a stuttering attitude intervention, and you are satisfied with how it went. What specific evidence do you have for the program's success? What went smoothly? What would you change? Walk through the program step by step. Sometimes imagining the end can help in planning the beginning.

STEP 2: Understand the "attitude ABC" framework and its applicability to stuttering

The attitude framework

In order to provide a context of attitude change, we must start with the basics: what is an *attitude*? We commonly use the term to describe one's disposition (e.g., he has a positive attitude), but within the social sciences (and for the purposes of this chapter), the term is a bit more complex. One can hold an attitude toward just about anything – tangible objects (e.g., home decor, cars, technology devices, food), abstract concepts and social issues (e.g., immigration, global warming, politics), individuals (e.g., oneself, teacher, peers), and people categorized by groups (e.g., race, sexual orientation, religion) (Bohner & Wänke, 2002). We will broadly refer to all of these attitude objects as *phenomena*.

Stemming from the seminal work of Allport (1954), the term *attitude* is an umbrella term encompassing (1) An affective component (how one feels about a phenomenon), (2) A behavioral component (how one reacts toward a phenomenon) and (3) A cognitive component (what one knows or thinks about a phenomenon). Importantly, the affective and cognitive components typically influence one's behavior, but their strength of influence is not always equal. Collectively, we will refer to the affective, behavioral, and cognitive components as the "attitude ABC" framework.

Let's momentarily take a detour from stuttering and apply this framework to an experience that most people around the world shared in 2020 to 2022: wearing masks to reduce the spread of the COVID-19 virus. When you think about wearing a mask in public, what is your attitude? Maybe you *feel* like it is inconvenient and annoying (the affective component) but, you *know* it can curb the transmission of the virus (the cognitive component). You *behave* accordingly and choose to wear a mask when you are in public (behavioral component). In this example, the *cognitive* component has a stronger influence on your behavior than the affective component.

Now let's consider an alternate example in which the affective component has the greater influence on the behavior: eating dessert. When you think about eating your favorite dessert – ice cream, cookies, cake, or maybe a second helping of dinner – what is your attitude? Maybe you have a strong sense of joy because dessert brings you pleasure (the affective component). Even though you *know* it may be unhealthy (the cognitive component), you choose to have dessert every evening meal (the behavioral component). Maybe you don't even think and just eat (an absence of the cognitive component altogether). In this scenario, the affective component outweighed the cognitive component.

We must be clear that attitudes in and of themselves are not a bad thing. In fact they serve to help us make sense of the world and how we operate in it (Bohner & Wänke, 2002). Attitudes can be positive or negative, informed or uninformed, and expressed or suppressed. If a person has a strong opinions – either favorable or unfavorable – it is referred to as *bias*. Emotional bias is classified as *prejudice*, and cognitive biases are classified as *stereotypes*. The danger is when negative bias becomes behaviorally manifest. This is *discrimination* (Fiske, 2021).

There has been a great deal of interest pertaining to if and how the aforementioned constructs of attitudes can be applied to children. Although many questions remain unanswered, research has repeatedly shown that attitudes emerge in one's early development (Aboud, 1988). It is important to understand attitudinal development in children against the backdrop of their overall development. Based on the work of Jean Piaget and colleagues, children are in an egocentric stage of cognitive development until approximately age 7 (Piaget & Cook, 1952). This means that they rely on their own perspective of how they experience the world and therefore lack advanced skills to take the perspective of others. In turn, their reactions to novel stimuli can be largely driven by their immediate "knee-jerk" feelings of fear, discomfort, and uncertainty (i.e., the affective component). Social psychologist Derman-Sparks (1989) coined the term, "pre-prejudice" for this behavior. Importantly, children's pre-prejudice can be mitigated by others in their immediate environment.

Let's illustrate. A 4-year-old child is at the grocery store with his mother and sees a gentleman with a prosthetic leg using a walker. The child, who has never before seen orthopedic devices, immediately becomes fearful and clings to his mother. The mother acknowledges the child's uncertainty and explains the purpose of orthopedic devices in a positive way. In doing so, she mitigated the child's "pre-prejudice" by validating the child's emotion and providing matter-of-fact information. This scenario also illustrates that having a word for something is not compulsory for having an attitude towards it. Even though the child did not know the word "prosthesis," he still constructed an unfavorable attitude towards it. It also illustrates that attitudes towards something can simultaneously emerge with one's first-time exposure to it.

As with the scenario above, it is not uncommon for young children's initial attitudes to diverge from that of their family or social unit. As children mature, however, they gain more social experiences and their ability to take on another person's perspective improves. Their classification systems become increasingly more flexible, and they are able to appraise phenomena (e.g., individuals) based on various attributes or traits (Abrams, Rutland, Cameron, & Marques, 2003; Killen & Rutland, 2011). In addition, they become more attuned to conventional social norms and prevailing beliefs. By middle childhood (approximately age 11) children's attitudes may assimilate to those held by people in their close familial and social circles (Abrams & Rutland, 2008).

Simply put, attitudes are complicated. But, if we dissect attitudes using the "Attitude ABC" framework (the affective, behavioral, and cognitive components), we can gain clarity about how they operate.

ABCs of stuttering attitudes

Let's come back to our topic at hand: stuttering. By applying the "Attitude ABCs" to stuttering, we can develop an intervention that evokes meaningful and lasting attitude change. So, how does this framework apply?

ABCs of stuttering attitudes	
The affective component	*This refers to how a listener feels about stuttering or the person who stutters. A listener who is unfamiliar with stuttering or the stuttering speaker might feel uncomfortable, awkward, confused, surprised, or curious. A listener with more familiarity, however, might feel neutral. The feeling remains a visceral experience to only that listener.*
The cognitive component	*This component is quite robust; it encompasses what a listener knows or believes to be true about stuttering (even if those beliefs are not accurate) as well as what they believe about the people who stutter (e.g., personality traits). The distinction between the disorder itself (i.e., stuttering) and the person with the disorder (i.e., the person who stutters) is extremely important, as these two constructs can be very different. A listener might believe stuttering is caused by nerves, anxiety, or a psychological problem, but be very accepting of people who stutter. By contrast, a listener might know that stuttering has neurophysiological and genetic underpinnings, but still believe people who stutter are nervous, shy, or anxious.*
The behavioral component	*This refers to how a listener outwardly reacts to the stuttering speaker. Reactions can be intentionally harmful or hurtful (e.g., teasing, bullying, social distancing) or unsupportive (e.g., finishing words, saying "slow down"). This is another important distinction – being intentionally harmful or hurtful and being unsupportive due to ignorance are not the same thing. We must carefully consider this distinction when attitude change is discussed.*

Consider this scenario. A 10-year-old child who stutters is bullied by his non-stuttering peers. They call him "weird" and tell him "you can't say anything right." They socially exclude him from activities and laugh at him when he speaks. The child's parents, speech and language therapist, and school counselor work together to develop a plan to address the bullying. They determine that the non-stuttering peers need to better understand stuttering as a disorder, how to be a supportive listener, and require a refresher on the school's anti-bullying policy. The speech and language therapist and counselor co-teach the lesson, which covers stuttering as well as other human differences. The speech and language therapist provides concrete information about stuttering causes (cognitive component) and teaches the class helpful responses when talking to a person who stutters (behavioral component). The counselor validates feelings of confusion and curiosity about human differences (affective component) and reinforces the importance of tolerating and respecting others. In this scenario, the speech and language therapist and school counselor used the Attitude ABC framework to provide meaningful intervention. We will continue to discuss how this approach can be useful in attitude change programming.

STEP 3: Understand your audience in the context of public stuttering attitudes

Overview

Before intervening, it is quite helpful to understand your audience within the broader context of general public attitudes. This exercise might sound futile, but it is not. We are learning that attitudes change throughout the course of one's life, which in turn, can influence how and when we intervene. In addition, we also must understand the preferences of people who stutter as we would nott want to change stuttering attitudes based on false assumptions. It is beyond the scope of this chapter to detail all of the non-intervention studies examining attitudes from children through adults, but we will attempt to highlight particularly relevant findings.

Evolution of stuttering attitudes

There has been a recent and growing interest in measuring the stuttering attitudes of young non-stuttering children. Results from studies have been fascinating. A seminal study by Langevin, Packman, and Onslow (2009), showed that some nonstuttering preschool children acted unfavorably toward their stuttering peers during periods of free play based on qualitative observations. Seeking to further explore this using a quantitative approach, we (the chapter authors) initiated a series of studies to investigate the attitudes of young non-stuttering children. In the first study, we measured and compared the attitudes of American preschool and kindergarten children (Weidner, St. Louis, Burgess, & LeMasters, 2015). Two important findings emerged. First, as a group, children held favorable thoughts and feelings toward people who stutter, but unfavorable attitudes toward the disorder of stuttering itself. As would be expected, their knowledge about the causes of stuttering was quite low, and they lacked general knowledge of helpful listener supports. Second, the preschool group held significantly worse stuttering attitudes than the kindergarten group. Separated by an average of only 1.7 years, how could this be? This study opened more questions than it answered. Seeking clarity, we collaborated with Turkish colleagues to determine if culture was somehow an influential factor. The study was replicated with Turkish preschoolers, and we compared the results between the Turkish and American preschool groups (Weidner, St. Louis, Nakıscı, & Özdemir, 2017). Once again, the results fascinated us; the stuttering attitudes between the Turkish and American groups were almost identical. The question persisted – why, despite differences in children's culture, sex, and family socio-economic status were preschoolers' stuttering attitudes so similar? Perhaps children's cognitive development was at play. Shifting attention to this new *developmental* variable, we included children from preschool through 5th grade (ranging from 4.7 to 10.5 years) as well as their parents (Glover, St. Louis, & Weidner, 2019). Bearing on theories about the influence of social-cognitive development on attitudes described earlier, we expected some fluctuation of attitudes in early development with a general upward trajectory. And that is precisely what occurred. Children in preschool held the least positive stuttering attitudes, whereas the fifth graders had the most positive attitudes. Positive stuttering attitudes dipped slightly around 2nd grade, suggesting some fluctuation in early development. And the parents' attitudes? Regardless of the age of their child, parents' attitudes remained constant and stable. Interestingly, the attitudes of the fifth-grade children and the parents were quite similar. This finding confirmed previous research in Turkey in which stuttering attitudes among 6th grade children seemed to converge with their nuclear and expanded familial units and neighbors (Özdemir, St. Louis, & Topbaş, 2011). Most recently, Weidner, Junuzovic-Zunic, & St. Louis (2020) investigated the stuttering attitudes of kindergarten through sixth grade children and their parents in Bosnia & Herzegovina (B&H). Like the American groups, the stuttering attitudes among the B&H children followed a very similar trajectory, with the youngest cohort holding the worst or least informed attitudes, and the oldest cohort holding the most positive or informed attitudes. Also like the American parents, attitudes among the B&H parents were not influenced by the age of their child.

Negative stuttering or uninformed attitudes persist throughout elementary school-age years (Hartford & Leahy, 2007), adolescence (Cobb, Daniels, & Panico, 2019; Evans, Healey, Kawai, & Rowland, 2008; Flynn & St. Louis, 2011) and of course, through adulthood. St. Louis maintains an immense database on adult stuttering attitudes which includes results from over 16,000 respondents using a standard measure, the *Public Opinion Survey on Human Attributes–Stuttering* (St. Louis, 2015), which will be detailed later. As described in St. Louis et al. (2020), noteable salient findings have emerged from this body of literature. Most importantly, negative stuttering attitudes among adults exist worldwide and transcend variables including sex, age, income, religion, health, and life priorities. Unlike in children, however, differences in adults' national identity can be associated with their stuttering attitudes. In general, adults have limited experience with stuttering, which can possibly explain their lack of knowledge about stuttering causes or how to sensitively respond to people who stutter. In fact, adults may encourage people who stutter to "relax" or "slow down." Our current understanding about the evolution of stuttering attitudes from children through adults provides the following evidenced-based justification for the following:

1. Attitude intervention is justified for persons across different age groups and cultures.
2. Intervention efforts can – and should – begin in one's early development.
3. The content of an intervention should strongly emphasize the cognitive and behavioral components of a stuttering attitude (i.e., knowledge about stuttering and how to respond to a person who stutters).

What people who stutter want

The content included in attitude change programming needs to be driven by what the audience needs to know, but it also needs to be informed by what people who stutter actually want. For years, we just *assumed* what people who stutter prefer. It was not until recently that researchers took efforts to objectively measure and document their preferences. Logical? We think so. Here, we will cover just that, so you can ensure your intervention is sensitive to the needs and preferences of children and adults who stutter.

In 2015, St. Louis developed a survey for people who stutter to rate their opinions on the supportiveness of listener supports, the *Personal Appraisal of Supports for Stuttering–Adult* (*PASS-Ad*). Versions of the same instrument were later developed for children who stutter and their parents (*PASS–Ch*, *PASS–P*, St. Louis & Weidner, 2015a,b). For all versions, respondents rate the degree to which they perceive the supportiveness of various listener actions, such as "Wait to let me say what I want," "Make a joke about stuttering," or "Help me by trying to finish the words I stutter on." In addition, they also rate support received from various groups, such as speech-language pathologists (the American term for speech and language therapists), peers, parents, or famous people who stutter. St. Louis, Irani, Gabel, Hughes, Langevin, Rodriguex, Scaler Scott, & Weidner (2017) rank-ordered the various supports as reported by 148 adults who stutter. The three most helpful responses included: (1) "Maintain normal eye contact with me while we talk," (2) "Wait to let me say what I want," and (3) "Ask me to help him/her with his/her own stuttering." The three least helpful responses included: (1) "Help me by trying to finish words I stutter on," (2) "Tell me how I should feel about stuttering" (3) "Put some 'faked' stuttering into his/her own speech when we talk." A followup study of stuttering adults from Poland, Lebanon, Slovakia, and the Czech Republic quite closely replicated these American results (St. Louis, Węsierska, Saad Merouwe, Melhem, Dezort, & Laciková, 2019).

Recently, these studies were extended to children and their parents in the United States, Poland, Norway, and Slovakia (Weidner et al., 2021; Weidner, Węsierska, St. Louis, & Scaler-Scott, 2019; Węsierska, St. Louis, & Weidner, 2019). As reported by 151 children from those countries, the three most helpful listener supports included: (1) "Be patient" (2) "Maintain normal eye contact," and (3) "Include me." They rated (1) "Laugh at me," (2) "Use the term *stutterer*," and (3) "Ignore me" as the three least helpful supports. Reports from 271 of their parents echoed children's preferences of "Being patient" and "Maintaining eye contact," and also included "Knowing how to react." Parents rated "Laughing at my child," "Finishing my child's words," and "Pitying my child" as the least helpful supports. All groups who completed the *PASS* (i.e., adults who stutter, children who stutter, and parents of children who stutter), rated "Speech-language pathologists" among the most supportive groups and "Classmates" among the least helpful. With that, speech-language pathologists have a responsibility to be active agents of change, especially when it involves changing peer attitudes.

There is an important caveat we must mention. Although these studies can broadly guide inventions based on the preferences of people who stutter as a group, *PASS* results also revealed that many supports were highly individualized. As such, if the intention of the intervention is to support *one* individual who stutters, it is imperative that the person who stutters be involved in its content development. The preferences of that individual can be obtained through use of the *PASS*, through semi-structured questions, or a combination of both. In sum, although we can glean some general preferences of what people who stutter perceive to be helpful or not, we must be sensitive to their individual needs and preferences before making any sweeping generalizations.

STEP 4: Measure your audience's stuttering attitudes

Overview

Generally speaking, we understand the evolution of stuttering attitudes, but what about the attitudes of your particular target audience? By measuring your audience's stuttering attitudes, you are able to (1) Identify gaps in stuttering knowledge and skills, thus informing the best stuttering attitude intervention; and (2) Compare pre- and post-metrics to determine the efficacy of the intervention. We recognize that the approach of measuring stuttering attitudes will greatly depend on a number of factors – respondents' age, the ease of interpreting results, and of course, time. Thankfully, you don't have to reinvent the wheel. We will describe the adult and child versions of the leading stuttering attitude survey, *Public Opinion Survey on Human Attributes–Stuttering* (*POSHA–S*) (St. Louis, 2011; Weidner & St. Louis, 2014), as well as supplemental open-ended questions. These tools can be quite useful in measuring stuttering attitudes and guiding your intervention.

Survey

The *POSHA–S* is well established as the leading instrument to measure public attitudes towards stuttering (See St. Louis, 2015 for a review). Its widespread use emerged out of the *International Project on Attitudes Toward Human Differences*, an initiative that seeks to "Understand and improve public attitudes toward stuttering and other stigmatizing human conditions worldwide through objective measurement" (St. Louis, 2010). The initiative has involved contributions from a consortium of international collaborators representing nearly 50 countries. A recent child version, the *POSHA–S/Ch* (Weidner & St. Louis, 2014), has expanded the scope of this research to children in order to better explain the emergence and evolution of stuttering attitudes. As a result of these collective epidemiological efforts, we better understand the epidemiology of stuttering attitudes – what they are, how widespread they are, when they emerge, variables that influence them, and so on.

The *POSHA–S* and *POSHA–S/Ch* provide an impression of respondents' stuttering attitudes on a -100 to +100 scale, in which 0 is neutral and higher scores indicate more positive stuttering attitudes. Individual items are rated on a scale of 1 to 3 reflecting choices of "no," I don't know," or "yes." . For adults, a definition of stuttering can be included or not, as research has shown that a definition has little effect on the *POSHA–S* summary scores (St. Louis et al., 2011; St. Louis, Sønsterud, et al., 2016). For children, however, the inclusion of a stuttering definition and example of stuttering is compulsory. The *POSHA–S/Ch* includes a short video featuring two stuttering cartoons and a short definition of stuttering. Doing so provides a context for the subsequent survey items.

On both surveys, individual items are grouped into component scores (i.e., Traits/Personality, Help From, Cause, Potential, Accommodating/Helping, Social Distance/Sympathy, and either one or two components related to experience). These are averaged into either a Beliefs or a Self Reactions subscore. These two Subscores are averaged into an Overall Stuttering Score, which provides a general impression of respondents' stuttering attitude. The *POSHA–S* survey design is particularly valuable because it permits interpretation within the attitude ABC framework. For example, items in the Social Distance/Sympathy component (e.g., "If I were talking with a person who stutters, I would feel impatient [not want to wait while the person stutters]") align with the affective aspect of attitudes; items in the Cause component (e.g., "I believe stuttering is caused by genetic inheritance") align with the cognitive aspect of attitudes; and items in the Accommodating/Helping component (e.g., "If I were talking with a person who stutters, I would tell the person to 'slow down' or 'relax'"), align with the behavior aspect of attitudes.

In addition to providing information about the nature of respondents' attitudes, both versions of the survey also include a demographic section (a parent completes the demographic section for child respondents). Items generally relate to respondents' age, sex, experience with or exposure to stuttering, education level, and so on. We strongly encourage you to obtain demographic information, as these items can be further examined as influential variables.

The adult survey can be administered using either paper-and-pencil or online versions (St. Louis, 2012). To date, the child version has most often been administered orally by an administrator, but proficient readers can also complete it independently using a paper-and-pencil copy or online (St. Louis, Myers, Flick Barnes, Saunders, Hall, & Weidner, 2019).

Open-ended questions

Open-ended questions about stuttering and impressions of people who stutter might also be considered to gather baseline data. This approach provides respondents with an opportunity to explain or justify their responses instead of, or in addition to, simply responding "Yes," "No," or "I don't know" to a fixed set of survey questions. For the *POSHA–S* studies, open-ended responses have primarily been carried out to supplement quantitative survey data, which is what we recommend. For example, Glover and colleagues (2019) asked children ranging from kindergarten through 5th grade, "What does the word stuttering mean?" As expected, children's ability to accurately define the word improved with age. None of the preschool or kindergarten children accurately defined stuttering. Children frequently responded, "I don't know" but occasionally offered some fascinating attempts such as "[Stuttering means] dinosaur." By 4th and 5th grade, more than half of the children generated an accurate response such as, "It means when you repeat what you say many times… sometimes you take a while to say a word." Gleaning qualitative information via individual meetings or focus groups can provide a deeper understanding about the origin of respondents' stuttering attitudes and be used to further inform intervention content.

STEP 5: Understand the principles of attitude change and their applicability to stuttering

Overview

You now have a solid understanding about *why* attitude change is needed, and *what* we need to consider in our attitude change programs. Now we need to address, "*How is attitude change achieved?*" This occurs when science (i.e., our evidence about the ABCs of stuttering attitudes and principles of attitude change) meets art (i.e., creative expression of a unique attitude change program). Effective programs might look "cute" and "effortless," but evidence must drive the content. We want to avoid oversimplifying content, and we also want it to be age- appropriate. Sometimes that is a difficult to achieve, so you must use your clinical judgment when striking this balance. As we go through this section, we will highlight basic principles of attitude change and apply those principles to stuttering attitude change programs.

Principles of Attitude Change and their Applicability to Stuttering

1. *Intervention does not need to be fancy, but it must be interesting and meaningful.*

We want to let you in on a secret: attitude change interventions do not require fancy materials, an abundance of time, or even funding. So long as you have the *knowledge*, the actual program can be carried out quite simply. That said, be sure to identify and maximize the resources that are available to you. This might include the expertise of a school counselor, the perspective of a teacher, or the support from parents or administrators. Maybe you know a person who stutters who is willing to share their story. Perhaps your facility has a social media page on which you can livestream your lesson or post information (e.g., facts, activities, etc). Maybe you have access to materials that will facilitate active engagement, such as art supplies. We believe that you can create a good intervention using what you have. Being resourceful *is* being creative.

The key to an effective intervention is "hooking" your audience (which can still be achieved even if you do not have a lot of resources) and making it *meaningful*. At least three recent publications have strongly emphasized the importance of a match between the intervention and the audience (Abdalla, 2015; St. Louis, Węsierska, & Polewczyk, 2018; St. Louis et al., 2020). They provide evidence that whatever you plan needs to be interesting, otherwise your audience members might not care to learn anything. This is obviously going to be influenced by the age of your audience members, but other logistical factors (such as the time of day you are providing the intervention) should also be considered. School-aged children will probably not be hooked by a video featuring puppets, but perhaps a documentary featuring other school-aged children who stutter would be of interest. An adolescent audience might find a formal presentation to be boring, but might be motivated to watch a documentary. Similarly, an adult audience might not want (or have time) to read textbook information about stuttering, but they might be keen to meet a person who stutters. If you can't hook your audience, it will make attitude change very challenging.

2. It is OK to use the "S" word!

Historically, stuttering has been – and in many cases still is – a taboo topic, and many people (including clinicians!) are uncomfortable using the word *stuttering* (Byrd, Werle, & St. Louis, 2020). In order to change one's attitude, we must reduce the stigma and mystery that surrounds it. Sometimes this means confronting our own bias or knowledge gaps. A famous American children's television show host, Fred Rogers (1969), stated, "Anything that is mentionable is manageable." As instruments of change, we must *mention* stuttering in a supportive way in order to manage the stigma that often accompanies it. Based on our current understanding of stuttering, we are confident that talking about it in a supportive way does not exacerbate negative attitudes towards it or worsen a speaker's actual stuttering. In addition, commenting on differences is OK for all audiences, so long as it is done without judgment or bias. After all, "Children learn prejudice from prejudice – not from learning about diversity" (Derman-Sparks & Edwards, 2010, p. 4).

In practical application, our language to describe stuttering should be matter of fact. We cannot be afraid to use the word *stuttering*, especially with older children and adults. Sometimes younger children benefit from a term that is more concrete and child friendly, such as "bumpy" or "stretchy" speech, but this is different from avoiding using the word stuttering. If you are uncomfortable saying the word *stuttering*, try saying it aloud 10 times right now.

3. Improve the audience's "cognitive" component about the stuttering disorder.

In Step 1, we mentioned that there is an important distinction between the disorder of stuttering and people who stutter. This is where that becomes important. We will first focus on stuttering as a disorder. Does the audience know what stuttering is and what causes it? If not, start here. If maybe, start here. If yes, start here anyway. We must be sure our audience has a good grasp on the topic, and that their knowledge is from the same informed source. To this end, St. Louis and colleagues (2020) confirm, "Successful interventions to improve stuttering attitudes are likely to… contain sufficient information about the disorder. Conversely, unsuccessful interventions are likely to…contain either insufficient or excessive information.” (p. 14).

Information about stuttering should include a basic definition, causes and characteristics, and even “fun facts.” How you do this will depend on the level of your audience and should be informed by the baseline measurement from Step 2, but some examples are offered below.

Example responses to address the cognitive component of the stuttering disorder for different age groups	
Young children	*Stuttering is what happens when a person’s words or sounds bounce l-l-l-ike this, or stretch liiiiiike this, or when no words or sounds come out l––ike this. Stuttering happens because they were born that way. It is not bad to stutter, it is just different!*
School-aged children	*Stuttering is a difference in the way a person talks. Sounds or words might repeat, stretch, or get stuck. People who stutter might experience effort when they are talking. Stuttering can be genetic or caused by a difference in how the brain works when talking. Stuttering is not caused by nerves or anxiety. Many famous people stutter!*
Adolescents and adults	*Stuttering is a disruption in the forward flow of speech, or one’s fluency. There are different types of stuttering including repetitions (repeating a sound, word, or phrase), prolongations (stretching a sound), or block (where no sound comes out at all). Research suggests that stuttering can be linked to genetics or neurophysiology (how the brain works when speaking). Stuttering is not caused by nervousness or anxiety, although those factors may exacerbate stuttering in some situations. Stuttering is more prevalent in males than females and typically begins in childhood.*

4. Improve the audience’s “cognitive” component about people who stutter.

One of the most important aims of attitude intervention is to neutralize beliefs that people who stutter are anxious, nervous, shy, unintelligent, withdrawn, incompetent, and so on. We can address those misconceptions by offering information about the traits, personality, and potential of people who stutter (see examples below).

Example responses to address the cognitive component about people who stutter for different age groups	
Young children	*Even though people who stutter talk in a different way, that does not mean they are bad or nervous or shy. It has nothing to do with how smart they are. People who stutter can do all the same things other people can do. They like to play and have fun! Stuttering is what makes them different. And differences make us special.*

Example responses to address the cognitive component about people who stutter for different age groups	
School-aged children	*Stuttering does not define a person who stutters. It is one unique trait. Stuttering has nothing to do with a person's intelligence. People who stutter can do all the same things other people can do. It is just one part of who they are.*
Adolescents and adults	*Many people believe people who stutter are nervous, anxious, shy, or less intelligent. This is not true. Stuttering is simply a difference in speaking fluency and is independent of intellect and life potential.*

5. *Improve the audience's "affective" component.*

Based on principles of *Cognitive Behavioral Therapy*, feelings can only be controlled by an individual, which are usually tied to their thoughts (Beck, 2019). This means the affective component is closely intertwined with the cognitive component. Although others can influence one's feelings about a phenomenon (stuttering or people who stutter) by improving the cognitive component, changing one's affect ultimately comes from within the individual.

It is important to remember that each listener might have a different emotion and/or a different intensity of any given emotion. In addition, how one feels is not always expressed in how one behaves. Thus, we don't want to assume how a person feels or tell them how to feel. If you are not sure, it's OK to ask, "How did listening to that person's stuttering make you feel?" Avoid being accusatory, such as "You were rude when that person stuttered!" or telling a listener how to feel such as, "You should feel comfortable!". Instead, try using phrases such as "I noticed," "It seems," or "Maybe." Keep in mind that young children often express their feelings using rigid emotional classifications such as, "mad," "sad," "happy," or "scared." Accordingly, we might need to teach them nuanced feeling words such as, "confused," "curious," and "uncomfortable." Activities intended to build one's empathy and perspective taking skills can also be beneficial. For example, you might role-play various scenarios (e.g., depicting teasing and bulling) or ask the audience provoking questions (e.g., what would you do, how would you feel, etc.). Addressing the affective component can take finesse and practice, but some suggestions are offered below.

Example responses to address the affective component for different age groups	
Young children	*I noticed your eyes got big and you walked away when you heard that person talk. Maybe you felt uncomfortable. It is OK to have questions when someone sounds different than you! That means you are curious!*

Example responses to address the affective component for different age groups	
School-aged children	*When you heard that person stutter, it seemed like you were a little annoyed because it took them a while to say their message. Maybe it just surprised you because the way they talked was unexpected. That's understandable.*
Adolescents and adults	*It is common for listeners to have initial feelings of uncertainty or confusion when listening to a person stutter. Understanding stuttering and the stuttering speaker can sometimes help listeners feel differently and more prepared to respond in a supportive way.*

6. Improve the audience's "behavioral" component toward stuttering and people who stutter.

Non-stuttering listeners may often respond in unsupportive ways simply because they do not know how to be helpful! You can teach both helpful and unhelpful listener supports so the audience understands what to do and what to avoid. Teaching helpful responses must be explicit and based on evidence (see step 3), but it is fairly straight-forward.

Example responses to address the behavioral component for different age groups	
Young children	*It is a good choice to be nice to people who stutter. Be patient and do not walk away! Their feelings might get hurt if you laugh or finish their words when they are talking.*
School-aged children	*When talking to someone who stutters, it is most helpful to be patient. It is not helpful to look away, finish their words, or tell them to "slow down."*
Adolescents and adults	*It is helpful for listeners to be patient and maintain normal eye contact when talking to someone who stutters. Avoid finishing their words or saying, "slow down." In many cases, those responses can actually be more unhelpful than helpful.*

STEP 6: Select and implement attitude change intervention

If you made it to this part of the chapter, congratulations! We are finally in the "action" stage – selecting and implementing the program. By this point, you have probably decided if you want to create your own program, implement an existing program, or perhaps adapt existing materials to your specific needs. Several stuttering attitude change studies have been carried out with different methodologies – and different results. A retrospective study by St. Louis and 21 co-authors reported on the outcomes of 29 intervention studies (St. Louis et al., 2020). We will mention the most efficacious methodologies and programs here, and the Appendix includes a summary table of all the intervention studies we know of that used some kind of comparative measure, in almost all cases with a pre- and post-test using the same measure. We will mention the most efficacious methodologies and programs here. Early studies used a variety of measures, but most intervention studies in the past decade have used the *POSHA–S*.

We will describe some of the programs. It is important to remember, however, that opportunities for attitude change are often spontaneous and unplanned, so we will address how to appropriately respond to unexpected "teachable moments."

Effective programs, materials, and approaches

The *Teasing and Bullying: Unacceptable Behavior* (*TAB*) program (Langevin, 2000) was among the first formal stuttering attitude change programs. This program is geared toward school-aged children with the aim to improve their attitudes toward peers with disabilities, with emphasis on peers who stutter. It is comprised of six lessons which help children identify and address teasing and bullying, learn about human differences, and develop improved self-esteem (Langevin, 2000). Results from field testing with over 600 children, revealed its efficacy improving children's attitudes toward stuttering as well as teasing and bullying (Langevin & Prasad, 2012).

The *InterACT* program (Weidner, 2015) is an educational program designed to improve the stuttering attitudes of young children ranging from preschool through early school-aged years. It is comprised of puppetry-based videos, small group discussion, and an activity book which is implemented during two 30-minute lessons. The content of the program teaches children about stuttering (i.e., causes and characteristics), people who stutter (i.e., traits and potential), and practical skills of how to interact with a person who stutters within the larger context of human differences. Weidner, St. Louis, & Glover (2018) provide more details about the program. The *InterACT* program is available in English, Polish, and Turkish with additional translations underway (as of August, 2022). The *InterACT* program has been used in studies involving 80 young American and Polish children with encouraging results (Weidner et al., 2018; Węsierska, Weidner, & St. Louis, 2021). English or Polish versions of the *POSHA–S/Child* were used to measure children's stuttering attitudes before and after the program. In both the American and Polish groups, children's stuttering attitudes significantly improved. Children made particular gains in their knowledge about stuttering and people who stutter, and about their reactions toward them.

Additional methodologies, often involving film or media, are also worth mentioning. The movie *The King's Speech* had a significant improvement on the stuttering attitudes among college-aged students (Kestenbaum & Khnonov, 2011). The movie provides an emotionally compelling account of King George's struggles and triumphs in dealing with stuttering during a tumultuous period of Britain's history. Similarly, the documentary *MTV True Life: I Stutter* (Schneider, 2007) significantly improved the stuttering attitudes of high school students (Flynn & St. Louis, 2011). The documentary follows three young adults who stutter, and highlights the impact of stuttering on aspects of their everyday lives. Informational workshops that emphasize basic facts about stuttering can also be quite effective (e.g., St. Louis, et al., 2018; Coleman, Weidner, & Damron, 2014), but there are no known standard materials for such workshops. Finally, several studies have shown the positive effect of learning about the lived stories of stuttering from people who stutter (either face-to-face or via other mediums) especially when humor is involved (Flynn & St. Louis, 2011; Nelson, 2020).

We reiterate that there is not one specific means to improving attitudes. So long as your intervention is strongly rooted in evidence and interesting to the target audience, you will be well-positioned to evoke stuttering attitude change.

Attitude change during "teachable moments"

We can plan and plan, but sometimes opportunities for attitude change happen when we least expect – we call these "teachable moments." Sometimes these moments can catch us off guard, and we end up dismissing the moment or saying something incomplete or inaccurate. If you need time to think about your response, that's OK! Revisit the conversation when you are better prepared. Here, we offer a "formula" that will help you listen to questions with a theoretical ear and respond accordingly.

Listening and responding with a theoretical ear	
Listen	*What was the verbatim statement or question?*
"Translate" the message	*Messages that come across as "rude" or "insensitive" often have a deeper purpose. Objectively "translate" the message in order to pinpoint what the speaker is really trying to convey.*
Identify the ABC	*Based on your translation, you can better determine if the intended purpose of the message was primarily affective, behavioral, cognitive, or a combination.*

Listening and responding with a theoretical ear	
Construct your response	*What does the speaker need to know or understand – information about stuttering, people who stutter, or how to respond to people who stutter? Let the attitude ABCs guide the content of your response.*
Communicate your response	*Validate the person's thoughts and/or feelings using positive language.*

Let's pretend you are confronted with different situations in which you must quickly address insensitive or inaccurate comments made by a non-stuttering person. Some examples follow about how you can use the formula to respond in an appropriate way. We will use the name "John" to refer to the person who stutters.

Scenario 1: Responding to a non-stuttering teenager in a social setting	
Teenager states	*"Every time I try to talk to talk to John, I feel so awkward!"*
Translate the message	*John doesn't talk like me, and it makes me feel uncomfortable.*
Identify the ABC	*Affective component*
Construct your response	*Acknowledge the teen's feeling and reframe it.*
Communicate your response	*"You notice that John stutters and you feel uncertain how to react. That's OK. You can ask John how to be a supportive listener."*

Scenario 2: Responding to a non-stuttering adult coworker in a professional setting	
Coworker states	*"I don't want John working on my team because his stuttering will limit his ability to give presentations and talk to clients."*
Translate the message	*People who stutter are less capable of doing various tasks.*
Identify the ABC	*Cognitive (regarding beliefs of people who stutter).*
Construct your response	*Provide information about stuttering and people who stutter.*
Communicate your response	*"Stuttering has nothing to do with a person's intelligence, potential, or competency. Even though he stutters he can still give presentations and talk to clients. He is smart, capable, and a valuable team member."*

Scenario 3: Responding to a non-stuttering child in a school setting	
Child states	*“I don’t want to play with John because he sounds funny.”*
Translate the message	*I don’t know how to interact with a person who stutters.*
Identify the ABC	*Behavioral*
Construct your response	*Provide practical skills about how to respond in a sensitive way while also pointing out common ground and the benefit of inclusion.*
Communicate your response	*“It might take John longer to talk sometimes, but it’s a good choice to play with someone even if they are different than you. It’s nice to wait patiently when he is talking. You both like riding bikes. You can meet a new friend!”*

STEP 7: Evaluate program efficacy and permanency of attitude change

Let’s imagine you went through all of the aforementioned steps and implemented your attitude change program. Congratulations! Before breathing your sigh of relief, there is one more step: determining if your efforts were effective. As we outlined in Step 1, the evaluative step will be largely dependent on your goals and approach, as well as your constraints. Although we will not prescribe ways in which to evaluate the program, it should involve similar procedures to those laid out in Step 4: *Measuring your audience’s stuttering attitudes.* Doing so will provide you with reliable pre-post comparisons. For example, if you used the *POSHA–S/Ch* to measure stuttering attitudes at baseline, use that same instrument again after the intervention. You also will need to decide (1) How quickly you wish to measure attitudes following the program; and (2) If you want to track permanency of their attitudes over time. For the latter, we recommend measuring stuttering attitudes immediately or within a few days following the intervention. Permanency of attitudes can be tracked across time intervals that you decide, but keep in mind that participant attrition might be high. St. Louis and Flynn (2018) measured stuttering attitudes of a target audience seven years following the intervention, with less than 50% attrition (Flynn & St. Louis, 2011). Encouragingly, participants’ attitude improvement was maintained! More studies about the permanency of attitude change, as well as the direct effect of attitude change programming on the lives of people who stutter, would be an extremely valuable extension of this line of research.

Attitude change programming is in a constant state of refinement, so it is very important that you not only evaluate whether or not your goals of attitude change were achieved, but also identify areas of improvement for future iterations of the program. Below, we outline some post-implementation questions for your consideration.

Post-Intervention Questions for Consideration	Possible Responses
What were the primary challenges in planning the program?	*Coordinating schedules, support from teachers or administrators*
When implementing the program, when was the audience most engaged? Least engaged?	*Least engaged during the movie, most engaged during the discussion*
Did you notice any interesting behavior or reactions among your audience members?	*Laughing, distraction, disengagement, etc.*
What resources would enhance the delivery of the program?	*A bigger screen, more time, more home carryover activities, etc.*

Conclusion

Throughout this chapter, we walked you through seven steps which will equip you with the knowledge and skills to be an agent of stuttering attitude change. Nearly all stuttering attitude research has pointed to the need for attitude improvement, and now it is up to us – the stuttering support community – to answer that call. Through implementing a stuttering attitude change program, you have the potential to lessen the effects of stuttering stigma and improve the lives of people who stutter. Have courage to be that person, and have fun doing it!

Multiple choice questions

1. The “Attitude ABC” framework is comprised of:
    a) Assessment, Behavioral, Cognitive components
    b) Affective, Bias, Cognitive components
    c) Affective, Behavioral, Cognitive components
    d) Affective, Behavioral, Communication components
2. Recent research has shown that negative or misinformed stuttering attitudes emerge as early as:
    a) Preschool years
    b) School-aged years
    c) Adolescence
    d) Adulthood

3. All of the following are appropriate components to include in a stuttering attitude program *except*:
   a) Current information about the causes of stuttering
   b) Helpful and unhelpful listener responses
   c) Strategies to improve the fluency of a person who stutters
   d) Information about the traits, personality, and potential of people who stutter
4. Which of the following have been shown to be components of effective stuttering attitude change interventions?
   a) Engaging the audience
   b) Making information meaningful to the audience
   c) Presenting sufficient and accurate information
   d) All of the above
5. Based on current research, which of the following best describe/s what people who stutter consider to be helpful listener supports?
   a) Saying “slow down”
   b) Being patient
   c) Maintaining natural eye contact
   d) B & C
   e) All of the above

Suggested reading

St. Louis, K.O. (2015). Epidemiology of public attitudes toward stuttering. In: K.O. St. Louis (Ed.), *Stuttering Meets Stereotype, Stigma and Discrimination Morgantown. An Overview of Attitude Research* (pp. 7–42). West Virginia University Press.

St. Louis, K.O., Węsierska, K., Przepiórka, A., Błachnio, A., Beucher, C., Abdalla, F., Flynn, T., Reichel, I., Beste-Guldborg, A., Junuzović-Žunić, L., Gottwald, S., Hartley, J., Eisert, S., Johnson, K., Bolton, B., Teimouri Sangani, M., Rezai, H., Abdi, S., Pushpavathi, M., Hudock, D., Spears, S., & Aliveto, E. (2020). Success in changing stuttering attitudes: A retrospective study of 29 intervention samples. *Journal of Communication Disorders*, *84*, 1–18. 105972.

Weidner, M.E., St. Louis, K.O., & Glover, H.L. (2018). Changing nonstuttering preschool children’s stuttering attitudes. *American Journal of Speech-Language Pathology*, *27*, 1445–1457.

References

Abdalla, F. (2015). Changing attitudes toward stuttering. In: K.O. St. Louis (Ed.). *Stuttering meets stereotype, stigma, and discrimination: An overview of attitude research* (pp. 106–129). West Virginia University Press.

Abdalla, F., & St. Louis, K.O. (2014). Modifying attitudes of Arab school teachers toward stuttering. *Language, Speech, and Hearing Services in the Schools*, *45*, 14–25.

Aboud, F.E. (1988). *Children and prejudice*. Blackwell Publishers.

Abrams, D., & Rutland, A. (2008). The development of subjective group dynamics. In: S. Levy, & M. Killen (Eds.). *Intergroup attitudes and relations in childhood through adulthood*. Oxford University Press.

Abrams, D., Rutland, A., Cameron, L., & Marques, J. (2003). The development of subjective group dynamics: When in-group bias gets specific. *British Journal of Developmental Psychology*, *21*, 155–176.

Allport, G.W. (1954). *The nature of prejudice*. Addison-Wesley.

Azios, M., Kunda, K., Irani, F., & St. Louis, K.O. (2020, November). *Changing university students' attitudes about stuttering: A social way of thinking*. Poster accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, California. (Convention canceled due to COVD-19).

Beck, Aaron T. (2019). A 60-Year Evolution of Cognitive Theory and Therapy. *Perspectives on Psychological Science*, *14*(1), 16–20.

Beste-Guldborg, A., St. Louis, K.O., & Shorts, J.E. (2015, November). *Face-to-face interviews of people who stutter: Effects on attitudes of SLP students*. Poster presented at the Annual Convention of the American Speech-Language-Hearing Association. Denver, CO.

Bohner, G., & Wänke, M. (2002). *Attitudes and Attitude Change*. Taylor and Francis Group.

Bolton, B., Gibson, L., Holmes, J., & Rowland, C. (2017). *Effects of an information workshop on attitudes of teachers who have children who stammer in their classes*. Unpublished data. Stammering Information Centre, Leeds, UK.

Bondarenko, V. (1992a). *Speaking of Courage*. Magic Lantern Communications.

Bondarenko, V. (1992b). *Voices To Remember*. Magic Lantern Communications.

Boyle, M.P., & Blood, G.W. (2015). Stigma and stuttering: Conceptualizations, applications, and coping. In: K.O. St. Louis (Ed.). *Stuttering meets stereotype, stigma, and discrimination: An overview of attitude research* (pp. 43–71). West Virginia University Press.

Boyle, M.P., & Fearon, A.N. (2018). Self-stigma and its associations with stress, physical health, and health care satisfaction in adults who stutter. *Journal of Fluency Disorders*, *56*, 112–121.

Byrd, C.T., Werle, D. & St Louis, K.O. (2020). Speech-Language Pathologists' Comfort Level With Use of Term "Stuttering" During Evaluations. *American Journal of Speech-language Pathology*, *29*(2), 841–850.

Briley, P.M., Gerlach, H., & Jacobs, M.M. (2021). Relationships between stuttering, depression, and suicidal ideation in young adults: Accounting for gender differences. *Journal of Fluency Disorders, 67*.

Chandrabose, J.G., St. Louis, K.O., Pushpavathi, M., & Raoof, S. (2010). Awareness of stuttering among prospective teachers of Mysore. *Journal of the All India Institute of Speech & Hearing (JAIISH), 29*, 144–152.

Chu, S.Y. (2021). Personal communication regarding a study of stuttering attitudes of education students in Malaysia in English.

Cobb, T. R, Daniels, D. E, & Panico, J. (2019). Adolescent Students Who Stutter: A Qualitative Exploration of School Experiences. *Perspectives of the ASHA Special Interest Groups, 4*(6), 1327–1336.

Coleman, C.E., Weidner, M.E., & Damron, K. (2014, October). *Stuttering U.: The first annual camp for SLPs, children who stutter, families, and students*. Paper presented at the International Stuttering Awareness Online Conference.

Craig, A. (2010). The association between quality of life and stuttering. *Journal of Fluency Disorders, 35*(3), 159–160.

Delaney, C. (2001). Modification of the negative stutterer stereotype. In: G. Bosshardt, H. J.S. Yaruss, & H.F. Peters (Eds.), *Proceedings of World Congress of Fluency Disorders: Theory, Research, Treatment & Self-help* (pp. 614–618). Nijmegen University Press.

Derman-Sparks, L. (1989). *Anti-bias curriculum tools for empowering young children.* National Association for the Education of Young Children.

Evans, D., Healey, E.C., Kawai, N., & Rowland, S. (2008). Middle school students' perceptions of a peer who stutters. *Journal of Fluency Disorders, 33*, 203–219.

Fiske, S.T. (2021). Prejudice, discrimination, and stereotyping. In: R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* Champaign, IL: DEF publishers.

Flynn, T.W., & St. Louis, K.O. (2009, November). *Measuring and changing negative stuttering stereotypes in adolescents*. Poster presented at the Annual Convention of the American Speech-Language-Hearing Association, New Orleans, LA.

Flynn, T.W., & St. Louis, K.O. (2011). Changing adolescent attitudes toward stuttering. *Journal of Fluency Disorders, 36*, 110–121.

Gabel, R.M. (2015). Job discrimination associated with stuttering in adults. In: K.O. St. Louis (Ed.), *Stuttering meets stereotype, stigma, and discrimination: An overview of attitude research* (pp. 91–105). West Virginia University Press.

Glover, H.L., St. Louis, K.O., & Weidner, M.E. (2019). Comparing stuttering attitudes of preschool through 5th grade children and their parents in a predominately rural Appalachian sample. *Journal of Fluency Disorders*, 59, 64–79.

Gottwald, S.L., Warner, R., Hartley, J., Fraas, M., Hawver, K., & St. Louis, K.O. (2011, November). *Altering attitudes towards stuttering through the use of oral histories*. Poster presented at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA.

Gottwald, S., Kent, L., St. Louis, K.O., & Hartley, J. (2014, November). *Altering attitudes towards stuttering through the use of oral histories.* Poster presented at the Annual Convention of the American Speech-Language-Hearing Association. Orlando, FL.

Hartford, E., & Leahy, M.M. (2007). The perceptions of primary school children of a person who stutters. In: J. Au-Yeung, & M.M. Leahy (Eds.), *Proceedings of Fluency Disorders* (pp. 217–222). The International Fluency Association.

Hearne, A., Miles, A., Douglas, J., Carr, B., Nicholls, J.R., Bullock, M.S., Pang, V., & Southwood, H. (2020) Exploring teachers' attitudes: knowledge and classroom strategies for children who stutter in New Zealand. *Speech, Language and Hearing*. 24, 28–37.

Holcombe, K., & Eisert, S. (2012) *Understanding the impediment: Investigating the nature of people's attitudes toward stutterers*. Unpublished capstone paper. Pacific Lutheran University, Tacoma, WA.

Killen, M., & Rutland, A. (2011). *Children and social exclusion: Morality, prejudice, and group identity*. Wiley-Blackwell Publishers.

Junuzović-Žunić, L., Weidner, M.E., Reichel, I.K., Cook, S., St. Louis, K.O., & Ware, M.B. (2015). Effects of fluency disorders coursework on students' stuttering attitudes in two countries. In: K.O. St. Louis (Ed.), *Stuttering meets stereotype, stigma, and discrimination: An overview of attitude research* (pp. 226–242). West Virginia University Press.

Kestenbaum, J., & Khnonov, M. (2011). *Effects of watching The King's Speech movie on students attitudes toward stuttering*. Unpublished capstone paper. Brooklyn College.

Kings Speech (2015). Kingsspeech.com. Retrieved on April 10, 2017.

Kuhn, C.D. & St. Louis, K.O. (2015, November). *Attitudes toward stuttering of middle school students before & after a stuttering video*. Poster presented at the Annual Convention of the American Speech-Language-Hearing Association. Denver, CO.

Langevin, M. (1997). Peer teasing project. In: E.C. Healey & H.F.M. Peters (Eds.), *Proceedings of the 2nd world congress on fluency disorders* (pp. 169–171). Nijmegen University Press.

Langevin, M. (2015). Changing attitudes toward stuttering: What children liked about a stuttering education resource. In: K.O. St. Louis (Ed.). *Stuttering meets stereotype, stigma, and discrimination: An overview of attitude research* (pp. 304–309). West Virginia University Press.

Langevin, M., & University of Alberta. (2000). *Teasing and Bullying: Unacceptable Behaviour: the TAB program*. Institute for Stuttering Treatment & Research.

Langevin, M., Packman, A., & Onslow, M. (2009). Peer responses to stuttering in the preschool setting. *American Journal of Speech-Language Pathology, 18*, 264–276.

Langevin, M., & Prasad, N.G.N. (2012). A stuttering education and bullying awareness and prevention resource: A feasibility study. *Language, Speech, and Hearing Services in the Schools, 43*, 344–358.

Latané, B. (1996). Dynamic social impact: The creation of culture by communication. *The Journal of Communication, 46*, 13–25.

Leahy, M.M. (1994). Attempting to ameliorate student therapists' negative stereotype of the stutterer. *International Journal of Language & Communication Disorders*, *29*, 39–49.

Mayo, R., Mayo, C., Gentry, A., & Hildebrandt, M. (November, 2008). *Can listeners' attitudes towards person who stutter be modified?* Paper presented at the Annual Convention of the American Speech-Language & Hearing Association, Chicago, Illinois.

McGee, L., Kalinowski, J. & Stuart, A. (1996). Effect of a videotape documentary on high school students' perceptions of a high school male who stutterers. *Journal of Speech-Language Pathology and Audiology*, *20*, 240–246.

Nelson, H. (2020). *Changing college students' attitudes toward people who stutter*. Unpublished Master's thesis. St. Cloud State University.

Özdemir, R.S., St. Louis, K.O., & Topbaş, S. (2011). Stuttering attitudes among Turkish family generations and neighbors from representative samples. *Journal of Fluency Disorders*, *36*, 318–333.

Piaget, J., & Cook, M.T. (1952). *The origins of intelligence in children*. International University Press.

Reichel, I., & St. Louis, K.O. (2004). Effects of emotional intelligence training in graduate fluency disorders courses. In: A. Packman, A. Meltzer, & H.F.M. Peters (Eds.). *Proceedings of the 4th World Congress on Fluency Disorders*. (pp. 474–481). Nijmegen University Press.

Reichel, I., & St. Louis, K.O. (2007). Mitigating negative stereotyping of stuttering in a fluency disorders class. In: J. Au-Yeung & M.M. Leahy (Eds.). *Research, treatment, and self-help in fluency disorders: New Horizons. Proceedings of the Fifth World Congress on Fluency Disorders.* (pp. 236–243). International Fluency Association, Electronic publication.

Reichel, I.K., & St. Louis, K.O. (2011, November). *Effects of multidisciplinary curricula in graduate fluency disorders courses*. Seminar presented at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA.

Rogers, F. (1969, May 1). *Senate Statement on PBS Funding* [Speech video recording]. American Rhetoric. https://www.americanrhetoric.com/speeches/fredrogerssenatetestimonypbs.htm.

Schneider, J. (2007). *True life: I stutter [television series episode]*. MTV.

Snyder, G.J. (2001). Exploratory research in the measurement and modification of attitudes toward stuttering. *Journal of Fluency Disorders*, *26*, 149–160.

Spears, S., Hudock, D., Rasdell-Hudock, H., Altieri, N., Vereen, L.G., & St. Louis, K.O. (2015, November). *The effect of pseudostuttering on clinicians' attitudes before participating in an interprofessional intensive stuttering clinic*. Poster presented at the Annual Convention of the American Speech-Language-Hearing Association. Denver, CO.

St. Louis, K.O. (2010). *International Project on Attitudes Toward Human Attributes (IPATHA).* Morgantown, WV: Populore. http://www.stutteringattitudes.com.

St. Louis, K.O. (2011). The Public Opinion Survey of Human Attributes-Stuttering (POSHA–S): Summary framework and empirical comparisons. *Journal of Fluency Disorders*, *36*, 256–261.

St. Louis, K.O. (2012). *POSHA–S* public attitudes toward stuttering: Online versus paper surveys. *Canadian Journal of Speech-Language Pathology and Audiology*, *36*, 116–122.

St. Louis, K.O. (2015). Epidemiology of public attitudes toward stuttering. In: K.O. St. Louis (Ed.). *Stuttering meets stereotype, stigma, and discrimination: An overview of attitude research* (pp. 7–42). West Virginia University Press.

St. Louis, K.O., & Enoch, M.B. (2012, November). *Stuttering coursework influences on undergraduate student attitudes*. Poster presented at the Annual Convention of the American Speech-Language-Hearing Association, Atlanta, GA.

St. Louis, K.O., Filatova, Y., Coskun, M., Tobpas, S., Özdemir, S., Georgieva, D., McCaffery, E., & George, R.D. (2011). Public attitudes toward cluttering and stuttering in four countries. In: E.L. Simon (Ed.), *Psychology of stereotypes* (pp. 81–113). Nova Science.

St. Louis, K.O., Irani, F., Gabel, R.M., Hughes, S., Langevin, M., Rodriguez, M., Scaler-Scott, K. & Weidner, M.E. (2017). Evidence-based guidelines for being supportive of people who stutter in North America. *Journal of Fluency Disorders*, *53*, 1–13.

St. Louis, K.O., Węsierska, K., & Polewczyk, I. (2018). Improving Polish stuttering attitudes: An experimental study of teachers and university students. *American Journal of Speech-Language Pathology*, *27*, 1195–1210

St. Louis, K.O., & Flynn, T.W. (2018). Maintenance of improved attitudes toward stuttering. *American Journal of Speech-Language Pathology*, *27*, 721–736.

St. Louis, K.O., Myers, L.E., Flick Barnes, M., Saunders, M.A., Hall, B.M., & Weidner, M.E. (2019). Oral face-to-face versus online administration of the Public Opinion Survey of Human Attributes–Stuttering/Child. *Perspectives of Fluency & Fluency Disorders*, 1–7.

St. Louis, K.O., Przepiórka, A. M, Beste-Guldborg, A., Williams, M.J., Błachnio, A., Guendouzi, J., Reichel, I.K., & Ware, M.B. (2014). Stuttering attitudes of students: Professional, intracultural, and international comparisons. *Journal of Fluency Disorders*, *39*, 34–50.

St. Louis, K.O., Sønsterud, H., Junuzovic, L., Tomaiuoli, D., Del Gado, F., Caparelli, E., Theiling, M., Flobakk, C., Helmen, L.N., Heitmann, R.R., Kvenseth, H., Nilsson, S., Wetterling, T., Lundström, C., Daly, C., Leahy, M., Tyrell, L., Ward, D., & Węsierska, M. (2016). Public attitudes toward stuttering in Europe: Within-country and between-country comparisons. *Journal Communication Disorders*, *62*, 115–130.

St. Louis, K.O. & Weidner, M.E. (2015a). *Personal Appraisal of Support for Stuttering – Child*. Populore.

St. Louis, K.O. & Weidner, M.E. (2015b). *Personal Appraisal of Support for Stuttering – Parent*. Populore.

St. Louis, K.O., Węsierska, K., & Polewczyk, I. (2018). Improving Polish stuttering attitudes: An experimental study of teachers and university students. *American Journal of Speech-Language Pathology*, *27*, 1195–1210.

St. Louis, K.O., Węsierska, K., Przepiórka, A., Błachnio, A., Beucher, C., Abdalla, F., Flynn, T., Reichel, I., Beste-Guldborg, A., Junuzović-Žunić, L., Gottwald, S., Hartley, J., Eisert, S., Johnson, K., Bolton, B., Teimouri Sangani, M., Rezai, H., Abdi, S., Pushpavathi, M., Hudock, D., Spears, S., & Aliveto, E. (2020). Success in changing stuttering attitudes: A retrospective study of 29 intervention samples. *Journal of Communication Disorders*, *84*, 1–18. 105972.

St. Louis, K.O., Węsierska, K., Saad Merouwe, S., Melhem, N.A., Dezort, J., & Laciková, H. (2019). How should we interact with adults who stutter? Let's hear from them. In: D. Tomaiuoli (Ed.). *Proceedings of the 3rd International Conference on Stuttering* (pp. 172–183). Trento, Italy: Erickson.

St. Louis, K.O., Williams, M.J., Ware, M.B., Guendouzi, J., & Reichel, I. (2014). The *Public Opinion Survey of Human Attributes–Stuttering* (*POSHA–S*) and *Bipolar Adjective Scale* (*BAS*): Aspects of validity. *Journal of Communication Disorders*, *50*, 36–50.

Stork, K., & Johnson, K. (2016). *Effects of interviewing a person who stutters on SLP students' attitudes toward stuttering*. Unpublished manuscript. University of Houston, Houston, TX.

The Stuttering Foundation. (2017). *Stuttering: For kids by kids*. Tennessee: Memphis.

Walden, T.A., & Lesner, T.A. (2018). Examining implicit and explicit attitudes toward stuttering. *Journal of Fluency Disorders*, *57*, 22–36.

Weidner, M.E. (2015). *InterACT Program*. MC Speech Books.

Weidner, M.E., & St. Louis, K.O. (2014). *The Public Opinion Survey of Human Attributes– Stuttering/Child (POSHA–S/Child)*. Populore.

Weidner, M.E., Junuzovic-Zunic, L. & St. Louis, K.O. (2020). A comparison of stuttering attitudes among nonstuttering children and parents in Bosnia & Herzegovina. *Clinical Archives of Communication Disorders*, *5*, 42–53.

Weidner, M.E., St. Louis, K.O., Burgess, M.E., & LeMasters, S.N. (2015). Attitudes toward stuttering of nonstuttering preschool and kindergarten children: A comparison using a standard instrument prototype. *Journal of Fluency Disorders*, *44*, 74–87.

Weidner, M.E., St. Louis, K.O., & Glover, H.L. (2018). Changing nonstuttering preschool children's stuttering attitudes. *American Journal of Speech-Language Pathology*, 1–13.

Weidner, M.E., St. Louis, K.O., Nakıscı, E., & Özdemir, R.S. (2017). A comparison of attitudes towards stuttering of non-stuttering preschoolers in the United States and Turkey. *South African Journal of Communication Disorders*, *64*(1), a178.

Weidner, M.E., Węsierska, K., Lacikova, H., Sønsterud, H., St. Louis, K.O., Skogdal, S., Åmodt, K., Scaler-Scott, K., Coleman, C. (2021). *Personal Appraisals of Support from the Perspective of American, Norwegian, Polish, & Slovak Children who Stutter and their Parents.* Poster presentation at the International Fluency Association Dysfluency Conference, Oxford, UK.

Węsierska, K., Błachnio, A., Przepiórka, A., & St. Louis, K.O. (2015, October). Zmiana postaw wobec jąkania w Polsce – wstępne doniesienia z badań [Changing attitudes towards stuttering in Poland: Preliminary study report]. Paper presented at the International Conference on Speech-Language Therapy: Modern Trends in Logopaedic Diagnosis and Therapy. Chorzów, Poland.

Węsierska, K., St. Louis, K.O. & Weidner, M.E. (2019, August). *Personal Appraisals of Support from the Perspective of Polish Children who Stutter*. Poster presentation at the International Association for Logopedics and Phoniatrics. Taipei, Taiwan.

Williams, A.Z., Tetnowski, J., St. Louis, K.O., & Aarstad, J. (2019, November). *Exploring the Potential of Oral Presentation as a Means of Improving Attitudes Toward Stuttering in Pre-service Teachers.* Technical session presented at the Annual Convention of the American Speech-Language-Hearing Association. Orlando, FL.

Woods, C.L., & Williams, D.E. (1976). Traits attributed to stuttering and normally fluent males. *Journal of Speech and Hearing Research*, *19*, 267–278.

Table 1: Appendix

Reference(s)	Intervention	Sample Size	Participants	Country	Language of *POSHA–S* and Intervention	Mean Age (yr)	Males (%) Females (%)
Langevin (1997)	Participants attended the *Teasing and Bullying: Unacceptable Behavior (TAB)* Program, delivered by teachers, in the classroom. It consisted of a 14-min video and a teacher's manual with seven units designed to deal with teasing and bullying, with a total time of 1 3/4-hr.	73	4th, 5th, and 6th graders	Canada	en	~10–12	–
Langevin & Prasad (2012)	Participants attended the *Teasing and Bullying: Unacceptable Behavior* (TAB) Program (excluding the module on building positive relationships), delivered by teachers in the classroom, over a 3–4 wk period and requiring a total of 4 hr.	608	3rd-6th graders	Canada	en	9.7	54% 46%
McGee, Kalinowski, & Stuart (1996)	Participants watched the *Voices to Remember* video (Bondarenko, 1992b) in their classroom.	36	High school students	USA	en	18.2	50% 50%
Leahy (1994)	Participants attended one academic year (40 hr) of exposure to stuttering through lectures, research, and direct clinical practica with stutterers.	17	3rd & 4th yr undergrad SLP students	Ireland	en	–	–
Snyder (2001)	A: About half of the participants watched a 20-min segment of *Speaking of Courage* (Bondarenko, 1992a). B: The other half of the participants watched a 20-min *Effects of Altered Auditory Feedback at Fast and Normal Speaking Rates* (Keith & Kuhn, 1996).	55	SLP graduate students	USA	en	25.3	2% 98%
Delaney (2001)	A: Eight participants observed stuttering 5x/wk for 30 wk and participated in an adult stuttering therapy group. B: Ten participants received no fluency training or experience.	18	2nd-year SLP students without training in stuttering	Wales	en	–	–
Mayo, Mayo, Gentry, & Hildebrandt (2008)	Participants watched a shortened segment (about 30 min) of the *Speaking of Courage* video (Bondarenko, 1992a) in their classroom.	43	General university students	USA	en	–	35% 65%
Reichel & St. Louis (2004, 2007)	Participants attended a full 32-hr graduate course in fluency disorders, including emotional intelligence, multiculturalism, and multidisciplinary modules.	69	SLP graduate students	USA	en	27.7	4% 96%
Flynn & St. Louis (2009)	Participants listened in their classroom to a 30-min oral presentation by stutterer on stuttering information and personal stories, some humorous, some serious.	39	High school students	USA	en	15.6	36% 64%
Chandrabose, St. Louis, Pushpavathi, & Raoof (2010)	Participants listened to a 40-min custom presentation on stuttering information in a classroom and clinical setting.	64	Education university students	India	kn	~20.0	39% 61%
Kestenbaum & Khnonov (2011)	Participants watched the 2-hr *The King's Speech* movie (Kings Speech, 2015) in a theatre.	51	General university students	USA	en	23.5	37% 63%
Flynn & St. Louis (2011)	Participants listened in their classroom to a 45-min oral presentation by stutterer on stuttering information and personal stories, some humorous, some serious.	40	High school students	USA	en	16.3	35% 65%
Flynn & St. Louis (2011)	Participants in their classroom watched the 45-min MTV *I Stutter video* (Schneider, 2007) featuring the stories of three university students and young adults who stuttered.	43	High school students	USA	en	16.2	44% 56%

	% Stuttering	% Knowing No Stutterers	Pre	Post	*Difference / Change*	Number in Control Group	Pre	Post	*Difference / Change*	Change in Experimental Group	Change in Control Group
	—	—	*Peer Attitudes Toward Stuttering Children (PATSC-40)*:139, 146, 139	*PATSC-40*: 20, 20, 24	*119, 126, 115*	—	—	—	—	Positive	—
	0%	67%	*Peer Attitudes Toward Children Who Stutter (PATCS): 3.54*	*PATCS: 3.83*	*0.29*	—	—	—	—	Positive	—
	0%	31%	Woods & Williams (1976) 25-item semantic differential scale	Woods & Williams (1976) 25-item semantic differential scale	*Significantly worse on withdrawn, reticent, and fearful*	—	—	—	—	Negative	—
	—	—	11-item semantic differential scale	11-item semantic differential scale (13 of 17 students)	*No statistics but worse ratings for nervous, tense, and reticent but better ratings on pleasant, quiet, and extroverted*	—	—	—	—	Negative and Positive	—
	—	—	50-item Clinicians' Attitudes Toward Stuttering (CATS)	*CATS*	*A: Operant programs effective higher B: Stuttering easy to modify higher, stuttering due to multiple coexisting factors lower, no primary stuttering higher*	—	—	—	—	Little Change	—
	0%	—	54-item Attitude Toward Stuttering scale and an 11-item semantic differential scale on stuttering & a 9-item on communication	No Post: A compared with B	*Attitudes: Differences between A & B: A higher on responses of stutterer to his own stuttering; Semantic differential scales: No differences for stuttering or communication*	—	—	—	—	Little Change and Positive	—
		—	25-item semantic differential scale	25-item semantic differential scale	*Positive shifts on 8 items: cooperative, pleasant, emotionality, intelligent, flexible, open shy, and daring*	—	—	—	—	Positive	—
	0%	19%	0	12	*12*	—	—	—	—	Positive	—
	0%	59%	10	16	*6*	—	—	—	—	Positive	—
	—	—	8	9	*1*	—	—	—	—	Little Change	—
	2%	8%	21	32	*11*	—	—	—	—	Positive	—
	0%	25%	19	44	*25*	—	—	—	—	Very Positive	—
	2%	30%	18	33	*16*	—	—	—	—	Very Positive	—

Reference(s)	Intervention	Sample Size	Participants	Country	Language of *POSHA–S* and Intervention	Mean Age (yr)	Males (%) Females (%)
Flynn & St. Louis (2011)	Participants listened in their classroom to a 20-min oral presentation by stutterer about stuttering and personal stories after watching the MTV *I Stutter video* (Schneider, 2007) featuring three stutterer's stories.	43	High school students	USA	en	16.2	44% 56%
Gottwald Warner, Hartley, Fraas, Hawver, & St. Louis (2011)	Participants watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab.	10	Teachers	USA	en	37.9	10% 90%
Gottwald et al. (2011)	Participants watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab.	18	SLP students	USA	en	19.4	0% 100%
Gottwald et al. (2011)	Participants individually watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab.	10	SLPs	USA	en	44.1	0% 100%
Holcombe & Eisert (2013)	Experimental: Participants individually in a lab read a one-page sheet on stuttering information and causes and watched a 2-min video clip & video of a stutterer discussing his stuttering difficulties. Control: Participants individually in a lab read a one-page sheet on managing stress and its causes and watched a 2-min video of a fluent speaker talking about overcoming bullying.	24	General university students	USA	en	20.5	61% 39%
St. Louis & Enoch (2012); St. Louis, Williams, Ware, Guendouzi, & Reichel (2014); St. Louis, Przepiórka, et al. (2014)	Participants were enrolled in the 7-week segment of an undergraduate course devoted to the nature and treatment of stuttering.	21	Under-graduate and graduate SLP students	USA	en	21.9	5% 95%
Abdalla & St. Louis (2014)	Experimental: Participants in a classroom watched a 17-min video on stuttering information and three stutterers discussing problems with stuttering in school. Control: No intervention.	51	Education university students	Kuwait	ar	20.3	0% 100%
Abdalla & St. Louis (2014)	Experimental: Participants in a classroom watched a 17-min video on stuttering information and three stutterers discussing problems with stuttering in school. Control: No intervention.	54	Teachers	Kuwait	ar	38.6	100% 0%
Gottwald, Kent, St. Louis, & Hartley (2014)	Participants watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab.	19	University professors	USA	en	56.9	35% 65%
Reichel & St. Louis (2011); Junuzović-Žunić ,Weidner, Reichel, Cook, St. Louis, & Ware. (2015)	Participants attended a full 32-hr graduate course in fluency disorders, including a multidisciplinary module.	17	SLP graduate students	USA	en	24.5	12% 88%
Beste-Guldborg, St. Louis, & Shorts (2015)	Participants Interviewed an adult stutterer or parent of stutterer for about 30 min while being enrolled in 13 weeks (about 40 hr) of graduate coursework in fluency disorders.	18	SLP graduate students	USA	en	22.9	0% 100%
Beste-Guldborg et al. (2015)	Participants Interviewed an adult stutterer or parent of stutterer for about 30 min while being enrolled in 13 weeks (about 40 hr) of graduate coursework in fluency disorders.	52	SLP graduate students	USA	en	23.9	0% 100%
Junuzović-Žunić et al. (2015)	Participants attended their first 45-hr undergraduate course in fluency disorders,	27	SLP undergraduate students	Bosnia & Herzegovina (B & H)	bs sr hr	22.9	4% 96%
Kuhn & St. Louis (2015)	In their classroom with a teacher present, participants watched the 15-min Stuttering Foundation's *Stuttering: For Kids by Kids* video (The Stuttering Foundation, 2017).	36	Middle school students	USA	en	12.7	56% 44%

	% Stuttering	% Knowing No Stutterers	Pre	Post	*Difference / Change*	Number in Control Group	Pre	Post	*Difference / Change*	Change in Experimental Group	Change in Control Group
	2%	30%	33	43	*9*	–	–	–	–	Positive	–
	10%	30%	40	52	*11*	–	–	–	–	Positive	–
	0%	11%	28	37	*9*	–	–	–	–	Positive	–
	0%	0%	56	56	*1*	–	–	–	–	Little Change	–
	0%	21%	22	32	*10*	23	20	22	*2*	Positive	Little Change
	0%	38%	33	46	*14*	–	–	–	–	Positive	–
	–	–	-14	14	*28*	48	-9	-9	*0*	Very Positive	Little Change
	–	–	-8	-8	*0*	49	-13	-12	*1*	Little Change	Little Change
	10%	30%	35	48	*13*	–	–	–	–	Positive	–
	0%	18%	24	36	*12*	–	–	–	–	Positive	–
	0%	28%	32	56	*24*	–	–	–	–	Very Positive	–
	0%	35%	40	53	*13*	–	–	–	–	Positive	–
	0%	11%	26	33	*7*	–	–	–	–	Positive	–
	0%	25%	14	19	*5*	–	–	–	–	Little Change	–

Reference(s)	Intervention	Sample Size	Participants	Country	Language of *POSHA–S* and Intervention	Mean Age (yr)	Males (%) Females (%)
Kuhn & St. Louis (2015)	In their cafeteria with only the investigator present, participants watched the 15-min Stuttering Foundation's *Stuttering: For Kids by Kids* video (The Stuttering Foundation, 2017).	12	Middle school students	USA	en	13.0	43% 57%
Junuzović-Žunić et al. (2015)	Participants attended their second 45-hr undergraduate course on fluency disorders (stuttering therapy), which included practicum treatment of stutterers.	27	SLP undergraduate students	Bosnia & Herzegovina (B & H)	bs sr hr	23.2	4% 96%
Spears Hudock, Rasdell-Hudock, Altieri, Vereen, & St. Louis (2015)	Participants watched a video demonstrating how to stutter and completed an assignment of pseudostuttering in public, requiring about 60 min.	13	SLP graduate students	USA	en	31.3	8% 92%
Węsierska, Błachnio, Przepiórka, & St. Louis (2015)	Experimental: Participants watched a 45-min Powerpoint presentation on stuttering information. Control: No intervention.	50	High school students	Poland	pl	16.9	34% 66%
Węsierska, et al. (2015)	Experimental: Participants watched a 45-min Powerpoint presentation on stuttering information. Control: No intervention.	16	General university students	Poland	pl	20.4	13% 87%
Węsierska, et al. (2015)	Experimental: Participants watched a 48-min Polish adaptation of the British Broadcasting Company video *Kid's Speech*. Control: No intervention.	37	High school students	Poland	pl	17.9	35% 65%
Węsierska, et al. (2015)	Experimental: Participants watched a 48-min Polish adaptation of the British Broadcasting Company video *Kid's Speech*. Control: No intervention.	26	General university students	Poland	pl	21.9	0% 100%
Stork & Johnson (2016)	Participants Interviewed an adult stutterer or parent of stutterer for about 30 min while being enrolled in 1 week of graduate coursework in fluency disorders.	27	SLP graduate students	USA	en	26.0	11% 89%
Bolton et al. (2017)	Participants attended a 4-hr interactive workshop on stuttering information and classroom management.	20	Teachers	UK	en	39.6	5% 95%
St. Louis & Flynn (2018)	Seven years earlier, participants had listened in their classroom to a 45-min oral presentation by a stutterer about stuttering and personal stories or after watching the 45-min MTV *I Stutter* video (Schneider, 2007) featuring three stutterer's stories followed by a 20-min oral presentation by the same stutterer.	36	Young adults	USA	en	23.0	26% 74%
St. Louis, Węsierska, & Polewczyk (2018)	Participants attended a 2-hr workshop on informational and emotional aspects of stuttering featuring one stuttering specialist and one leader of a self help group.	132	Teachers	Poland	pl	40.7	6% 94%
St. Louis, et al. (2018)	Participants attended a 15-wk course (about 23 hr) on stuttering with involving a variety of assignments, notably to (a) interview a stutterer, (b) attend a self help group, and (c) attend an additional 2-hr workshop designed for teachers.	75	General university students	Poland	pl	23.2	0% 100%
Weidner, St. Louis, & Glover (2018)	Participants watched two puppet videos about stuttering and inclusion; participated in guided small group discussions, and filled out and took home a coloring/activity book about the *InterACT* Program (Weidner, 2015) for a total of about 1 hr.	37	Preschool students	USA	en	4.9	38% 62%
Chu (2021) (Personal communication)	Participants watched an 8-min online video in a school room featuring diagnosis and management of stuttering; impact on one's life; and a personal sharing by a stutterer.	48	Teachers	Malaysia	en	38.4	19% 81%
Williams, Tetnowski, St. Louis, & Aarstad (2019)	Experimental: Participants listened to and interacted with an SLP, who, with a 10-min Powerpoint presentation, covered seven brief segments regarding the nature, diagnosis, and management of stuttering, as well as classroom tips for teachers. Control: No intervention.	16	Education university students	USA	en	21.5	0% 100%

	% Stuttering	% Knowing No Stutterers	Pre	Post	*Difference / Change*	Number in Control Group	Pre	Post	*Difference / Change*	Change in Experi-mental Group	Change in Control Group
	0%	8%	24	21	*-4*	—	—	—	—	Little Change	—
	0%	7%	33	37	*5*	—	—	—	—	Little Change	—
	0%	23%	38	40	*3*	—	—	—	—	Little Change	—
	4%	22%	8	11	*2*	24	11	10	*-1*	Little Change	Little Change
	0%	25%	23	26	*3*	23	18	21	*3*	Little Change	Little Change
	3%	32%	13	12	*-1*	24	11	10	*-1*	Little Change	Little Change
	0%	31%	26	25	*-1*	23	18	21	*3*	Little Change	Little Change
	4%	33%	32	46	*14*	—	—	—	—	Positive	—
	0%	10%	30	54	*24*	—	—	—	—	Very Positive	—
	3%	14%	17	38	*21*	—	—	—	—	Very Positive	—
	0%	30%	25	44	*19*	—	—	—	—	Very Positive	—
	0%	37%	17	55	*38*	—	—	—	—	Very Positive	—
	0%*	92%*	3	15	*12*	—	—	—	—	Positive	—
	2%	21%	19	20	*1*	—	—	—	—	Little Change	—
	0%	19%	29	49	20	19	30	38	*8*	Very Positive	Positive

Reference(s)	Intervention	Sample Size	Participants	Country	Language of *POSHA–S* and Intervention	Mean Age (yr)	Males (%) Females (%)	
Williams et al. (2019)	Experimental: Participants listened to and interacted with an SLP and a stutterer, who, with a 10-min Powerpoint presentation, covered seven brief segments regarding the nature, diagnosis, and management of stuttering, as well as classroom tips for teachers. The stutterer presented three of seven segments. Control: No intervention.	14	Education university students	USA	en	22.0	7% 93%	
Azios, Kunda, Irani, & St. Louis (2020)	Participants in a phonetics class watched a short introductory video clip on stuttering (before completing pre-tests) and then, over four weeks, four inspirational videos of stuttering speakers and one nonstuttering speaker (total = 53 min) discussing how one imperfections or stuttering can be viewed as part of one's life and can be overcome. Videos were followed by discussions within the class.	27	1st year SLP under-graduate students	USA	en	23.6	4% 96%	
Hearne et al. (2020)	Participants read an online fact sheet about stuttering and watched an online 20-min Michael Palin Center video *Wait, wait I'm not finished yet…*	25	Primary teachers	New Zealand	en	38.1	0% 100%	
Nelson (2020)	Experimental: Participants listened to two interviews of stutterers talking about difficulties with their stuttering and how to react to a stutter, combined into a 30 min podcast. Control: Participants read silently for about 14 min the transcript of the two stuttering interviews in the podcast with stutterings shown orthographically.	21	General university students	USA	en	21.0	39% 61%	
Węsierska, Weidner, & St. Louis (2021)	Participants watched two puppet videos about stuttering and inclusion; participated in guided small group discussions, and filled out and took home a coloring/activity book about the *InterACT* Program (Weidner, 2015).	43	Preschool students	Poland	pl	6.7	57% 43%	
	Mean:	35				24.5		
	* Characteristic of parents							

	% Stuttering	% Knowing No Stutterers	Pre	Post	*Difference/Change*	Number in Control Group	Pre	Post	*Difference/Change*	Change in Experimental Group	Change in Control Group
	0%	36%	29	43	*14*	19	30	38	*8*	Positive	Positive
	4%	15%	41	46	*5*	—	—	—	—	Little Change	—
	0%	28%	26	42	*16*	—	—	—	—	Very Positive	—
	0%	—	31	40	*9*	18	24	26	*2*	Positive	Little Change
	2%*	65%*	-3	10	*13*	—	—	—	—	Positive	—
	1.4%	24.3%	22.5	33.4	11.0	27	14.0	16.5	2.5		
										Very Positive 10 (21%)	
										Positive 20 (43%)	Positive 2 (20%)
										Little Change 14 (30%)	Little Change 8 (80%)
										Negative & Positive 1 (2%)	
										Little Change & Positive 1 (2%)	
										Negative 1 (2%)	

Chapter 4

Rachel Everard & Carolyn Cheasman

Acceptance and Stuttering

We are speech and language therapists who stutter. We both have personal experience of interiorised stuttering, and issues and challenges around acceptance have been important in our journeys. We also specialise in working with adults who stutter and will draw upon this experience throughout this chapter. Please note that we have used the terms 'stuttering' and 'stammering' interchangeably.

How does acceptance relate to stuttering?

Some background

Many stuttering therapists have recognised the importance of acceptance in therapy. It is interesting that as we explore the literature, we can see that they are using the term in different ways and incorporating it into therapy with different objectives.

Cheasman (2013) has described avoidance-based coping strategies as the behavioural correlates of a non-accepting stance towards stuttering. Van Riper (1973) describes an extensive desensitisation phase to therapy, during which people are encouraged to approach stammering and reduce avoidance. This is partly in the service of acceptance, but it is also there to pave the way for the modification stage. It is interesting to note that he also talks about acceptance in relation to therapists' stance towards their clients' stammering: 'with a warm and accepting and interested therapist, the amount of anxiety elicited by these old stimuli progressively decreases' (p. 267).

Joseph Sheehan's whole therapy programme focusses on avoidance reduction, and within this approach, clients are encouraged to stutter more openly and freely (Sheehan, 1970). He describes different levels of avoidance including role-level avoidance, i.e. people who stutter (PWS) avoid taking on the role of being a person who stutters. However, it is not really clear if he is writing about acceptance for its own sake, or rather, acceptance of the 'stutterer role' as a paradoxical means towards becoming more fluent. He writes: 'the result is a person who accepts himself and adjusts freely to either the stutterer role or the alternating normal-speaker role, who struggles minimally against himself when he stutters and who feels freedom and comfort in the speaker role whether he stutters or not. The combination of self-acceptance and role acceptance leads to freedom in the speaker role, with prevalent fluency as the ultimate product' (1970, p.22).

For both Van Riper and Sheehan, the purpose of avoidance reduction work was partly to move towards greater ease of speech. Some more contemporary writers would challenge any approach that incorporated speech modification as being truly about acceptance (Campbell, Constantino and Simpson, 2019). Plexico et al. (2005) carried out qualitative research asking PWS to identify key factors in successful stuttering management, and found that many identified increasing acceptance as playing a major part. Plexico et al. (2009) write: 'Acceptance acts as a counterpunch to maladaptive secondary behaviours, and helps increase psychological health and adaptive coping strategies' (p. 110).

Yaruss (2012) writes more along the lines of what we understand by acceptance when he says: '…achieving increased acceptance of stuttering is an active process – not giving up but working steadily towards a future in which the speaker is able to communicate more effectively and more easily, with less concern about stuttering. Speakers who have achieved greater acceptance of stuttering not only find it easier to communicate, but also easier to live the life they want to live' (p.187).

What do we mean by acceptance?

Acceptance is a term which is frequently used both by PWS and speech and language therapists (SLTs). How can we understand it then, as a helpful or therapeutic quality or stance? It is important to start with trying to define the term and for us, as authors, to say what we mean by it. The Oxford Dictionary definition is 'the act of agreeing with something and approving it'. This does not seem particularly helpful in our context. So, what do we mean by it? It's tricky, because whilst we might all think we know what it means, it's a term that can actually carry very different meanings to different people. It can be a very loaded term. For example, to some people it can imply resignation or giving up, to others it means gritting your teeth and just getting through something. Neither of these meanings seem particularly helpful or therapeutic. We have found it increasingly helpful to look at acceptance through the lens of mindfulness. Mindfulness is an approach that carries work on acceptance at its heart and so let us start with two definitions from the mindfulness literature.

Segal et al. (2002) define acceptance in terms of allowing and state: ‘allowing experience means simply allowing space for whatever is going on, rather than trying to create some other kind of state’ (p.276).

Harris (2009) writing from the perspective of an *Acceptance and Commitment Therapy* (ACT) exponent says: ‘Acceptance means allowing our thoughts and feelings to be as they are, regardless of whether they are pleasant or painful, opening up and making room for them and letting them come and go as they naturally do.’ (p.134).

We can see from this that we are talking about a very particular attitude towards experience, and an attitude that is present in the face of a wide range of experience. Giving the range of meanings that people can attribute to acceptance we have found it helpful to use a range of alternative terms:

- Allowing things to be here
- Letting be
- Making space for
- Opening up to

We invite people to bring attitudes such as **curiosity**, **tolerance** and **friendship** to their experience and ask them if they would be **willing** to make space for something to be here. All of this is moving in the opposite direction to resistance. In more traditional stuttering therapy terms, these attitudes foster approach rather than avoidance. Acceptance thus goes against attempts to control or fix, both of which are often used by PWS to manage stuttering. Attempts to control and fix can often lead to greater struggle and suppression.

It is important to understand that within a mindfulness framework, acceptance is the very antithesis of passive resignation. Allowing, letting be, making space for, and opening up to, are all active processes. Acceptance in this way becomes an active ‘turning towards experience’ and interestingly, things can start to shift when we stop trying to make them different. In line with this, Segal et al. (2002) cite Rosenberg (1998) who says: ‘sometimes the best way to get from A to B may be to be more fully at A’ (p. 138). It is this different way of being with difficult experience that is at the heart of mindfulness-based approaches to therapy. Through allowing what is here to be, we start to cultivate a different relationship to that which we find difficult, and paradoxically, this different relationship can lead to change.

The extract below from ‘The Guest House’, a poem by Rumi (a medieval Sufi poet), illustrates how radical an approach is being advocated:

'This being human is a guest house
Every morning a new arrival
A joy, a depression, a meanness
Some momentary awareness comes
As an unexpected visitor.
Welcome and entertain them all!'
(Translation by Barks et al., 1995)

Acceptance and stuttering modification therapy

Based on our many years' experience of working with adults who stutter, the intention of this section is to demonstrate how acceptance, in the sense of letting be and opening up to experience, plays a vital role in the change process, and how we as therapists can facilitate this process. We use the stuttering modification therapy approach to illustrate the centrality of acceptance, but some of the ideas are generic in nature and can be usefully applied when using any type of approach.

For detailed descriptions of stuttering modification therapy, please refer to chapter 7 in this book as well as accounts offered by Manning and DiLollo (2017) and Ward (2018).

Meeting the client for the first time

An adult client presenting for therapy has already started their journey towards acceptance, although they might not recognise it as such. The fact they are seeking help indicates that they are, at the very least, at the stage of preparation or at the stage of action, as described in the Stages of Change model (Prochaska & DiClemente, 1983). They will have acknowledged their stuttering to be sufficiently important for them to ask for professional help. This acknowledgement is a vital first step towards acceptance.

The initial meeting between client and therapist is a golden opportunity for the therapist to provide a much-needed counter-narrative from what the client might have experienced before. A client-centred attitude (Rogers, 1961) and the warmth and empathy of the therapist (Van Riper, 1973) are key here. Throughout therapy, instead of judgement, she offers compassion and empathy; instead of hastily offering solutions, she makes time to listen and to understand; and instead of setting herself up as the expert, she recognises the client's strengths and their innate potential for change.

In this way, the therapist lays the foundations for a strong and trusting therapeutic alliance. It is our experience that, even early on in the relationship between client and therapist, the client is ready to express freely their thoughts and feelings about their stuttering, and to start to move from a position of denial and avoidance to one of openness and hope.

The use of language plays an important role here: whereas the client might describe his stuttering negatively (for example 'my stutter gets worse when I'm stressed'), the therapist can demonstrate a different and accepting way of looking at stuttering by consistently using non-judgemental language (for example 'so you stutter more when you're stressed'). The use of language in relation to stuttering will be discussed further in the section on the social model of disability and stuttering.

Clients' expectations

In our experience a client, new to therapy, might come with the expectation that their stuttering can be fixed or 'cured', through the help of the expert therapist. These expectations need to be discussed sensitively and carefully so that the client retains hope for change. At this early stage, the therapist encourages the client to view therapy as a journey, where curiosity, an openness of mind and a willingness to experiment will serve the client well. Use of the term acceptance is likely to be unhelpful at this early stage of therapy, as the client might well interpret this as meaning they need to resign themselves to the fact that they stutter, and that change is not possible.

Stuttering modification therapy

The section below draws upon stuttering modification therapy as practised at City Lit (Cheasman & Everard, 2013), strongly influenced by the work of Van Riper (1973) and Sheehan (1970).

The success of this type of therapy depends on the client's ability to approach both covert and overt aspects of their stuttering, to unpick avoidance strategies they might have developed over time, to develop a different attitude towards their stuttering, and to learn ways to stutter more easily.

First stage: identification

Identification can be seen as an integral step along the way towards acceptance, in the sense of opening up to, and being with, what is. The client learns to identify in detail their own particular pattern of stuttering in a curious and interested way, alongside their thoughts, feelings, and avoidance behaviours linked to stuttering. This detailed exploration encapsulates the radical point made earlier, namely that willingness to be fully present and open to our experiences enables us to make wise choices and to change. The therapist actively creates an atmosphere where stuttering is allowed, encouraged, and welcomed. Examples of stuttering are sought out and examined, instead of avoided and denied. In this way the client becomes more open to experiencing moments of stuttering, and develops both the facility to describe their own stuttering pattern and to be fully aware of the physical sensations of stuttering, for example through the use of tallying and freezing. Similarly, the client is encouraged to explore in depth their thoughts and feelings in relation to stuttering and their strategies for coping with it.

This is by no means an easy stage of therapy: often a client has spent many years avoiding moments of stuttering, and possibly not sharing with others the impact of their stuttering, or even denying to themselves their thoughts and feelings about it. Opening up and being willing to experience both the overt and covert aspects of stuttering takes courage, strength and time. Some of the tasks associated with identification can be confrontational and painful, such as the client watching a video of themselves in which they see and hear themselves stuttering. Building up gradually to this level of confrontation can be helpful, for example, by watching videos of other people stuttering and by having the support of the therapist when watching their own video.

Second stage – desensitisation

Once the client has become more knowledgeable about their own stuttering pattern and their cognitive and affective responses to it, they are likely to be more open to their own experience of stuttering and ready to move to the next stage of desensitisation. Cheasman and Everard (2013) described the long-term goals of desensitisation as becoming ‘more open and accepting of stammering and for negative emotions about stammering to reduce’ (page 137). It is important for the client to be willing to open up and experience the emotions related to stuttering, some of which will be painful and difficult. Interestingly, back in 2013 we referred to these emotions as negative with the underlying implication that they are unacceptable. We now use alternative less judgemental terms such as painful, difficult and unhelpful.

In this phase of therapy, changes in attitude are brought about predominantly through changes in behaviour: avoidance reduction, self-advertising and voluntary stuttering.

Avoidance reduction work is instrumental to the client moving towards a greater acceptance of stuttering, as it directly addresses the approach-avoidance conflict described in the introduction. Avoidance of stuttering occurs at different levels (Sheehan, 1970), and can be viewed as the opposite to acceptance. It can be seen as a natural aversive response when stuttering is viewed as unacceptable. In contrast, reducing avoidance behaviours, such as going for a specific word rather than changing it, or speaking up in a meeting rather than staying quiet, exemplifies opening up to the experience of stuttering. In this way, a client demonstrates that they are willing to show their stuttering rather than concealing it. By openly stuttering, the client prepares the way for speech modification: it is not possible to modify moments of stuttering if they are hidden by a myriad of sophisticated avoidance strategies.

Similarly, self-advertising (also known as self-disclosure) is an important tool in becoming more open about stuttering (Boyle & Gabel, 2020). The client discloses that they stutter in situations of their choosing, by saying something along the lines of ‘By the way, I stutter so it helps if you give me a bit more time.’ Although relatively simple, this type of direct and assertive statement can be extraordinarily powerful and encourage openness and honesty. It can also be useful later on in the therapy process, when the client is working on modifying moments of stuttering. They might choose to say something like ‘I’m working on my speech right now so I might sound a bit different’. By disclosing that they stutter, the client is giving themselves permission to stutter and for the listener to be prepared for some stuttering. However, sometimes the effect of self-advertising backfires, in that the client discovers that when they mention their stutter, their speech becomes easier. They then misguidedly use self-advertising as a means not to stutter. In this case, the client can be encouraged to use some voluntary stuttering, another powerful desensitisation tool as described below.

The purpose of voluntary stuttering is to deliberately stutter openly. It is based on the premise that when we set out to do the very thing we fear (in this case stuttering), the fear is likely to decrease dramatically. It is a powerful antidote to avoidance of stuttering, and demonstrates that, more often than not, the fears surrounding stuttering are unfounded.

By practising these different aspects of desensitisation work, the client will stutter more openly and is likely to develop a different attitude towards their stutter, so that they are ready for the modification stage of therapy.

Third stage: modification

The aim of modification is for the client to stutter more easily during individual moments of stuttering. To achieve this, the client needs to be aware of the moment of stuttering and allow it to be, rather than try to escape from it. All types of modification (pre-block, in-block and post-block) require the client to respond calmly to a moment of stuttering, rather than react against it, which often leads to struggle and tension. Bailey (2019) makes the crucial distinction between the underlying dysfluency (the impairment), and learnt struggle behaviours:

> 'For me, struggle is everything we do, often very inventive and sometimes extreme, to try not to stammer, essentially to avoid experiencing or showing the moment of dysfluency.' (p. 25)

Modification techniques, as well as avoidance reduction work during the desensitisation phase, enable a client to reduce their 'struggle behaviour' and to move more easily through a moment of stuttering. The manner in which modification is taught is important: the client is encouraged to allow moments of stuttering, rather than trying to control them. This is particularly relevant when teaching in-block modification, where the client learns to move forward and leave the stuttering moment in an easier way. Developing a more accepting, allowing, curious approach to stuttering facilitates work on modification.

Acceptance and interiorised stuttering

People with interiorised stuttering typically present with high levels of fluency, high levels of avoidance, and often very strong and painful emotions about stuttering. We have chosen to include a separate section about this group, as acceptance can be particularly challenging for them. They often connect strongly with Sheehan's concept of role-level avoidance (Sheehan, 1970). Most PWS can speak fluently some of the time and so have a 'fluent self' or role. They also stutter sometimes and have a 'stuttering self' or role. Role-level avoidance can be said to take place when the person would stutter but does not want to have this role, or does not want this aspect of self to be seen. They try to be the 'fluent them', when this is not actually the reality at that time. Many PWS try to do this, but a key difference for people with interiorised stuttering is that they can apparently 'play this game' successfully. Often they can get away with it and 'pass' as fluent. They do not stutter overtly and listeners do not identify them as PWS. This level of avoidance cuts right to the heart of identity and acceptance – there is a fundamental lack of acceptance of being, and allowing oneself to be seen as someone who stutters. All sorts of avoidance strategies from the other levels described by Sheehan are recruited in the service of concealing stuttering. All of this avoidance serves to maintain the fear of stuttering and feeds the stuttering dynamic. This analysis of the interiorised stuttering dilemma leads to 'coming out' as a PWS becoming a central part of the therapy process (Cheasman & Everard, 2013).

Identity issues are further complicated by the fact that people with interiorised stuttering do not fully identify with fluent speakers because they know that they stutter. They often also do not fully identify with other PWS, a dilemma vividly described by Tanya below. Acceptance is often facilitated by 'coming out' and also by starting to feel less alone and different. For this reason, we find that people benefit greatly from being in a group with others with interiorised stuttering. Groups can foster shared identity, which can lead to greater levels of acceptance.

At City Lit the therapy programme for people with interiorised stuttering is not radically different from programmes for people with more overt stuttering. However, there are a few key differences which are described elsewhere (Cheasman & Everard, 2013). For many people attending interiorised groups, stuttering is often a painful, sometimes shameful, secret. Self-advertising can be a key strategy on the road to greater openness and acceptance. A client writes: 'self-advertising has been key for me……it really got to my assumptions that people would be critical and has me accept myself more' (Cheasman & Everard, 2013).

Clients may start to let people in their lives know that they stutter and also that they are having therapy, because going to therapy can also be a secret activity for some. Again, there can be some particular challenges here for people with interiorised stuttering. For example, it might be that after many months of building up to letting someone know they stutter, the person they come out to responds in a non-accepting or invalidating way such as 'oh, no you don't really stutter' or 'yes, well everyone does that sometimes'. The more people can help educate others through describing particular aspects of interiorised stuttering, the more likely they are to understand. People often find that talking about the stuttering iceberg (Sheehan, 1970), and how their own iceberg has been almost completely submerged, can be helpful here.

Work on acceptance and reducing role-level avoidance can be liberating and challenging, as summed up by a client who wrote: 'the key learning is that stammering is a part of me and I need to not dislike that part of me so actively. When I was 14 a friend said to me, 'It's just a part of you' and I was very upset. I now see that I need to embrace that part more. This for me is also the biggest challenge.' (Cheasman & Everard, 2013).

Acceptance and Commitment Therapy and use of metaphors

A chapter on acceptance and stuttering would not be complete without reference to *Acceptance and Commitment Therapy* (ACT), a mindfulness-based approach which in recent years has much influenced our clinical practice with adults who stutter. Integration of ACT into stuttering therapy is described in chapter 12 of this book, and we have written in detail about ACT's clinical application (Cheasman & Everard, 2013; Everard & Cheasman, 2021).

Harris (2008) coined the phrase 'Embrace your demons and follow your heart' to summarise the overall aims of ACT which are:

- To help create a full, rich and meaningful life, whilst accepting the pain that inevitably goes with it.
- To teach skills that will allow more effective management of painful thoughts and feelings, thereby reducing their impact.

In this section the focus will be on ways in which acceptance of both overt and covert stuttering can be cultivated, using ACT metaphors within the context of stuttering modification therapy.

Dropping the struggle

Struggle is a well-known characteristic of stuttering, either in the sense of physical struggle during a moment of stuttering, or in the sense of struggling against painful thoughts and feelings associated with stuttering. This wanting to escape difficult experience is reactive and part of the human condition – we want to experience more of what we enjoy, and escape what we perceive as difficult. ACT brings this idea to life through the use of metaphors. In our clinical experience, two metaphors which particularly resonate with people who stutter are 'stuck in quicksand' (Harris, 2009) and 'dropping the rope' (Eifert & Forsyth, 2005).

Stuck in quicksand: the client is asked to picture themselves suddenly stuck in quicksand with no immediately obvious way to escape. Anyone's instinctive response in this situation would be to panic and try to extract themselves as quickly as possible, but the risk of this strategy is that the more we struggle, the deeper we sink. The counter-intuitive response is to stay calm and lie back, thereby spreading our body weight evenly so we are less at risk of sinking deeper. These markedly different ways of responding can be applied to how a client might respond to a moment of stuttering. They can either panic and try to escape from the moment through increased physical tension, or they can allow themselves to be 'with the moment' of stuttering and move through it in an easier way.

Dropping the rope: the client is asked to visualise themselves in a tug of war with a monster representing painful feelings such as self-doubt, anxiety, fear, or shame. The client is holding one end of the rope, the monster the other end. All of the client's energy and attention are caught up in the struggle. When asked what the alternative might be, a straightforward response would be to 'drop the rope'. This metaphor illustrates how easily we can focus all our energies on trying to get rid of difficult thoughts and feelings, leaving us little time to focus on what's important to us. By dropping the rope, we acknowledge that the thoughts and feelings are there, but we don't need to do battle with them.

Developing a different relationship with thoughts and feelings – Passengers on the bus

Closely linked to the idea of dropping the struggle is the metaphor 'Passengers on the bus'. This is used to illustrate how our thoughts, feelings and urges can sometimes hijack our behaviour, and reduce our ability to move towards what's important to us. In the metaphor, we are all drivers, in charge of our own particular bus of life. The passengers on our bus represent our thoughts, moods, feelings, and urges – some of which are helpful and some of which are not. The less helpful ones question the direction we are taking, urge us to stop the bus or take some other direction. The first step is to notice our passengers, next to name them, and then to change our relationship with them.

Ultimately, the aim is to allow passengers to be there, to be willing to have them on board, but without needing to engage with them. This concept of willingness is key in ACT and is another way of describing acceptance. Let us demonstrate this through an example. When working on avoidance reduction, a client might choose to speak up in a meeting in the service of their value: 'being an effective team manager'. If in the past they have always stayed quiet in this type of meeting, their values-based goal to speak up is likely to elicit anxiety and fear of how other might respond. Their passengers might suddenly become very vocal and include thoughts such as 'They'll think you're incompetent if you stutter', 'Much better to play it safe and stay quiet', 'You can always send an e-mail after the meeting to make a point', 'You know you're going to stutter on that word and make a fool of yourself'. The client can be prepared for their passengers clamouring for attention in this way and be willing to experience these thoughts and feelings, making space for them and allowing them to be. Developing mindfulness skills is a vital part of helping clients to manage their passengers more easily, and ways to do this are described by Everard and Cheasman (2021).

There are many other ways through which acceptance can be cultivated using an ACT approach, including special acceptance-based mindfulness practices and defusion strategies. The reader is encouraged to consult Harris (2019) for a highly accessible and comprehensive overview of the ACT approach.

The social model of disability in relation to acceptance

'How do I accept myself and the way I speak, if others don't accept me the way I am?'

This question is highly pertinent to the debate about acceptance, and raises a crucial issue: how can we as therapists encourage clients to make space for their stuttering and the way they feel and think about it, if society persists in believing that stuttering is an unacceptable way of speaking, and that people who stutter should learn to speak differently?

This non-accepting attitude stems from the medical model of disability; a model so deeply influential in the way that society views disability that we are not aware of its power over us. The medical model asserts that disability is something that is 'wrong' with a person's body or mind, and that the person needs to be 'treated' or 'cured' by an expert. When applied to stuttering, the medical model sees stuttering as something deviant and abnormal, whereas fluency is considered normal and desirable. From this comes the very clear and binary message that stuttering is bad and fluency is good, which leads to people who stutter avoiding stuttering and seeking therapy to become more fluent. As a result, responsibility for change lies within the person who stutters. The influence of the medical model cannot be underestimated, and it is important for us as therapists to recognise its power and its impact on how we deliver therapy.

In contrast, the social model of disability (Barton, 1996) makes the useful distinction between impairment and disability, and maintains that people are not disabled because they have an impaired body, mind or means of communication, but because contemporary society neglects their needs and rights, thereby placing barriers in their way. Applying these concepts to stuttering, the impairment is the physical stutter (repetitions, blocks, and prolongations) and the person who stutters is only disabled when faced with different types of barriers. Environmental barriers include automated call systems and open plan offices; structural barriers include telephone interviews and conference calls; and attitudinal barriers include lack of time and patience, prejudice, and discrimination. Regarding the latter, external attitudes can easily become internalised so that people who stutter quickly develop beliefs around what they can and cannot do. Campbell, Constantino and

Simpson (2019) provide a detailed explanation of the social model approach as applied to stuttering, sharing perspectives from therapists, disability activists and people who stutter.

For therapists working within the stuttering field, it is important for us to understand how our ways of working are influenced by prevalent models of disability, and to start to challenge previously unquestioned assumptions and beliefs. A thought-provoking account of therapy is given by Bailey (2019), who describes the oppressive therapy she received in the past, with its overwhelming message that she needed to stop stuttering. She also describes more nuanced therapy which helped her to reduce her struggle behaviour, whilst recognising her value as a person who stutters.

Focusing on the issue of acceptance, what can we as therapists learn from the social model? Taken at its most radical, proponents of the social model would argue strongly that it is not the person who stutters who needs to accept their stuttering. Instead, it is society who needs to accept difference by dismantling the barriers which disable people who stutter.

However, the clients we encounter might well be unaware of the different ways of looking at stuttering, and have not come across different models of disability, the concepts of stuttering pride and prejudice (Campbell, Constantino & Simpson, 2019), and what this means personally for them as people who stutter.

As a starting point, we can make it clear that we recognise stuttering as a difference rather than a problem, and convey our acceptance of stuttering through our use of language. Clear guidelines on non-judgemental language is the focus of the Stamma campaign, ‘It’s how we talk’ (2020) – a useful reference point for us as therapists, and for clients and their friends and family. The aim of the campaign was to work towards creating a culture of respect and acceptance, by challenging the language frequently used by the media in relation to stuttering and the assumptions around it. It is important to acknowledge the important, ongoing work Campbell (2020) has done in this area.

As therapists, we can also show real empathy for the difficult thoughts and feelings our clients experience in relation to stuttering, and understand how such attitudes are a result of societal stigma. This will also help us recognise how difficult it may be for clients to start to open up to moments of stuttering, when internalised attitudes are deeply ingrained.

We can talk explicitly about the social model of disability with our clients, and help them explore what it means for them personally. In the spirit of ‘nothing about us without us’, we can work together with our clients to educate others (parents, teachers, work colleagues, managers) about the true nature of stuttering, and how they can start to dismantle both physical and mental barriers.

We can also provide opportunities for people who stutter to come together and learn from one another, and/or signpost our clients to groups of people (real or virtual) who stutter. From our experience of working with such groups, we know that attitudinal change is easier when clients can share their own journeys towards opening up to the experience of stuttering with each other. Initiatives such as 'Stambassadors' and 'Stambition' (Actions for Stammering Children, 2020), which focus on the world of work, give our clients the opportunity to hear and learn from others who stutter.

From looking at the implications of the social model of disability for stuttering and acceptance, it is clear that societal stigma needs to decrease dramatically, and in its place, acceptance of stuttering encouraged to flourish. We as therapists have an important role to play here.

Conclusion

We are delighted to have been given this opportunity to write about acceptance and stuttering from a number of angles. In our view, acceptance is the cornerstone for change. We recognise that work in this area can be both challenging and liberating, and hope that our ideas will support other SLTs working with people who stutter. To finish, we would like to share thoughts from two of our former clients, who we asked to write about issues relating to acceptance. Tanya first writes from the perspective of someone with interiorised stuttering. Second, Katy, focuses on the impact that the social model of disability has had on her.

Tanya

Discovering that my type of stammer has a name was a crucial first step on my road to acceptance – but it didn't happen until I was 30, when I heard about 'interiorised' stammering. Until then, I had no idea what to accept myself 'as' – as I did not consider myself to be a 'proper' stammerer (as I am often very fluent), but nor was I fluent (as I have moments of stammering, and periods of several weeks or months when my speech is less fluent). After several decades of practising avoidance (for example, word-switching), I was finding it difficult to stammer openly, as avoidance had become second nature. I found it was difficult to accept something that I was so committed to hiding, and it has taken a lot of work to start to dismantle all that. Since starting therapy at City Lit, I have become more accepting that I am a person whose speech sometimes includes stammering, and also moments of avoidance (such as word switching, changes to my breathing to force out words, and non-speech, when I think I might stammer). Slowly, I began to 'out' myself to family and friends, which was extremely personal and painful for me. However, I still find it difficult to stammer openly in front of people. Now, I don't mind people knowing that I stammer – but I still don't want them to actually see or hear me stammer! That is the final step of acceptance for me – and one that I am still working on.

Meeting others with a similar relationship with their speech was hugely significant and emotional for me. When I enrolled on my first course of group therapy as an adult, I didn't tell anyone. The initial session meant meeting a room full of strangers who knew more about some of my inner thoughts than any of my closest family and friends, including my deepest and most personal feelings of shame and fear. Some even used the same tricks for avoiding stammering that I did. I was particularly struck by how many of us were around the same age – between around 25 and 40. It seemed that we had all reached a point in our lives where we didn't want to continue as we were. Hiding our stammers or carrying around such negative feelings about our speech is a heavy burden.

I had some speech therapy as a child (between 5 and 7), when my stammer was more overt. The main message I picked up from that was that stammering was bad and must be fixed, and fluency was good. I noticed that the adults in my life looked worried when I stammered, and happy when I didn't. I'm not sure what happened next, but I think I then hit a more fluent period, and so it was assumed that I was cured. Then, when the stammer returned, I worked out how to hide it. I now feel that the childhood therapy I had did more harm than good. I wish I had been taught to accept that I sometimes stammered a bit, and that was okay – and given techniques to move through moments of stammering more easily, if I wanted to. I wish I had spent 30 years practising that, rather than practising avoiding stammering! If I had felt it was okay to stammer more openly, I think I would have grown to accept it much earlier in my life.

One course I did focussed on social model thinking and one question that came up when looking at the social model in a class was: 'How would your life be different if everyone stammered?' I nearly cried when I tried to answer it. The answer is that I would feel so much lighter, and would save myself so much heartache. I wouldn't have spent the last 40 years fearing situations where I really don't want to stammer, or trying to avoid words that might trip me up. That's when I realised how much of the pain I have been carrying comes not from my stammer itself, but from my perception of other people's perception of my stammer. It has been helpful to unpack some of this in speech therapy – and it was a revelation to discover that most people aren't thinking what I think they're thinking when I stammer. Most people are kind – and at worst, embarrassed or impatient. I realised many of my beliefs (for example that my stammer makes me 'weird') are frozen in time – they are thoughts that a child might express. I am not a child anymore, so it is time to face the world as an adult – an adult who sometimes stammers a bit. But, as I say, it's a work in progress.

Katy

Acceptance is the big thing in stammering. It is the active verb in every moment of stammering, we are always either allowing our stammering or not. Acceptance is also a misunderstood and often fumbled concept, in society and in speech therapy.

When my stammering was a huge problem for me it was full of fight. I thought stammering was bad and ugly and something not to do so I fought against it. I shared the negative attitudes about stammering which were communicated to me both subtly and blatantly: in my mum's concerned looks when I spoke, in the absence of stammering voices in the media, and in the ridicule I experienced at school. My stammering was mostly struggle; I was at war.

I am now at peace with my stammering. This came through recognising the struggle as separate and different from my underlying stammering. The struggle fuelled by my negative attitudes was just another manifestation of discrimination against stammering; as much part of the disablement process as being laughed at in the street or turned down for a job. Because this form of disablement is made up of our own actions, it can be difficult to see it as part of a social process. My recognition of my own experience in the Social Model was life changing. With the help of brilliant speech therapy, I was able to recognise and then choose to let go of this struggle; to dare to experience my stammering without struggle. It was scary to truly feel and accept the vulnerability of my natural speech, but I learnt that I could do scary things and learnt a lot else along the way. I have been helped by ideas from secular mindfulness and Buddhism on becoming a bigger container for painful experiences, and how this supports letting go of struggle.

Accepting my own stammering was linked to deciding that stammering needs to be deemed acceptable by others. My most difficult experiences were in speech therapy, where professional discourse and behaviour about the acceptability of stammering was confused and sometimes oppressive. It is comparatively recently that speech therapists have started talking about acceptance; the profession's history is problematic, coming into being following the definition of stammering as bad, and bearing the original remit to eliminate stammering. I have met therapists who were clearly on a mission to eradicate stammering, and those meetings were damaging to me. I now mostly meet therapists who talk a lot about acceptance of stammering, and I believe some of them.

Acceptance may be the big answer in stammering but should not be presented as a simplistic one; we should not be asked to 'just accept it'. Stammering that is full of struggle is not acceptable; no-one should be asked to accept that any more than accept being taunted in the street. My struggle left me gasping for breath and damaged my teeth; it was me hurting myself and was fuelled by my negative attitudes about stammering. Internalised oppression is still oppression, and condoning oppression should never be the task of any therapist.

The stammering underneath the struggle is the acceptable bit, and we can demand that it is accepted by society. The underlying stammering might be plentiful, with dysfluency on every word. This is acceptable, and can be accepted and made room for by the stammerer and the listener. Stammering without struggle feels great, and I assert that it sounds beautiful in its own way. It has the qualities most people want in speech; spontaneity, freedom and being able to say what we want to say. Therapy can really help with this, but therapy which aims to eliminate underlying stammering is incongruent with accepting stammering, and is damaging to stammerers.

For me, acceptance has included accepting times of speech failure. Having a speech 'problem' makes it easy to imagine that non-stammering speech would always be eloquent, persuasive, and effective. It is helpful to realise that speaking, with or without stammering, is often ineffective, but it has also been important to accept those times when I have failed in my communication due to extreme struggle in that moment, and to accept that this suffering requires self-compassion.

I see acceptance as making room for stammering, giving myself space and time for my words to come out in the way they do, and learning from my relationship with my stammering – my ugly beautiful companion.

Multiple choice questions

1. A recommended alternative term for acceptance is:
   a) Resignation
   b) Making space for
   c) Tolerance
   d) Agreement and approval

2. The social model of disability, when applied to stuttering, supports one of the following statements:
    a) People who stutter need expert guidance from speech and language therapists to learn to control their stuttering
    b) Stuttering is an abnormal speech disorder, and the person who stutters needs to change the way they speak
    c) People who stutter are disabled because of the barriers society has created: society needs to become aware of, and dismantle, those barriers
    d) People who stutter must accept their stuttering, and then society will find it easier to accept stuttering.
3. If a client says ‘my stutter was bad today’, the therapist could respond in an accepting, non-judgemental way by saying one of the following:
    a) All people who stutter have good and bad days
    b) It sounds like you noticed you were stuttering more today
    c) Have you been using some of the speech techniques you’ve learnt?
    d) Poor you, that must have been really hard.
4. For people with interiorised stuttering, work on acceptance can be facilitated by one of the following:
    a) Learning a fluency technique
    b) Taking medication
    c) Being told that they have mild stuttering
    d) Learning ways to be more open about stuttering

Suggested Reading

Brach, T. (2003). Radical Acceptance: Awakening the love that heals fear and shame within us. Bantam Press.

Campbell, P., Constantino, C., and Simpson, S. (2019). *Stammering Pride and Prejudice: Difference not Defect*. J & R Press.

Cheasman, C., Everard, R. and Simpson, S. (2013). *Stammering Therapy from the Inside: New Perspectives on Working with Young People and Adults* (pp. 125–160). J & R Press.

Harris, R. (2019). *ACT Made Simple* (second edition). Oakland, CA: New Harbinger Publications.

Sheehan, J. (1970). *Stuttering Research and Therapy*. Harper & Row.

Van Riper, C. (1973). The Treatment of Stuttering. Prentice Hall.

References

Action for Stammering Children (2020). Stambassadors. https://actionforstammeringchildren.org/get-involved/stambassadors/

Action for Stammering Children (2020). Stambition. https://actionforstammeringchildren.org/stambition/

Bailey, K. (2019). Scary canary: Difference, vulnerability and letting go of struggle. In *Stammering Pride and Prejudice: Difference not Defect* (eds. Campbell, Constantino & Simpson). J & R Press (pp 23–34).

Barks, C., Moyne, J., Arberry, A.J., & Nicholson, R. (Translators) (1995). *The Essential Rumi*. Harper.

Barton, L. (1996). *Sociology and disability: Emerging issues and insights*. Routledge.

Boyle, M.P., & Gabel, R. (2020). Toward a better understanding of the process of disclosure events among people who stutter. *Journal of Fluency Disorders* 63

Campbell, P. (2020). Let's find new words. https://stamma.org/your-voice/lets-find-new-words.

Campbell, P., Constantino, C., and Simpson, S. (2019). Stammering Pride and Prejudice: Difference not Defect. J & R Press.

Cheasman, C. (2013). A mindful approach to stammering. In: C. Cheasman, R. Everard and S. Simpson (eds), *Stammering Therapy from the Inside: New Perspectives on Working with Young People and Adults* (pp. 227–266). J & R Press.

Cheasman, C. and Everard, R. (2013). Interiorized (covert) stammering – The therapy journey. In: C. Cheasman, R. Everard and S. Simpson (eds), *Stammering Therapy from the Inside: New Perspectives on Working with Young People and Adults* (pp. 125–160). J & R Press.

Cheasman & Everard (2013). Embrace your demons and follow your heart: An Acceptance and Commitment Therapy approach to work with people who stammer. In: C. Cheasman, R. Everard and S. Simpson (eds), *Stammering Therapy from the Inside: New Perspectives on Working with Young People and Adults* (pp. 267–302). J & R Press.

Eifert, G.H., & Forsyth, J.P. (2005). *Acceptance and Commitment Therapy for anxiety disorders: A practitioner's treatment guide to using mindfulness, acceptance, and values-based behavior change strategies*. New Harbinger Publications.

Everard & Cheasman (2021). Integrating Acceptance and Commitment Therapy into stammering therapy. In *Stammering resources for adults and teenagers* (ed T. Stewart) (pp 161–184). Routledge

Harris, R. (2008). *The Happiness Trap*. Constable and Robinson.

Harris, R. (2009). *ACT Made Simple*. New Harbinger Publications.

Harris, R. (2019). *ACT Made Simple* (second edition). New Harbinger Publications.

Manning, W.H and DiLollo, A. (2017). *Clinical Decision Making in Fluency Disorders* (fourth edition). Plural Publishing Inc.

Plexico, L., Manning, W.H., & DiLollo, A. (2005). A phenomenological understanding of successful stuttering management. *Journal of Fluency Disorders*, *30*, *1–22*

Plexico, L., Manning, W.H., & Levitt, H. (2009). Coping responses by adults who stutter: part 2. Approaching the problem and achieving agency. *Journal of Fluency Disorders*, *34*, *108–126*.

Prochaska, J.O., & DiClemente, C.C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, *51*(3), 390–395.

Rogers C. (1961). *On Becoming a person: A therapist's view of psychotherapy*, Constable.

Rosenberg, L. (1998). *Breath by breath*. Shambhala.

Segal, Z.V., Williams, J.M.G. & Teasdale, J.D. (2002). *Mindfulness-based cognitive therapy for depression*. Guilford Press.

Sheehan, J. (1970). *Stuttering Research and Therapy*. Harper & Row.

Stamma campaign, It's how we talk (2020): https://stamma.org/news-features/its-how-we-talk.

Van Riper, C. (1973). The Treatment of Stuttering. Englewood Cliffs.

Ward, D. (2018). *Stuttering and Cluttering: Frameworks for Understanding and Treatment* (second edition). Psychology Press.

Yaruss, J.S., (2012). What does it mean to say that a person 'accepts' stuttering? In *Stuttering: Inspiring stories & professional wisdom* (P. Reitzes & D. Reitzes eds.) StutterTalk Publication No 1

Chapter 5

Martine Vanryckeghem

Assessment of stuttering-related Affective, Behavioral and Cognitive components leading the way to differential diagnosis and treatment objectives

Diagnosis

The Greek meaning of “diagnosis” (diagnostikos: dia=between; gno=to know) refers to a *scientific discrimination*, *distinguishing between* or *discerning* different prospects, discovering the nature (and possibly cause) of a disease, a condition, a problem, or a phenomenon, and to identify it through its signs and symptoms. Diagnosis follows an evaluation, an assessment that should be thorough, evidence-based and broad, although specific enough to cover all bases that may play a role in the problem at hand. The aim is for the assessment to lead to a correct diagnosis and decision, and to reduce as much as possible false positive (type I error; false alarm) or false negative (type II error; miss) outcomes. In the case of stuttering, these errors would respectively entail diagnosing someone as a person who stutters (PWS) when they are actually a person who does not stutter (PWNS), and diagnosing someone as a PWNS when, in reality, they are a PWS. Decreasing type I and II diagnostic errors should, by definition, decrease clinical mismanagement (Vanryckeghem, 2018).

Assessment and subsequent treatment should follow the guidelines stipulated by the World Health Organization’s (WHO) *International Classification of Functioning, Disability and Health* (ICF) (WHO, 2001) describing the significance of disorders. Aside from ‘body function and structure’, the framework incorporates the components ‘activities and participation’ and ‘environmental and personal factors’. Specifically in fluency disorders, *body function and structure* directly relate to differences in brain anatomy and functioning, neuro-motor control, and the interruption of the forward flow of speech. The latter is measured through observable types of disfluencies, the frequency with which they occur, and the presence of tension or effort, etc. In addition, it includes the observation of behaviors of avoidance or escape, behaviors that are secondary to the stuttering and which are being employed in anticipation of, or during, stuttering. *Activities and participation* relate to how a person's speech ability might limit or seriously affect their daily communication. This encompasses inter-personal interactions in educational and professional settings, in their personal life, and in all possible situations that involve speaking and might impact an individual's quality of life. *Environmental and personal factors* comprise both the perspective of the speaker as well as the listener. How do speakers perceive and react to their fluency disorder? What do they think about their way of communicating? What is their communication attitude and self-esteem? What sounds, words and/or situations are seen as difficult and are feared? What is their level of frustration, shame and guilt? How do they perceive their communication partner and the environment? Have there been instances of teasing, bullying or joking? Has support been sought for stuttering e.g. in terms of attending support groups? Is encouragement present in the immediate environment? These ICF components need to be investigated during the assessment of individuals with fluency disorders through multi-modal observation augmented by self-report.

Multi-dimensional disorder

The ICF framework and the multi-dimensional components surrounding stuttering go hand in hand. It is abundantly clear that stuttering is more than a "speech impediment". Sheehan's (1970) iceberg analogy is known by most practitioners and provides a very insightful image of the limitations of describing what occurs in the PWS only in terms of observable disfluencies. Clearly, the observable behaviors are just the "tip of the iceberg". The PWS encompasses so much more – elements that are not overt but very much present nevertheless – and components that are "below the surface" comprising the covert affective, behavioral and cognitive dimensions. The totality of the overt behaviors and covert reactions to stuttering is what makes up the "*person*" who stutters. In other words, the stutter*er* is defined by more than just stutter*ing*. The stuttering and its correlates are known to have an enormous impact on personal, social, academic, and professional aspects (amongst others) of a person's quality of life.

The different dimensions that are characteristic of the PWS are assessed by means of evidence-based test procedures, which lead to a solid differential diagnosis in terms of the presence of a fluency disorder that is characteristic of stuttering. The diagnosis may, however, point to fluency disorders of a different nature, such as cluttering, or neurogenic or psychogenic disfluency. In addition, the test procedures should ideally point to individualized strategies and tactics of therapy. One can question what value a severity determination has as the main outcome of an assessment. What does the statement that a "client is a moderately-severe PWS" indicate, how does one use this information and what does it lead to in terms of management? Apart from pointing to baseline data against which to compare treatment outcomes, a severity determination, in and of itself, does not provide target-specific treatment information. Instead, an assessment incorporating the **A**ffective, **B**ehavioral and **C**ognitive components (ABCs) present within the PWS which identifies the problems in each of these domains, serves as a road map for treatment, and seems to be a more effective way to assess, and subsequently treat, a PWS.

Observation and Self-report

During a fluency evaluation of a PWS, the ABCs should be explored. These include the affective reactions to sounds/words and speech situations, the behavioral components of stuttering and other disfluencies, the coping behaviors, as well as the cognitive reactions such as speech-related belief and attitude. To investigate these, both clinician observations and client self-report come into play. The reliability of a disfluency count has been repeatedly questioned (Cordes & Ingham, 1999; Ingham & Cordes, 1992) in terms of intra- and inter-rater reliability, which brings into question the validity of the measurement used. Although not universal, there is the issue of the unclear operational definition of stuttering and other disfluencies – some undefined and molar, others more molecular – making the comparison and interpretation of data questionable. Also, the count procedures differ: in some instances the percentage of words stuttered is calculated; in others a syllable unit is used. Thus, the basic premise of any assessment should be that it employs well-operationalized definitions and data-bound measurement procedures to reach solid evidence-based differential diagnostic decisions, to reduce type I and II errors as much as possible.

Self-reporting

When assessing the experiential nature of the covert components faced by a PWS as it relates to their stuttering, many scholars, researchers and clinicians agree that the use of self-report is essential (Guntupalli et al., 2006). These intrinsic features of the problem faced by a PWS should not go unattended. Covert affective, behavioral and cognitive variables can serve to more fully characterize the *person* who stutters. The clinician needs to seek ways to augment and complement the clinical observations of the type and frequency of dysfluency, to include and explore the intrinsic features of stuttering that are experiential in nature rather than directly observable. This broadening of the meaningfulness of elements that characterize the PWS and impact their quality of life includes personal reactions that are not directly observable, but give a "*view from within*"; an "*inside view*".

Self-report data can be gathered in formal and informal ways. Formal assessment might include standardized, norm-referenced, data-bound, psychometrically sound tests investigating the reactive aspects and impact of stuttering. Informal ways to assess the covert aspects related to stuttering might include client interviews, writings or drawings provided by the client, among others.

Case history

A thorough assessment starts with obtaining a fluency-specific case history from the client or their parents. This document forms the basis for the next steps in the client's assessment because it provides valuable information that will be necessary to fully understand the path that the client has already traversed in terms of the speech disorder at hand. It will make background information available and help guide assessment as well as treatment.

General information typically requested in case history forms regards general health, medical history, pre-, peri- and post-natal information, developmental milestones, educational background, occupation, languages spoken, medical history, stress level, psychologically or neurologically-related events, etc. Aside from this, it is important to inquire about past and present fluency-related issues and previous treatments of any kind. When the client has had speech therapy, its type, length, and effect needs to be explored, as well as the extent to which the client knew the targets and purpose of the treatment procedures utilized, and whether or not these were successful in modifying their stuttering. Some questions refer to a family incidence of persistent stuttering or recovery, the age at onset of stuttering, and whether any special circumstance surrounded the onset. For children specifically, it is important to know if the stutter is episodic or chronic in nature. The parents are also specifically asked what, in their opinion, caused the stutter. This is probed because, even nowadays, parents might imagine that some of their actions caused the stutter, e.g. getting divorced, moving to a different location, etc. This will become crucial information when counseling parents.

One section of the case history form deals directly with a statement of the problem: a description of variables surrounding the disfluency. The client or the parents are questioned about what they think the characteristics of the speech are: a predominant presence of repetitions or prolongations, the locus of the stutters, the speech rate and rhythm, the presence of tension and its locus, and breathing issues.

Information is gathered relating to anxiety when entering a particular situation or saying a certain sound; how the person perceives the reactions of others; if stuttering has impacted their social, educational, or professional life; and their level of concern and frustration. The presence of anticipation is questioned, as is the use of avoidance and escape behaviors, and whether they have helped. For adults, it is important to gauge their opinion as to what percentage of their speech is disrupted during conversation. This is very useful information in terms of how the client perceives their stuttering and its handicapping condition, and the level of impact it has on daily life. This knowledge is valuable in treatment during "reality training". For adults as well as for the parents of children, the case history form ends with a question about what is hoped to be accomplished if therapy is warranted.

The case history information is the basic and foundational component of each assessment. The more facts the client provides, the better will the clinician be able to tailor the treatment to their individual needs. The case history guides the client interview, where the clinician dives more deeply into the information that the client has provided. This background information, together with other self-report data, clinician observations and client interview help put together the totality of the assessment jigsaw.

Self-report: Formal Assessments

Formal assessments, using standardized test procedures and scoring patterns are data-driven and evidence-based, and support the conclusions drawn from the test results. Before use, their psychometric value should be evaluated in terms of reliability and validity. Scores expressed in means and standard deviations, percentiles, stanines, or standard scores are typically provided.

These standardized measures allow comparison of a client's self-report score with that of a statistically selected group of test-takers. These statistics support the conclusion that is drawn for the individual client based on the norming group data. Some of the standardized self-report measures used in the field of fluency disorders are 'state' tests; others are 'trait' tests (Spielberger, 1989). The former measure explores a temporary event in a particular situation experienced for a short period of time; the latter relates to a general, more permanent trait, that is not situation dependent.

Self-report: General Emotional Reaction

A PWS might suffer from generalized anxiety and/or social anxiety. Studies have repeatedly pointed to the presence of social anxiety disorder among individuals who stutter, with varying degrees of prevalence: 21%–69% (Blumgart et al., 2010; Iverach, O'Brian, et al., 2009; Kraaimaat et al., 2002; Menzies et al., 2008; Stein et al., 1996). Given this information, it seems a sine qua non to include evaluation of generalized anxiety and social anxiety disorder, to screen for significant trait and state anxiety which is unrelated to speech. In the event that the anxiety self-report test and/or physiological measures, supported by interview-gauged information, reveal a significant amount of general or social anxiety, a referral for a full psychological evaluation seems warranted, given that addressing the anxiety non-specific to speech might be out of the realm of the speech-language pathologist's knowledge and skills, and need more specialized attention.

Self-report of the Speech-specific ABC Dimensions

There is general agreement that the Affective, Behavioral and Cognitive (ABC) components of stuttering are highly linked to, and intertwined with, each other. The most systematic way to evaluate these dimensions is by using standardized self-report scales that bring data-bound attention to the reactive variables that surround stuttering. Self-report tests differ in the way they investigate and score the ABC dimensions surrounding a PWS. Some test procedures' score and/or sub-scale scores cut across a mixture of various reactive and behavioral elements, whereas other tests separately explore the reactions that are part of the stuttering disorder, and their impact on a PWS. The ABC tripartite model clearly differentiates the affective, behavioral and cognitive (attitudinal) dimensions and uses different means for assessing each of them. Self-report scales that follow this model aim to singly measure each of the ABC components, and their items specifically explore those variables, whereas other tools might simultaneously assess cognition, affect, speech disruption and/or the use of coping behaviors.

Behavior Assessment Battery (BAB)

The *Behavior Assessment Battery* (BAB) sub-scales presented below (Brutten & Vanryckeghem, 2003a,b, 2007; Vanryckeghem & Brutten, 2018, 2020a, 2021) each separately investigate the multi-dimensional facets of the PWS in an unconfounded way. This does not mean that each component stands on its own, but rather that the dimensions cut across and interact with each other, as presented in the Venn-diagram (Figure 1). The BAB's underlying premises are that the definition of the test dimensions must be specifiable, operational, reliable and valid. The information obtained through the tests' dimensions should assist in reducing Type I and II diagnostic errors.

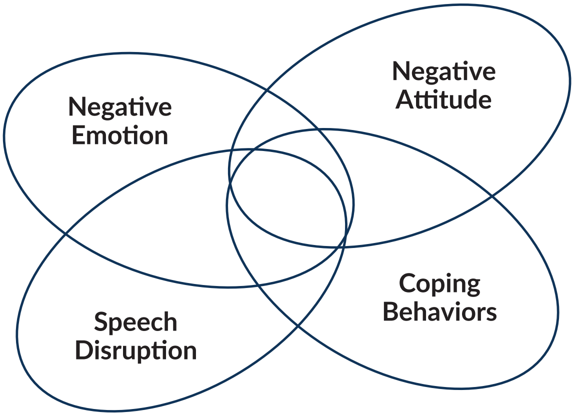


Figure 1: *Behavior Assessment Battery*'s Affective (Negative Emotion), Behavioral (Speech Disruption and Coping Behaviors) and Cognitive (Negative Attitude) components

Each of the BAB self-report sub-tests investigates one of the ABC's related to stuttering and provides a score that is uniquely linked to each of these constituents. The test battery fits within the ICF framework and has been empirically researched cross-culturally in over 30 countries. It provides a multi-dimensional evidence-based approach to differential diagnostic decision-making. The affective component is investigated by means of the 'Speech Situation Checklist – Emotional Reaction' while stuttering behavior is assessed with the 'Speech Situation Checklist – Speech Disruption'. The use of avoidance and escape behaviors is inventoried in the Behavior Checklist, and the cognitive dimension is gauged with the *Communication Attitude Test*. Two standard deviations above the mean of typical speakers (PWNS) is taken as the cut-off point for determining if a score is atypical and clinically significant. The test manuals and the peer-reviewed publications describe the tests' solid psychometric properties (Jones et al., 2021; Brutten & Vanryckeghem, 2003a,b, 2007; Vanryckeghem & Brutten, 2007, 2015a,b, 2017, 2018, 2020a,b,c,d,e, 2021; Vanryckeghem et al., 2005; Vanryckeghem & Mukati, 2006; Węsierska et al., 2020; Węsierska et al., 2018).

BAB Affective component: Speech Situation Checklist – Emotional Reaction (SSC-ER)

SSC-ER assesses speech-specific negative emotional reactions (concern, worry, fear or anxiety) to interpersonal speech settings (e.g. talking to someone you don't know or trying to make a good impression) and/or to situations that require the use of certain words (e.g. giving your name, reading a fixed passage aloud, or saying a sound or word that has previously proved troublesome). The self-report test describes 38 (for adults) or 36 (for children) speech situations that need to be rated by the individual (on a 5-point Likert scale) for the level of anxiety that a particular situation evokes. The client's ratings are summed and compared with the normative data (Chowkalli Veerabhadrappa et al., 2021; Vanryckeghem et al., 2017). Aside from the total score information, the item ratings give immediate direction to therapy, and specific attention can be given to situations that have been identified as anxiety-provoking (having scored 5, 4 or 3). These situations which are causing a high level of worry and anxiety will be targeted in treatment through e.g. desensitization procedures.

BAB Behavioral component: Speech Situation Checklist – Speech Disruption (SSC-SD)

In the SSC-SD component – which is administered independently of SSC-ER – the client rates the extent of speech disruption (stuttering) in the very same speech situations found in the SSC-ER section, again on a 5-point Likert scale. Scoring and interpretation of the data also follow the same principles as in SSC-ER. Factor analysis again points to word-specific items, such as giving your name and naming in general, and situation-specific items like telephone-related events, formal speech situations, or talking to a supervisor or boss, etc. SSC-ER and SSC-SD are scored separately, and their data are compared in terms of whether the total scores correlate, as is typically the case with PWS, or are widely disparate as might be seen among neurogenic or psychogenic dysfluent individuals. The specific test items are also compared in terms of their score similarity (more or less anxious – more or less stuttering on the 5-point Likert scale) and scrutinized in the light of whether the situations have something in common.

BAB Behavioral component: Behavior Checklist (BCL)

The BCL gathers information about a client's speech-associated coping behaviors that are secondary to stuttering. The test itemizes 30 (for children) or 60 (for adults) behaviors associated with, or exhibited during, the act of speaking, that are used to avoid or escape negatively charged speech situations and/or words. These behaviors include the movement of body parts, aberrant breathing and voicing, changes to the rate and way of speaking, the use of word substitutions and interjections, etc. Children indicate, by means of "Yes" or "No", whether they use each particular behavior to cope with their stuttering, while adults also indicate the frequency with which a particular behavior is used (also on a 5-point Likert rating scale).

The number and type of coping behaviors that a client employs as a means of aiding speech are inventoried. Aside from a total score, which can be compared to that of PWNS in light of whether or not it is significant, attention is turned to the BCL items because they detail the types of avoidance and escape behaviors being used concomitant with stuttering (Vanryckeghem et al., 2004). Whether coping responses are employed predominantly as adjustments to particular sounds/words or to speech situations can be determined. In treatment, those coping behaviors that stand in the way of speech improvement can be dealt with through target awareness and omission. After a person is made aware, in a stepwise fashion, of a particular coping behavior being used, its reduction can subsequently be pursued.

BAB Cognitive component: Communication Attitude Test (BigCAT, CAT, KiddyCAT)

Speech-associated attitude is a fundamental component of the speech disruption, negative emotion, and coping behaviors that characterize PWS. Automatic thoughts, imaginings, and self-verbalizations can be rational (real) or irrational, and be intra- and inter-personal. When cognitions become irrational, they can have various deleterious effects: influencing speech, strengthening the stuttering behavior, serving a mediating and controlling function, and prohibiting the PWS from dealing with problems in a constructive manner. When certain cognitions stabilize to form a more permanent totality of negative thoughts and anticipations, a negative communication attitude is established (Vanryckeghem, 2019). Speech-associated attitudes affect the way a person thinks about their speech and communication, their self-perception as a person, and their view of the communication partner who they might perceive as perfectly fluent, and perhaps critical or pitying. It has been shown that in general, a PWS thinks negatively about their own speech, perceives speaking as difficult, unpleasant, and challenging, and envisages themself as being inherently unable to produce fluent speech. This negative self-image as a PWS first and foremost, has far reaching consequences, and inter- and intra-personal reactions – often irrational – may start to dominate the thinking of the PWS. They might perceive their stuttering as the cause of academic failure, the basis for a lack of friends or an intimate relationship, or the reason for not advancing in their profession.

The Communication Attitude Test for Adults who Stutter (BigCAT)

The BigCAT is a purely cognition-based measure of communication attitude, whose items specifically explore speech-associated belief. The client reflects on 34 statements and indicates (true or false) whether each item represents what they presently think about their speech. A positive attitude receives a zero score, a negative thought is scored as 1. The higher the BigCAT score, the more it indicates negative speech-related thinking. In a very powerful way, with minimal overlap, the BigCAT differentiates the way PWS think about their speech from that of PWNS (Chowkalli Veerabhadrappa et al., 2021; Jansson-Verkasalo et al., 2021; Valinejad et al., 2018; Vanryckeghem & Brutten, 2011, 2012; Vanryckeghem & Muir, 2016). Aside from the total score, the clinician will pay attention to the answers to specific test items and separate out the attitudes to speech that are negative from those that are not. Negative speech-associated beliefs tend to impede improvement and require a cognitive-behavior change. Positive speech-related beliefs can be used as building blocks for the development of an attitude that helps produce, support, and maintain improvement.

The Communication Attitude Test for School-age Children who Stutter (CAT)

The CAT is the cognitive component of the BAB for children who stutter (CWS) and can be used with youngsters between the age of six and 16. Similar to the BigCAT, the CAT contains 27 true/false items which reflect directly on speech-related attitude. Group comparisons repeatedly reveal between-group differences (CWS versus CWNS) that are statistically significant from the age of six, which is a confirmation that CWS generally view their speech as significantly more negative than CWNS do (Bernardini et al., 2009; Chowkalli Veerabhadrappa et al., 2020; Gačnik & Vanryckeghem, 2014; Kawai et al., 2012; Vanryckeghem, 1995; Vanryckeghem & Brutten, 1992, 1996, 2020d; Vanryckeghem et al., 2001). Similarly to the BigCAT, the CAT's items will be used in cognitive-behavior therapy to address mal-attitude.

The Communication Attitude Test for Preschool and Kindergarten Children who Stutter (KiddyCAT)

The KiddyCAT is an easy to administer self-report test for children between the age of three and six, which explores speech-related attitudes that occur closer in time to the onset of stuttering. The client is asked to respond 'yes' or 'no' to 12 simple, verbally-presented questions. The test's play-based administration makes it possible for these young children to answer the questions, and to determine if a child's speech-associated attitude is typical of a CWNS, or atypical and more like that of a CWS. Given that a negative speech-associated attitude increases with age (Vanryckeghem & Brutten, 1997), it is important to gauge the presence of mal-attitude as close in time as possible to the onset of stuttering.

Cross-cultural investigations have pointed out that, as a group, CWS as young as age three report thinking negatively about their speech (Aydin Oral et al., 2022; Jansson-Verkasalo et al., 2021; Neumann et al., 2019; Novšak Brce & Vanryckeghem, 2017; Novšak Brce et al., 2015; Schafiei et al., 2016; Vanryckeghem & Brutten, 2007; Vanryckeghem et al., 2015; Węsierska & Vanryckeghem, 2015; Węsierska et al., 2014).

Other formal assessment protocols

Other self-report tests that investigate the ABC components related to stuttering do so either by means of separate tests or as a compound. Some tests are not multi-modal and investigate only one of these variables. Below is an excerpt of some of these self-report inventories.

Multi-dimensional tests

The ***Wright and Ayre Stuttering Self Rating Scale*** (***WASSP***; Wright & Ayre, 2000) is an assessment tool that records an adolescent's or adult's self-perceived severity of stuttering pre- and post-treatment. Its five subscales include 1) behavioral components, encompassing frequency of stuttering, physical struggle, duration, rate, etc.; 2) negative thoughts before, during and after speaking; 3) feelings related to stuttering, such as frustration, embarrassment, fear etc.; 4) avoidance of words or situations; 5) discussion of stuttering and the level of handicap at home, at work, and educationally. The scale does not have normative data, and limited validity information, but has good internal reliability and test-retest reliability. Most data stem from treatment studies.

The ***Overall Assessment of the Speaker's Experience of Stuttering (OASES)*** (Yaruss & Quesal, 2006, 2016) consists of tests for three different age groups: OASES-S for school-age children (ages 7–12), OASES-T for teens (ages 13–17) and OASES-A for adults. The tests have four sections including 1) general information (about speech, stuttering, and related topics); 2) reactions to stuttering (feelings, behavior and attitude, combined); 3) communication in daily situations (general, home, school, social, work etc.); 4) quality of life (how stuttering impacts daily life). The test is based on an adaptation of the WHO's *International Classification of Functioning, Disability, and Health* (2001), and is validated internationally through empirical research. It has solid psychometric properties and provides a numerical and descriptive severity impact rating.

Affective

The ***Fear of Negative Evaluation Scale*** *(FNES), the* ***Brief Fear of Negative Evaluation Scale*** *(BFNE-II), and the* ***Brief Fear of Negative Evaluation Scale-Straightforward*** *(BFNE-S)* (Watson & Friend, 1969) all assess affective dimensions, and contain 30, 12 and 8 items respectively. These scales are used to measure fear of negative evaluation, a hallmark behavior seen in individuals with social phobia. Fear of negative evaluation is defined as feelings of apprehension about others' evaluations, distress over these negative evaluations, and expectations that others will evaluate one negatively. The test has strong psychometric properties which enables differentiation of those with and without social anxiety disorder (SAD). Its scores correlate significantly with other measures of anxiety, depression, and general distress in people with SAD. Although not a stuttering-specific measure, the test has been used in research with PWS.

The ***Social Phobia and Anxiety Inventory*** *(SPAI-23)* (Beidel et al., 2000) measures both social and agoraphobic anxiety. SPAI scales are available for different age groups: SPAI for adolescents (from age 14) and adults (Garcia-Lopez et al., 2008) and SPAI-C for children (Beidel et al., 2000). The SPAI-23 has been found to correlate highly with its 45-item parent scale (SPAI) and has similar psychometric properties. The test has convergent validity with the FNES and *Social Avoidance and Distress Scale* (SADS) (Watson & Friend, 1969). It has strong discriminant validity and test-retest reliability (Schry et al., 2012). Although not specific to stuttering, the test has been used to document treatment efficacy in PWS (Scheurich et al., 2019).

The ***Inventory of Interpersonal Situations (IIS)*** (Van Dam-Baggen & Kraaimaat, 1999, 2000) investigates the verbal-cognitive component of social anxiety. The IIS has two sections which gauge the level of discomfort (anxiety and emotional tension) in social situations, and the frequency with which social responses or skills are utilized. The IIS has five sub-scales: giving criticism, expressing opinion, giving a compliment, initiating contact, and positive self-statements. The test's 35 items relate to social situations that the client evaluates on a 5-point Likert scale in terms of discomfort (none – very much), and frequency of occurrence (never do – always do). Several internationally-based investigations have pointed to the IIS' validity and reliability (Kraaimaat et al., 2002; Van Dam-Baggen & Kraaimaat, 1999, 2000). The test is useful in assessing social anxiety in adults who stutter. Research has shown that PWS report significantly higher levels of emotional tension or discomfort in social situations, and a significantly lower frequency of social responses compared to PWNS. Moreover, a study indicated that about 50% of the IIS scores of PWS fell within the range of scores of highly socially anxious psychiatric patients (Kraaimaat et al., 2002).

Cognition

The ***Locus of Control of Behavior Scale (LCB)*** (Craig et al., 1984) measures the degree to which a person perceives a causal relationship between their own behavior/actions and their consequences/rewards. This 17-item Likert-type scale makes a distinction between two personality types: 'internal' (attributing events to being under one's own control), or 'external' (ascribing life events to external circumstances). Changes in LCB scores can predict fluency maintenance or relapse, and this information can help clinicians counsel their client in changing their attitude.

The *Erickson S-24 Scale* (Andrews & Cutler, 1974). This 24-item normed Attitude scale is capable of differentiating PWS from PWNS and has good internal reliability. Pre- and post-treatment data showed that increased maintenance of fluency correlates with a more positive communication attitude (Andrews & Cutler, 1974). Brutten and Vanryckeghem (2003a) found that four items did not correlate with their respondents' total score, and one item was linguistically outdated.

The ***Unhelpful Thoughts and Beliefs about Stuttering*** test (UTBAS / UTBAS-6) (Clare et al., 2009) measures cognitions to assess speech-related social anxiety in adults who stutter. The items were created by recording unhelpful thoughts and beliefs reported in PWS's case history, and from those who were in a CBT therapy program. Iverach and colleagues (2009, 2016) suggest that those scoring in the 5th decile or above be referred for a psychological evaluation. Normative data are provided for the test, and it was shown that PWS with a diagnosis of SAD scored significantly higher on UTBAS. Although the test is lengthy and its shorter version (UTBAS-6) might be more practical, the tests' items can be used to generate thoughts for PWS and clinicians to discuss within a cognitive restructuring task or other CBT protocols (Menzies et al., 2009).

The ***Self-Efficacy Scale for Adult Stutterers*** (***SESAS***; Ornstein & Manning, 1985) and ***Self-Efficacy Scale for Adolescents*** (***SEA***) provide a hierarchy of speaking situations ranging from easy to hard and ask respondents to rate their confidence in entering a situation, and their confidence that fluency will be maintained in that situation. The test provides normative data and differentiates PWS from PWNS. It has good validity and is based on different underlying constructs. The scale can be used in treatment to introduce strategies aimed at increasing communication self-efficacy and reactions to communicative situations. Increased self-efficacy in PWS has been linked to measures of higher resilience (Craig et al., 2011).

Self-report: Informal assessment

Informal assessments are not data-driven but are valuable to inform clinical intervention. A combination of several informal types of self-report can be used to obtain a more in-depth inside view of the individual who stutters.

A ***Client Interview***, whether with child or adult, covers perceptions, feelings, behavior, attitude, etc., and needs to dig deeper into the information obtained through case history, self-report tests, and observations. The interview serves to gain clarification about background information, prior treatments, observations made by the clinician, and the self-report data obtained. It is important to gauge how informed the client is about stuttering and its phenomena, what they are seeking in the treatment, and their perceptions of self and others. The client interview provides a perfect venue to amalgamate information obtained via different sources, and to share with the client initial plans for the treatment road ahead.

A ***parent/partner interview*** might shed light on the level of knowledge the caregiver has about the nature of stuttering and its potential impact on the child's daily life. It can be used to investigate the parents' perceptions, feelings and attitudes about their child's stuttering, the way they believe their child reacts to their stuttering, and their potential worries and feelings of guilt. Information from the parent or life partner about the ABC components can be compared with the reports of the individual who stutters (Svenning et al., 2021). If different accounts of the experience of stuttering are expressed, these differences can be addressed and discussed. Via these interviews, one can explore phenomena that are not easily discovered through the client alone. The information obtained can be a starting point to create opportunities for parent/partner education and counseling.

A ***teacher interview*** provides insight into how a child functions within the school environment, which might be different from that in other settings. Teachers get to see the behavior of a child in a variety of situations that are not accessible to the parent or clinician. Obtaining the teacher's view will enable analysis of their knowledge, thoughts, and attitudes toward stuttering, and permits education of the teacher, if warranted. 'Does the child answer or pose questions in class?', 'Do they participate and speak in group activities?' are some examples of questions. It is important to find out if the child expresses frustration or embarrassment when they have trouble speaking. How does the teacher respond when the child is having difficulty speaking, and how do the other students react? Are they being teased or bullied? (Blood & Blood, 2016). What does the teacher do to facilitate class activities (e.g. invite the child to be the first to read aloud)? This information is also crucial in terms of incorporating the classroom and the child's peers into the treatment program.

Drawing *or* ***art creation****,* ***writing a story*** *or* ***journaling****, or creating a* ***speaking log*** can all be used to discuss speech-related attitude and emotions, and the experience of stuttering. Depending on the age of the child, a drawing, or a story about what the child thinks about their speech, or how they feel about speaking, will shed light on the inner experience of stuttering. The child can also be asked to write down things they like about themselves or do well, versus things they are not so good at or do not like. As an ongoing assessment, the client can be requested to keep a journal about their everyday encounters involving speech. This insight into speech fluctuation in a variety of situations can be used to reflect on experiences and defuse certain negative thoughts. The journal also documents change over time.

The client can be asked to ***design a situation hierarchy*** listing the speech situations in order of difficulty – from least to most – that worry them and elicit stuttering. With children, a hierarchy ladder can be used for this purpose. This also gives the clinician some idea if/how the client links fear/anxiety in particular situations to their expected speech disruption, and may reveal some challenging situations that might not be listed in a formal test measure.

The analogy of the experience of stuttering with an ***Iceberg*** has been made before. This parallel can be used to ask the client to write down their physical experiences of stuttering, behaviors that a communication partner can observe, and those things they experience (e.g. feelings, thoughts, attitudes) that are "beneath the surface" and kept to themselves. This makes for an excellent start of a conversation about overt and covert aspects related to stuttering.

Clinician observation

As indicated earlier, self-reports are considered complimentary to the clinician's observation of a PWS's disfluencies, their use of behaviors that are secondary to the stuttering, and any other events that are overtly present. Given that the PWS does not stutter in the same way in all situations and in all modalities, it is best practice to obtain a reading sample as well as spontaneous speech samples. Even better would be to obtain speech samples not just in a clinical setting, but in daily living environments. This might particularly be useful when the client or the parent indicates that speech being observed in the clinical setting is not representative of speech in daily life. Certainly, in cases like this, obtaining a speech sample in other environments would be crucial. As mentioned earlier, operational definition and measurement are vital in the identification of observable behaviors such as type of disfluency.

Reading Sample

In terms of differential diagnosis, and to define whether the client's stuttering is more affected by sound/word or situational variables, it is important to investigate several components related to reading and extemporaneous speech. One such element is the assessment of the extent to which the client *anticipates* where they will stutter, which can typically not be gauged before at least age ten. This can be accomplished by having the client read a text silently and underline the words on which they *expect* difficulty if they were reading the text aloud at that moment. The *consistency* of anticipation can also be assessed by having the client do this task twice. This task is, of course, then immediately followed by oral reading. A 300-word text is typically used for an adult and a 200-word text for school-age children that is well below their reading level, so as not to run into technical reading issues. Afterwards, the clinician determines the consistency between anticipated and actual stuttering, which is typically higher for more sound/word-specific versus situation-specific stuttering. This agreement is essentially absent in the neurogenic dysfluent person and the person who clutters.

Two successive *oral readings* of the same text serves to not only investigate types, frequency, and locus of dysfluency, but also consistency and adaptation. Indeed, if stuttering is rather *consistent* (occurring on a given reading trial, while also occurring on the immediately preceding trial), this might be another indication pointing to stuttering being more sound/word- rather than situation-based. The presence or absence of *adaptation* (a decrease in stuttering in repeated readings of the same material) can also serve in differential diagnosis.

Type and *frequency* of dysfluency are crucial in terms of determining whether a client's speech has the characteristics of a PWS or is more likely of a different nature. Most researchers and clinicians agree that part-word (sound or syllable) and mono-syllabic word repetitions, oral and silent (block) sound prolongations, and broken words are considered stuttering behaviors. Determination in terms of stuttering is also helped by observing the dysfluencies in a molecular, detailed, topographical way: aspects include whether the dysfluency is accompanied by tension, how fast the repetition is produced, the number of reiterations, the duration of the prolongation etc. Interjections, phrase and multi-syllabic word repetitions, incomplete phrases, and revisions are considered typical disfluencies, which may be used as coping devices. E.g. a client might interject a particular word or sound, or repeat a phrase, prior to a word on which they expect to stutter. The use of these "normal" disfluencies needs to be scrutinized to detect whether a pattern can be discerned regarding their use. However, the presence of uniquely typical disfluencies in the absence of stuttering can indicate a fluency disorder which is not stuttering, as is the case in pure cluttering or certain pathologies that have dysfluency as a comorbidity, like Tourette syndrome (Van Borsel et al., 2004). The *locus* of stuttering in the word and the type of *phonemes* that elicit stuttering also provide useful information. PWS typically stutter on initial sounds in a word, which might be different in dysfluencies that are of a different nature (neurogenic dysfluency or co-morbid dysfluencies). The type of phoneme, in terms of articulation, place and manner, provides useful information regarding fluency-enhancing strategies that might be employed in treatment.

In summary, the absolute number and percentage of words or syllables stuttered, the types of stuttering behaviors and other disfluencies, the significant phonemes and their locus, the number of re-iterations in repetitions, the duration of prolongations, and the presence of anticipation, consistency and adaptation all assist in fine-tuning the observation of the clinician.

Spontaneous Speech Sample

Collecting *extemporaneous speech* samples during *monologue* and *conversation* are also essential elements in a fluency assessment. A 300-word speech sample can be obtained for this purpose, while the client describes age-appropriate situational images and engages in a conversation. Similar to the reading sample, the type and frequency of stuttering behaviors and other disfluencies are noted, as is the consistency relative to particular problematic sounds/words, the locus of stuttering, and the use of concomitant behaviors. In addition, the determination of *speech rate* will provide a direct link to potentially useful treatment strategies.

Comparing fluency during reading and extemporaneous speech will shed light on whether the client is predominantly a word- or situation-specific PWS. This is specifically seen in the differential frequency of stuttering in each of these conditions. Various observed factors can indicate that a person's stuttering might be predominantly word-specific. These include: more stuttering occurring during reading than during extemporaneous speech; a relatively high consistency of the loci of stuttering; a relatively high agreement between the frequency of *expected* and *observed* stuttering; and limited adaptation. If the opposite were observed, the person's stuttering could be of a more situational nature, although typically a combination of both is found to exist, with an emphasis on sounds/words or situations.

For preschool children, consistency of the locus of stuttering can be measured by having the child name picture cards twice in succession (e.g. pictures within an articulation test), and/or by having the child repeat a series of age-appropriate sentences twice.

The above information on reading and extemporaneous speech can be obtained through informal reading, and speech sample collection and analysis. Also, the *Stuttering Severity Instrument* (SSI-4) (Riley, 2009) can be used to assist in determining the frequency of stuttering during a reading and speech task, and the duration of the three longest stuttering events. As it relates to the use of coping behaviors, a few concomitant behaviors are also listed, and can be scored by the clinician on a 6-point rating scale. This instrument provides normative data and has good psychometric properties.

Probing whether masking and/or choral reading have a positive effect on stuttering can also assist in differential diagnosis, because these techniques typically have no effect on the speech of individuals whose disfluency is of a non-stuttering nature (e.g. neurogenic dysfluency). The benefit of using masking and choral reading at the end of the initial assessment also demonstrates to the client, if their speech immediately improves, that their speech mechanism is *capable* of producing more fluent speech.

From Evidence-Based Assessment to *Evidence-Based Treatment*

As stated earlier, in the author's opinion, a multi-faceted assessment should form the basis for a sound differential diagnosis, and give direction to treatment. A multi-dimensional assessment embraces the inter-relationship between negative emotion, speech disruption, speech-associated mal-attitude, and avoidance and escape behaviors. The evidence-based test procedures should provide the therapist with specific self-report data about disfluency, sounds/words/situations that are problematic for the PWS, avoidance and escape behaviors that are used to cope with the stuttering, and the antecedents and consequences of the behavioral events in terms of negative emotion and mal-attitude.

It is essential that the assessment data provide the clinician with an initial road map to therapy that is client-specific, tailored to their needs, and multi-dimensional in nature. As meta-analysis data have shown (Herder et al., 2006; Nye et al., 2013), no one therapy procedure or set of procedures can help everyone. In addition, the magnitude of treatment effects differs among clients, and strategies are not mutually exclusive, but have an interactive and cumulative effect. The strategies' effectiveness also depends on various factors, which include: the treatment tactics that relate to stuttering or coping behaviors; the severity and complexity of the behavioral display; the longevity of the disorder; the existence of realistic expectations; the anticipated improvement; the commitment of the client; and whether practice is massed or distributed; among others.

Multiple Choice Questions

1. The World Health Organization's (WHO) *International Classification of Functioning, Disability and Health* (ICF) taxonomy:
    a) suggests that the environment plays an important role in a disorder such as stuttering
    b) only considers "nature" and not "nurture"
    c) states that anatomical and body functioning components need to be considered in a disease or disorder
    d) both a and c
2. As it relates to 'state' and 'trait' tests:
    a) 'state' only relates to anxiety
    b) 'state' relates to a particular situation
    c) 'trait' relates to a temporary event
    d) there is no difference in what they investigate
3. The *Behavior Assessment Battery* (BAB):
    a) consists of five different sub-tests
    b) only exists for adults
    c) investigates the Affective, Behavioral and Cognitive dimensions related to stuttering
    d) is a severity inventory
4. Which of the following statements is correct?
    a) In assessment, it is sufficient to only obtain a reading or spontaneous speech sample
    b) An operational definition of stuttering is not necessary, because everyone uses the same taxonomy
    c) Information about which phonemes are mostly stuttered on is not useful
    d) Both reading and spontaneous speech samples should be collected
5. During reading assessment, the following can be investigated:
    a) Type and frequency of dysfluency
    b) Adaptation

c) Anticipation
d) Consistency
e) All of the above

Recommended Reading

Bloodstein, O., Bernstein Ratner, N., & Brundage, S. (2021). *A Handbook on Stuttering* (7th ed.). Plural Publishing Inc.

Hegde, M.N., & Freed, D. (2022). *Assessment of communication disorders in adults: Resources and protocols* (3rd ed.). Plural Publishing Inc.

Hegde, M.N., & Freed, D. (2022). *Assessment of communication disorders in children: Resources and protocols* (4th ed.) Plural Publishing Inc.

Logan, K. (2022). *Fluency Disorders: Stuttering, Cluttering, and Related Fluency Problems* (2nd ed.). Plural Publishing, Inc.

Manning, W., & Di Lollo, A. (2018). *Clinical Decision Making in Fluency Disorders*. Fourth Edition. Plural Publishing Inc.

References

Andrews, G., & Cutler, J. (1974). Stuttering Therapy: The Relation between Changes in Symptom Level and Attitudes. *Journal of Speech and Hearing Disorders, 39(3)*, 312. doi:10.1044/jshd.3903.312

Aydin Oral, S., Konrot, A., Gercek, E. & Vanryckeghem, M. (2022). The KiddyCAT-TR: Preliminary study of Turkish Children Who Stutter and Who Do Not Stutter. *Turkiye Klinikleri Journal of Health Sciences, 7(1), 78–85.*

Beidel, D.C., Turner, S.M., Hamlin, K., & Morris, T.L. (2000). The Social Phobia and Anxiety Inventory for Children (SPAI-C): External and discriminative validity. *Behavior Therapy, 31(1)*, 75–87.

Bernardini, S., Vanryckeghem, M., Brutten, G. Cocco, L. & Zmarich, C. (2009). Communication attitude of Italian children who do and do not stutter. *Journal of Communication Disorders, 42*, 155–161.

Blood, G.W., & Blood, I.M. (2016). Long-term consequences of childhood bullying in adults who stutter: Social anxiety, fear of negative evaluation, self-esteem, and satisfaction with life. *Journal of Fluency Disorders, 50*, 72–84.

Blumgart, E., Tran, Y., & Craig, A. (2010). Social anxiety disorder in adults who stutter. *Depression and Anxiety, 27(7)*, 687–692.

Brutten, G., & Vanryckeghem, M. (2003a). *Behavior Assessment Battery: A multi-dimensional and evidence-based approach to diagnostic and therapeutic decision making for adults who stutter*. Organization for the Integration of Handicapped People & Acco Publishers.

Brutten, G., & Vanryckeghem, M. (2003b). *Behavior Assessment Battery: A multi-dimensional and evidence-based approach to diagnostic and therapeutic decision making for children who stutter*. Organization for the Integration of Handicapped People & Acco Publishers.

Brutten, G., & Vanryckeghem, M. (2007). *Behavior Assessment Battery for school-age children who stutter*. Plural Publishing, Inc.

Clare, T.S., Menzies, R.G., Onslow, M., Packman, A., Thompson, R., & Block, S. (2009). Unhelpful thoughts and beliefs linked to social anxiety in stuttering: Development of a measure. *International Journal of Language & Communication Disorders*, *44(3)*, 338–351.

Chowkalli Veerabhadrappa, R., Krishnakumar, J., Vanryckeghem, M. & Maruthy, S. (2021). Communication Attitude of Kannada-Speaking Adults Who Do and Do Not Stutter. *Journal of Fluency Disorders*, *70*.

Chowkalli Veerabhadrappa, R., Vanryckeghem, M., & Santosh, M. (2020). Communication Attitude of Kannada-Speaking School-Age Children Who Do and Do Not Stutter. *Folia Phoniatrica et Logopaedica*.

Chowkalli Veerabhadrappa, R., Vanryckeghem, M., & Santosh, M. (2021). The Speech Situation Checklist-Emotional Reaction: Normative and Comparative Study of Kannada Speaking CWS and CWNS. *International Journal of Speech-Language Pathology*.

Cordes, A., & Ingham, R. (1999). Effects of time-interval judgment training on real-time measurement of stuttering. *Journal of Speech, Language and Hearing Research*, *42*, 862–879.

Craig, A., Blumgart, E., & Tran, Y. (2011). Resilience and stuttering: Factors that protect people from the adversity of chronic stuttering. *Journal of Speech, Language, and Hearing Research*, *54(6)*, 1485–1496.

Craig, A., Franklin, J., & Andrews, G. (1984). A scale to measure locus of control of behaviour. *British Journal of Medical Psychology*, *57*, 173–180.

Gačnik, M., & Vanryckeghem, M. (2014). The Slovenian Communication Attitude Test (CAT-SLO): A comparison of the communication attitude of Slovenian children who do and do not stutter. *Cross-Cultural Communication*, *10*, 5, 85–91.

Garcia-Lopez, L.J., Hidalgo, M.D., Beidel, D.C., Olivares, J., & Turner, S. (2008). Brief Form of the Social Phobia and Anxiety Inventory (SPAI-B) for Adolescents. *European Journal of Psychological Assessment*, *24(3)*, 150–156.

Guntupalli, V., Kalinowski, J., & Saltuklaroglu, T. (2006). The need for self-report data in the assessment of stuttering therapy efficacy: repetitions and prolongations of speech. The stuttering syndrome. *International Journal of Language and Communication Disorders*, *41(1)*, 1–18.

Herder, C., Howard, C., Nye, C. & Vanryckeghem, M. (2006). Effectiveness of behavioral stuttering treatment: A systematic review and meta-analysis. *Contemporary Issues in Communication Sciences and Disorders*, *33*, 61–73.

Ingham, R., & Cordes, A. (1992). Interclinic differences in stuttering-event counts. *Journal of Fluency Disorders*, *17*, 171–176.

Iverach, L., O'Brian, S., Jones, M., Block, S., Lincoln, M., Harrison, E., . . . Onslow, M. (2009). Prevalence of anxiety disorders among adults seeking speech therapy for stuttering. *Journal of Anxiety Disorders*, *23(7)*, 928–934.

Iverach, L., Heard, R., Menzies, R., Lowe, R., O'Brian, S., Packman, A., & Onslow, M. (2016).

A brief version of the unhelpful thoughts and beliefs about stuttering scales: The UTBAS6. *Journal of Speech, Language & Hearing Research*, *59(5)*, 964–972.

Jansson-Verkasalo, E., Lindblad, S., Vastamäki, E., Eggers, K., Vanryckeghem, M. (2021). KiddyCAT – ja BigCAT – Itsearviointi-Lomakkeiden Suomennosten Normatiiviset Ja Psykometriset Ominaisuudet [Normative and psychometric evaluation of the Finnish versions of the KiddyCAT and BigCAT Questionnaires]. *Puhe ja Kieli* , *41:3*, 189–206.

Jones, M., Menzies, r., Onslow, M. , Lowe, R; O'Brian, S. & Packman, A. (2021). *Journal of Speech, Language and Hearing Research*, 64, 1918–1928.

Kawai, N., Healey, C., Nagasawa, T., & Vanryckeghem, M. (2012). Communication Attitude of Japanese School-Age Children Who Stutter. *Journal of Communication Disorders*, *45*, 348–354.

Kraaimaat, F.W., Vanryckeghem, M., & Van Dam-Baggen, R. (2002). Stuttering and social anxiety. *Journal of Fluency Disorders, 27(4)*, 319–331.

Menzies, R., O'Brian, S., Onslow, M., Packman, A., St Clare, T., & Block, S. (2008). An experimental clinical trial of a cognitive-behavior therapy package for chronic stuttering. *Journal of Speech, Language, and Hearing Research*, *51(6)*, 1451–1464.

Menzies, R.G., Onslow, M., Packman, A., & O'Brian, S. (2009). Cognitive behavior therapy for adults who stutter: a tutorial for speech-language pathologists. *Journal of Fluency Disorders*, *34(3)*, 187–200.

Neumann, S. , Vanryckeghem, M., Tiefenthaller, R., Rietz, C., & Stenneken, P. (2019). The German Communication Attitude Test for Preschool and Kindergarten Children Who Stutter (KiddyCAT-G): Reliability and First Reference Data. *Journal of Speech Pathology & Therapy*, *3*(2), 1–6.

Novšak Brce, J., & Vanryckeghem, M. (2017). Communication attitude of Slovenian preschool children who do and do not stutter. *Journal of Speech Pathology and Therapy*, *2*, 1–5.

Novšak Brce, J., Vanryckeghem, M., Kosir, S., & Jerman, J. (2015). *Communication attitude in preschool children who stutter* [Odnos do lastnega govora pri predšolskih otrocih, ki jecljajo]. In: Devjak, T. (ed.) The impact of social change on education [Vpliv družbenih sprememb na vzgojo in izobraževanje], 1, pp. 205–220. Ljubljana: Faculty of Education.

Nye, C., Vanryckeghem, M., Schwartz, J., Herder, C., Turner, H., & Howard, C. (2013). Behavioral Stuttering Interventions for children and adolescents: A systematic review and meta-analysis. *Journal of Speech, Language and Hearing Research. 56*, 921–932.

Ornstein, A.F., & Manning, W.H. (1985). Self-efficacy scaling by adult stutterers. *Journal of Communication Disorders*, *18*(4), 313–320.

Riley, G. (2009). *Stuttering Severity Instrument (SSI-4)*. Pro-ed.

Scheurich, J.A., Beidel, D.C., & Vanryckeghem, M. (2019). Exposure therapy for social anxiety disorder in people who stutter: An exploratory multiple baseline design. *Journal of Fluency Disorders*, *59*, 21–32.

Schry, A.R., Roberson-Nay, R., & White, S.W. (2012). Measuring social anxiety in college students: a comprehensive evaluation of the psychometric properties of the SPAI-23. *Psychological assessment*, *24*(4), 846–854.

Shafiei, B., Rafati, M., Vanryckeghem, M., & Maghamimehr, A. (2016). Determination of the validity and reliability of the Communication Attitude test for Preschool and Kindergarten Children who Stutter. *Middle Eastern Journal of Disability Studies*, *5*:11, 58–67.

Sheehan, J. (1970). *Stuttering: Research and therapy.* Harper & Row.

Spielberger, C.D. (1989). *State-Trait Anxiety Inventory: Bibliography* (2nd ed.). Consulting Psychologists Press.

Stein, M.B., Baird, A., & Walker, J.R. (1996). Social phobia in adults with stuttering. *The American Journal of Psychiatry*, *153*(2), 278.

Svenning, A., Panzarino, R., Vanryckeghem, M., & Vestner, T. (2021). Emotional, Speech Disruptive, and Attitudinal Correlates of Stuttering. *Journal of Fluency Disorders*, *67*, 1–12.

Van Borsel, J., Goethals, L., & Vanryckeghem, M. (2004). Disfluency in Tourette syndrome. *Folia Phoniatrica et Logopaedica*, *56*, 358–366.

Van Dam-Baggen, R., & Kraaimaat, F.W. (1999). Assessing social anxiety: The Inventory of Interpersonal Situations (IIS). *European Journal of Psychological Assessment*, *1*, 25–38.

Van Dam-Baggen, R., & Kraaimaat, F.W. (2000). Group social skills training or cognitive group therapy as a clinical treatment of choice for generalized social phobia? *Journal of Anxiety Disorders*, *14*, 437–451.

Valinejad, V., Yadegari, F., & Vanryckeghem, M. (2018). Reliability, validity and normative investigation of the Persian version of the Communication Attitude Test for Adults who Stutter (BigCAT). *Applied Neuropsychology: Adult*.

Vanryckeghem, M. (1995). The Communication Attitude Test: A concordancy investigation of stuttering and non-stuttering children and their parents. *Journal of Fluency Disorders*, *20*, 191–203.

Vanryckeghem, M. (2018). *Evidence-based, multi-dimensional assessment leading to multi-modal stuttering treatment*. In: K. Wesierska (Ed.), Zaburzenia płynności mowy" [Fluency Disorders] (pp. 30–43). Wydawnictwo Harmonia Universalis Publishers.

Vanryckeghem, M. (2019). *Attitudes in stuttering*. In: J. Damico and M. Ball (Eds.), The SAGE Encyclopedia of Human Communication Sciences and Disorders (Vol. 1, pp. 187–192). SAGE Publications, Inc.

Vanryckeghem, M., & Brutten, G. (1992). The Communication Attitude Test: A test-retest reliability investigation. *Journal of Fluency Disorders*, *17*, 177–190.

Vanryckeghem, M. & Brutten, G. (1996). The relationship between communication attitude and fluency failure of stuttering and non-stuttering children. *Journal of Fluency Disorders*, *21*, 109–118.

Vanryckeghem, M., & Brutten, G. (1997). The speech associated attitude of stuttering and non-stuttering children and the differential effect of age. *American Journal of Speech-Language Pathology, 6*, 67–73.

Vanryckeghem, M., & Brutten, G. (2007). *The KiddyCAT: Communication attitude test for Preschool and Kindergarten Children who Stutter*. Plural Publishing, Inc.

Vanryckeghem, M., & Brutten, G. (2011). The BigCAT: A normative and comparative investigation of the communication attitude of stuttering and non-stuttering adults. *Journal of Communication Disorders*, *44*, 200–206.

Vanryckeghem, M., & Brutten, G.J. (2012). A comparative investigation of the BigCAT and Erickson S-24 measures of speech-associated attitude. *Journal of Communication Disorders*, *45(5)*, 340–347.

Vanryckeghem, M., & Brutten, G. (2015a). *The KiddyCAT: Communication Attitude Test for Preschoolers who Stutter*. Harmonia Universalis.

Vanryckeghem, M., & Brutten, G. (2015b). *KiddyCAT: Communication Attitude Test voor Kleuters* [KiddyCAT: Communication Attitude Test for Preschoolers]. SIG.

Vanryckeghem, M., & Brutten, G. (2017). *The Behavior Assessment Battery for School-Age Children who Stutter*. Edizioni Centro Studi Erickson.

Vanryckeghem, M., & Brutten, G. (2018). *The Behavior Assessment Battery for Adults who Stutter.* San Diego, CA: Plural Publishing, Inc.

Vanryckeghem, M., & Brutten, G. (2020a). *The Behavior Assessment Battery for School-age Children who Stutter* [Testna Baterija Za Oceno osnovnošolskih otrok, ki jecljajo]. Center za Komunikacijo.

Vanryckeghem, M., & Brutten, G. (2020b). *Speech Situation Checklist-Emotional Reaction in Kannada for School-Age Children who Stutter*. All India Institute of Speech and Hearing.

Vanryckeghem, M., & Brutten, G. (2020c). *Communication Attitude Test in Kannada for School-Age Children who Stutter*. All India Institute of Speech and Hearing.

Vanryckeghem, M., & Brutten, G. (2020d). *CAT: Communication Attitude Test for School-age Children who Stutter*. The Panhellenic Association of Logopedists and Speech Therapists, Greece: Athens, and the Association of Registered Speech-Language Pathologists.

Vanryckeghem, M., & Brutten, G. (2020e). *KiddyCAT: Communication Attitude Test for Preschoolers who Stutter*. The Panhellenic Association of Logopedists and Speech Therapists, Greece: Athens, and the Association of Registered Speech-Language Pathologists. ISBN 978-9925-580-03-3

Vanryckeghem, M., & Brutten, G. (2021). BAB: *Bateria testów do oceny zachowań dla dzieci w wieku szkolnym, które się jąkają [Behavior Assessment Battery for School-Age Children Who Stutter (BAB)*. Centrum Logopedyczne.

Vanryckeghem, M., Brutten, G., & Hernandez, L. (2005). A comparative investigation of the speech-associated attitude of preschool and kindergarten children who do and do not stutter. *Journal of Fluency Disorders*, *30*, 307–318.

Vanryckeghem, M., Brutten, G., Uddin, N., & Van Borsel, J. (2004). A comparative investigation of the speech-associated coping responses reported by adults who do and do not stutter. *Journal of Fluency Disorders*, *29*, 237–250.

Vanryckeghem, M., De Niels, T., & Vanrobaeys, S. (2015). The KiddyCAT: A test-retest reliability investigation. *Cross-Cultural Communication*, *11*, 10–16.

Vanryckeghem, M., Hylebos, C., Peleman, M., & Brutten, G. (2001). The relationship between communication attitude and emotion of children who stutter. *Journal of Fluency Disorders*, *26*, 1–15.

Vanryckeghem, M., Matthews, M., & Xu, P. (2017). Speech Situation Checklist-Revised: Investigation with adults who do not stutter and treatment-seeking adults who do stutter. American Journal of Speech-Language Pathology, 26, 1129–1140.

Vanryckeghem, M., & Muir, M. (2016). The Communication Attitude Test for Adults who Stutter (BigCAT): A test-retest reliability investigation among adults who do and do not stutter. *Journal of Speech Pathology and Therapy*, *1:2*, 1–4.

Vanryckeghem, M., & Mukati, A. (2006). The Behavior Assessment Battery: A preliminary study of non-stuttering Pakistani grade-school children. *International Journal of Language and Communication Disorders*, *41*, 583–589.

Watson, D. & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, *33*, 448–57.

Węsierska, K., & Vanryckeghem, M. (2015). A comparison of communicative attitudes among stuttering and non-stuttering Polish preschoolers using the KiddyCAT. *Procedia – Social and Behavioral Sciences*, *193c*, 278–284.

Węsierska, K., Vanryckeghem, M., Jeziorczak, B. & Wilk, B. (2014). Porównanie postaw komunikacyjnych mówiących płynnie i jąkających się polskojęzycznych dzieci w wieku przedszkolnym [A comparison of communicative attitudes of stuttering and non-stuttering Polish-speaking preschool children]. *Forum Logopedyczne*, *22*, 70–79.

Węsierska, K., Vanryckeghem, M. & Krawczyk, A. (2020). Comprehensive diagnosis of Polish school-age children who stutter: Normative and psychometric investiation of the Behavior Assessment Battery. *Pedagogical Contexts [Konteksty Pedagogiczne]*, *2/15*.

Węsierska, K., Vanryckeghem, M., Krawczyk, A., Danielowska, M., Faściszewska, M., & Tuchowska, J. (2018). Behavior Assessment Battery: Normative and psychometric investigation among Polish adults who do and do not stutter. *American Journal of Speech-Language Pathology*, *27*, 1224–1234.

World Health Organization (2001). *The International Classification of Functioning, Disability and Health*. Geneva, Switzerland.

Wright, L., & Ayre, A. (2000). *WASSP: Wright & Ayre Stuttering Self-rating Profile*. Speechmark Publishing Ltd.

Yaruss, J.S., & Quesal, R. (2006). Overall Assessment of the Speaker's Experience of Stuttering (OASES). *Journal of Fluency Disorders*, *31*, 90–115.

Yaruss, J.S., & Quesal, R. (2016). *Overall Assessment of the Speaker's Experience of Stuttering (OASES)*. Stuttering Therapy Resources.

Chapter 6

Sabine Van Eerdenbrugh & Sue O'Brian

The *Camperdown Program*

Purpose of the chapter combined with short theoretical introduction

The main purpose of this chapter is to describe the *Camperdown Program*, a speech restructuring treatment program for adults and adolescents who stutter, which uses an individualised fluency technique based on prolonged speech. The program is a concept-based, behavioural treatment that focuses primarily on the reduction of the client's stuttering but provides the opportunity to treat speech-related anxiety as well by adding CBT-components. For speech-language pathologists (SLP) who are not familiar with delivering CBT-components, suggestions on how these can be added without the involvement of the speech-language pathologist are given further in this chapter. A second purpose of this chapter is to describe the *Camperdown Program* in a broader context of stuttering treatment for adults. Even though the *Camperdown Program* is supported by strong research evidence, a final purpose of this chapter is to highlight the importance of applying the three types of evidence (patient evidence, practice evidence, and research evidence) and concrete suggestions are proposed to do this.

Key Terms and Definitions

Key terms: stuttering, adults, prolonged speech, speech restructuring

Treatments for Adults who stutter (AWS)

Despite the importance of social media in society nowadays, having face-to-face conversations with people such as colleagues, strangers, friends, or family members remains essential. About 0.72% of society (Yairi & Ambrose, 2013) face an obstacle to this seemingly "straightforward" event, and that obstacle is stuttering.

AWS often talk less and simplify their language (Spencer et al., 2009). They do not want to stay engaged in a conversation and fail to vary the structure of their utterances, such as emphasising words to highlight information. Besides their speech, their thoughts and general well-being are also often affected (Craig et al., 2009). AWS are six or seven times more likely to develop anxiety disorders than adults who do not stutter (Iverach et al., 2009a), and about 50% of AWS suffer from social anxiety (Menzies et al., 2009). According to Messenger et al. (2004), the anxiety of AWS is mostly related to feared negative social evaluation by others because of their stuttering.

These two aspects, (i.e., speech and thoughts, or in a broader sense, cognition), play an important role in stuttering treatment.

Blomgren (2013) observes that most stuttering treatments for adults use one of these two treatment approaches: (1) speech restructuring, where the focus lies on speech and (2) stuttering management (based on cognitive theory), where the focus lies on cognition. The amount of attention that each aspect receives in a treatment depends on the main goals of the individual treatment.

The main goal of the speech restructuring treatment approach is to teach those who stutter a different way of speaking that can control stuttering (Blomgren, 2013). This new way of speaking involves considerable practice in order to control stuttering over the longer term. A disadvantage is that it never feels completely natural. The most frequently used technique to achieve this goal is prolonged speech. Prolonged speech is also referred to as 'stretched syllables' or 'slow speech'.

By contrast, the main goal of the stuttering management treatment approach is to accept the stuttering, to reduce anxiety and fear associated with the stuttering, and to teach AWS to stutter with less effort (Blomgren, 2013). Treatments that follow stuttering management principles focus primarily on desensitisation of stuttering through techniques such as voluntary stuttering. Desensitisation of stuttering leads to accepting stuttering. Most stuttering management treatments include basic elements of cognitive behaviour therapy (CBT) to reduce social avoidance and anxiety. In addition, speech modification techniques are often used to decrease the effort of speaking, and include techniques such as pull outs, cancellations, and preparatory set techniques.

Besides these two treatment approaches that focus mainly on one aspect (either speech or cognition), Blomgren (2013) reports recent attempts to develop comprehensive stuttering treatments that address both aspects equally in one treatment.

Three types of evidence to consider

Speech-language pathologists provide evidence-based care if they consider three types of evidence (Sackett et al., 1996) when they decide which treatment to deliver. Dollaghan (2007) explains: "E3BP refers to the conscientious, explicit, and judicious integration of (1) best available external evidence from systematic research, (2) best available evidence internal to clinical practice, and (3) best available evidence concerning the preferences of a fully informed patient" (p. 2). McCurtin and Carter (2015) call this research evidence, practice evidence and patient evidence.

In determining the choice for treatment, it is extremely important that the three types of evidence are taken into consideration. Speech-language pathologists need to listen to the client's reason for seeking help. Is their primary aim to reduce or modify their stuttering? Do they wish to address their anxiety and perhaps seek assistance to become more accepting of themselves as a person who stutters? Or do they want help with all these things? In a first encounter, clients need to receive the necessary information about stuttering and stuttering treatment in order to make an informed decision about treatment and to possibly adjust their expectations of treatment. Speech-language pathologists need to present evidence for existing treatments in a non-judgemental way, and they need to explain the main goals of each treatment approach. They need to make sure that they possess the skills to deliver the treatments they propose, or that they collaborate with colleagues who can assist in providing the skills they lack.

Through the answers to written questions of 28 AWS, Plexico et al. (2010) constructed shared beliefs about the effectiveness of treatments and speech-language pathologists. About two-thirds (64.3%) described ineffective speech-language pathologists as those who are dogmatic in their approach to treatment, who are likely to focus on techniques, and who are failing to address the cognitive and attitudinal aspects of stuttering. About the same number of AWS (60.7%) described the impact of a treatment as effective when they are more motivated and feel the desire to attend therapy because they are understood and accepted by their speech-language pathologist.

McCurtin and Carter (2015) conclude from a focus group study with 48 speech-language pathologists that "treatment is not a recipe that a speech-language pathologist can routinely follow to produce a perfect intervention episode" (p. 1144). Also, they emphasize that speech-language pathologists possess a unique set of skills and tools that grow over time and with experience:

> Knowing what works contributes to the speech-language pathologist's comfort; this, in turn, impacts upon retention within their toolkit... Thus, experience can re-

> sult in a degree of automaticity in practice where things are done 'without thinking' or when favoured approaches are automatically adopted (p. 1145).

Finally, research evidence in the domain of clinical speech-language pathology is being published more frequently and this is regarded as positive by speech-language pathologists. It can create a change; for example, some practices are rejected and not used anymore, and speech-language pathology treatment becomes more scientific. But some speech-language pathologists also regard research evidence more negatively. According to them, not all articles possess the same methodological standards ("crap articles", p. 1146) and they do not always relate to what speech-language pathologists are doing in daily practice, or they are a means to commercialise treatments. Critical evaluation seems necessary when evaluating the research evidence about a treatment.

Evidence for stuttering treatments for adults

There have been multiple (systematic) reviews about the effectiveness of stuttering treatments for adults. The most recent (Baxter et al., 2015) provides an extensive overview, however, it does not provide any conclusions about which treatment is the most effective or efficacious. The majority of studies were rated as at higher risk of bias. On the other hand, many studies included a lengthy follow-up period.

At the start of this chapter, treatment approaches focusing on either speech or cognition were introduced. Therefore, only research evidence related to these two treatment approaches is discussed here. Baxter et al. (2015) recognise that treatments focusing on cognition can be used in isolation or in combination with treatments focusing on speech. Outcomes of these cognitive treatments are varied, ranging from direct speech gains, psychological well-being gains, which lead to improved speech, or gains related to living successfully with stuttering. Different treatment foci and different outcome measures make it difficult to compare treatments in order to conclude which is the best. Blomgren (2013) concludes that stuttering does not automatically reduce after cognitive treatment, and that anxiety and avoidance related to stuttering can be treated successfully, even in the absence of a reduction of the stuttering.

Baxter et al. (2015) conclude that treatments focusing on speech through speech restructuring mainly included studies with the *Camperdown Program*, in which a speech technique based on prolonged speech is taught (O'Brian et al., 2018). Baxter et al. (2015) report that a reduction in percentage of syllables stuttered (%SS) is often maintained up to five years after treatment. Bothe et al. (2006) mention that treatments within the speech restructuring approach differ from each other but include common components such as direct changes in how AWS speak, schedules to record performance, self-evaluation, a variety of situations in which to practice speaking in groups, and activities to help generalise stuttering control into everyday speaking situations. They observed that a long-term follow-up period (maintenance phase) is required to achieve a positive long-term outcome. Blomgren (2013) concludes that speech restructuring treatment is an evidence-based approach to reduce stuttering frequency. Speech restructuring in isolation, however, rarely has an impact on negative feelings, unhelpful thoughts and attitudes, or anxiety provoked by the stuttering. Iverach et al. (2009b) claim that treatments that only focus on speech restructuring do not achieve sufficient success in AWS, if they also suffer from social anxiety disorder. Co-occurring anxiety disorders frequently affect the long-term gains of stuttering treatment, both in terms of stuttering frequency and the amount of situation avoidance. Addressing both speech and cognition in stuttering treatment for adults seems essential.

In this chapter, the speech restructuring program for AWS, for which most evidence exists at the moment, is discussed: the *Camperdown Program*.

Treatment components of the *Camperdown Program*

The *Camperdown Program* (O'Brian et al., 2018) is a speech restructuring program focussing on the speech of AWS. It does not routinely incorporate treatment components that focus on cognition, but during Stage 3 of the program (the program consists of four stages), CBT-components can be added to the program when and if necessary.

The fluency technique in the *Camperdown Program* that those who stutter learn to use, is based on prolonged speech. Each client's individualised technique is the mechanism to control stuttering; it is in no way a means to cure stuttering. Learning to use the fluency technique can be compared to learning any other physical skill. For example, when learning a new sport or to play a musical instrument, only massed practice leads to success, and only long-term practice leads to maintaining the skill. The same is true for prolonged speech in the *Camperdown Program*.

The procedures of the *Camperdown Program*

The procedures of the *Camperdown Program* are similar to other speech or language treatments. In Stage 1, AWS learn the specific skills (fluency technique and measurement scales) they will be using throughout the program. In Stage 2, they gradually shape their unnatural sounding fluency technique towards natural sounding speech. During this stage, important self-evaluation skills are refined and problem-solving skills are introduced. Stage 3 facilitates the transfer of their fluency technique to control stuttering from practice situations to everyday situations. Most of the focus is now on everyday speech practice and problem-solving. In Stage 4, the fluency technique, which is the mechanism for controlling the stuttering, is maintained. To reach the end of Stage 3, evidence suggests that 10 to 20 hours of treatment is required for adults.

To know whether the *Camperdown Program* meets the expectations of each AW, it is important to listen to what the client wishes to achieve in treatment, and to provide information about program commitment, client responsibility, and time involved (O'Brian et al., 2018). Responsibilities of the client include: formulating their own realistic expectations; evaluating their speech performance on a regular basis; committing to daily practice tasks; learning to engage in, and problem-solve, every day speech challenges; learning to identify individual or environmental variables that increase or reduce stuttering; evaluating their speech-related anxiety and avoidance behaviours; and planning strategically for long-term control of the stuttering during daily life.

The program here is described as an individual clinic-based treatment. This can be implemented either in the clinic or via webcam technology. However, other clinical formats of the *Camperdown Program* such as intensive treatment or group treatment are feasible. At the end of this chapter when the evidence for the efficacy of the *Camperdown Program* is discussed, these formats are briefly described.

Stage 1

A session during Stage 1 typically requires 45 to 60 minutes.

During Stage 1, the stuttering severity scale, the fluency technique, the fluency technique scale, and anxiety measures are introduced. The scales are a means of communication between the client and the speech-language pathologist. Hence, it is extremely important to teach the significance and proper use of the scales so that the speech-language pathologist knows what is happening beyond the clinical session.

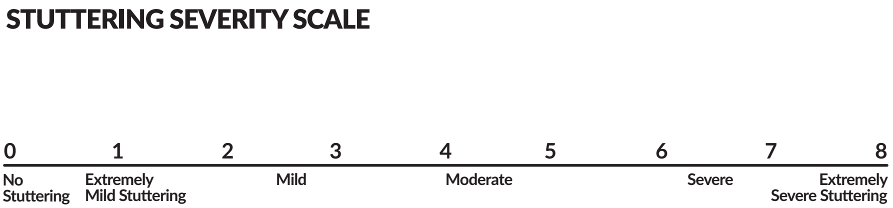


Figure 1: Stuttering severity scale

Clients who stutter learn to use the stuttering severity scale to ‘measure’ the severity of the stuttering during different everyday speaking situations. Calibration of the scores occurs at the beginning of each treatment session during the first conversation between the client and the speech-language pathologist. This conversation is recorded. Before listening to the recording, the speech-language pathologist asks the client to assign a stuttering severity score for the conversation. Then they both listen to the recording and score the conversation again. Differences in the scores between the client and the speech-language pathologist and the reasons for the scores are discussed. The scores of the clients provide an insight into how they view their speech. This process can also be undertaken using home recordings presented each week.

Calibration of the scores is a standard item in the *Camperdown Program*. Each treatment session starts with a conversation that is scored before and after listening to the recording. Only when the scores of the client and speech-language pathologist differ by no more than one scale value is agreement reached. Only then does the speech-language pathologist know that the scores that the clients bring from speaking situations beyond the clinic session are trustworthy. Calibration of the scores is repeated regularly after agreement has been reached to ensure that agreement is maintained.

The stuttering severity scale is used for different purposes throughout the treatment. At the beginning, it is mainly used to describe the initial stuttering severity status. Throughout treatment, clients are asked to provide a typical score for either a typical day, a specific period, a specific situation, or a specific practice exercise, depending on the goal of treatment at the time. Besides a typical score, a maximum or minimum score can be given too. The scores are recorded on the daily measurement chart (Figure 2), an e-form downloadable from the Australian Stuttering Research Centre website (“Australian Stuttering Research Centre”, 2022), or on a device such as a smart phone.

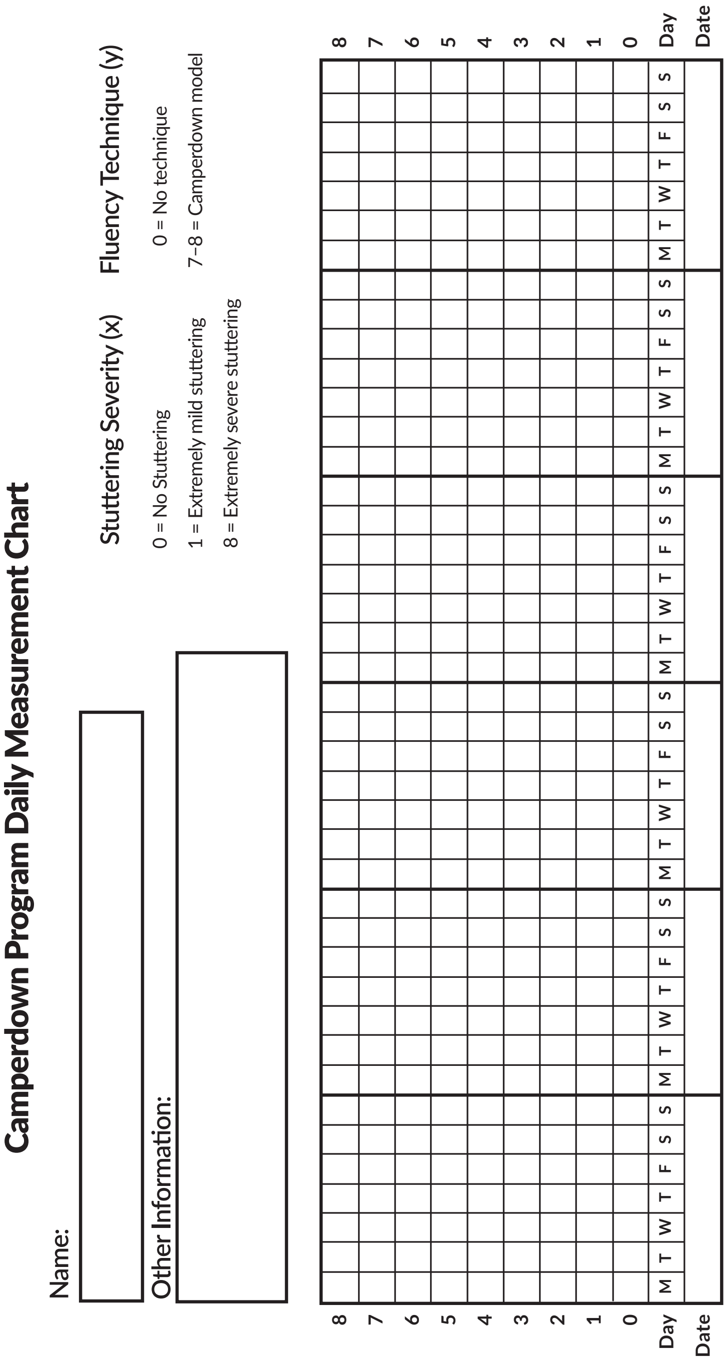


Figure 2: Daily measurement chart

Initially, clients are asked to provide a typical score for five or six different daily speaking situations that reflect the variability of their stuttering severity. These situations provide a baseline for later comparison and may be targeted later in treatment. To practise using the severity scale, speech-language pathologists could ask clients to record extra, short everyday talking situations, such as talking on the phone or talking with a colleague or friend, and score these. The scores can be discussed during the next treatment session.

Fluency technique

The fluency technique refers to the prolonged speech technique and is taught from a pre-recorded speech model, available on the Australian Stuttering Research Centre website (“Australian Stuttering Research Centre”, 2022). Models are provided of male and female adolescents and adults. Clients are warned that the speech model demonstrates slow and exaggerated prolonged speech, and they are reassured that talking this way is only temporary. Clients try to copy the technique as much as possible. Descriptors of the speech, such as hard or soft contact sounds, are not provided because (1) research shows a lack of agreement between speech-language pathologists about whether or not clients use the behaviours correctly (Onslow & O’Brian, 1998), (2) descriptors do not seem necessary for the treatment process (Packman et al., 1996), and (3) each client is encouraged to develop his or her own technique, based on what they find most successful to control their own stuttering. At first, clients read the text in silence along with the pre-recorded speech model. The speech-language pathologist asks clients to describe the prolonged speech of the model and uses the client’s descriptors for future discussion and feedback during treatment. The speech-language pathologist gradually teaches the client to imitate the pre-recorded speech sample by first reading aloud with the model, then by repeating the model phrase by phrase or sentence by sentence. Each attempt is recorded and compared to the model, which the client evaluates. That way clients learn and are guided to self-evaluate their speech. The ultimate goal of this process is that clients are able to read the entire passage independently without the model, while sounding like the model and feeling in control of their stuttering. This usually takes several sessions. Clients download the pre-recorded speech model to their phone or other device and practise this between clinic sessions. In the next step, clients read other passages using their technique in the same way, then while talking in monologue or describing a picture, and finally in conversation with the speech-language pathologist. Clients should not speed up the speech but should practise the exaggerated, slow prolonged speech like the model. They need to feel completely in control of their stuttering. The speech-language pathologist uses normal speech during conversation, apart from isolated brief moments of imitating the speech model. The speech-language pathologist gives clients home assignments to practise their fluency technique, so that it sounds just like the model, while reading aloud, in monologue and in conversation with a partner, following the sequence of the steps taken during the clinic sessions. Clients record the attempts and bring them to the clinic session to discuss them with the speech-language pathologist.

Fluency technique scale

Once clients can produce the prolonged speech fluency technique well, they are introduced to the fluency technique scale. The fluency technique scale records how much technique they use during a conversation. Similar to the stuttering severity scale, a 9-point scale is used with 0 = “no speech technique” and 8 = “similar to the training model with maximum technqiue” (Figure 3).

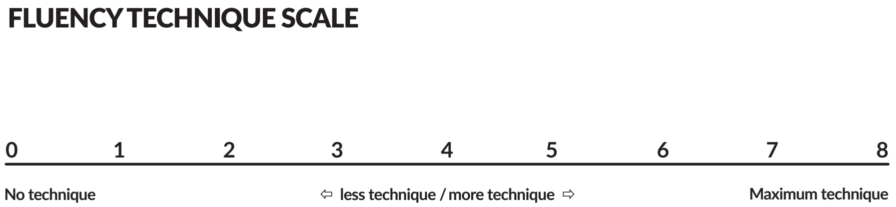


Figure 3: Fluency technique scale

Even though clients only actively begin to increase the naturalness of their fluency technique in Stage 2, it is useful to introduce the scale in Stage 1 so that clients have an idea of how they will ultimately sound. Pre-recorded training models at different prolonged speech fluency technique levels can be found on the Australian Stuttering Research Centre website (“Australian Stuttering Research Centre”, 2022), or the speech-language pathologist can demonstrate them. These can be used to illustrate the different levels of using the technique (and consequently, sounding more or less natural).

Anxiety measures

Anxiety as a consequence of stuttering is common in AWS. Anxiety can be an obstacle for achieving treatment goals, and it needs to be documented and monitored during treatment to obtain maximal gains from the program. In some cases, referral to a psychologist is recommended.

Anxiety measures include measures of distress and level of avoidance. Subjective Units of Distress Scale (SUDS) refer to a 11-point scale with 0 = “no anxiety” and 10 = “extreme anxiety” (Figure 4).

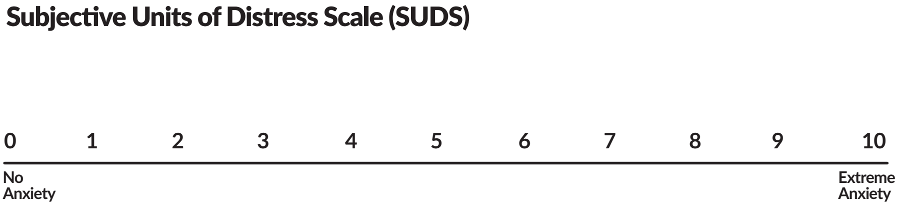


Figure 4: Subjective units of distress scale

Situation avoidance can be described as ‘rarely’, ‘sometimes’, or ‘usually’. Scores of distress during everyday situations and situation avoidance can be recorded on the situations measurement chart (Figure 2) or on an e-form downloadable from the Australian Stuttering Research Centre website (“Australian Stuttering Research Centre”, 2022), along with the severity scores (and in Stage 2 also with the fluency technique scores).

Stage 1 end-criteria

The goal of Stage 1 is that clients master the prolonged speech technique at fluency technique level 7–8. No attempt should be made to lower the amount of technique at this stage of the program. Clients need to be stutter-free when using the technique throughout the clinic session. They are frequently asked to focus on the absence of stuttering and to feel the control over their stuttering, not on how their speech sounds. Clients can move to Stage 2 when (1) the stuttering severity scores of the client are in agreement with those of the speech-language pathologist, (2) they can consistently use the prolonged speech fluency technique at level 7–8 and stuttering severity level 0 in conversation, and (3) they can recognise various fluency technique scores when demonstrated by pre-recorded models or by the speech-language pathologist.

Stage 2

In Stage 2, individualised, natural-sounding, stutter-free speech is gradually established during conversation with the speech-language pathologist. Clients who stutter severely may end with a new way of speaking that is not extremely natural. It is the choice of the client to accept no stuttering in less natural speech due to more use of fluency technique or more stuttering in more natural speech and less use of fluency technique.

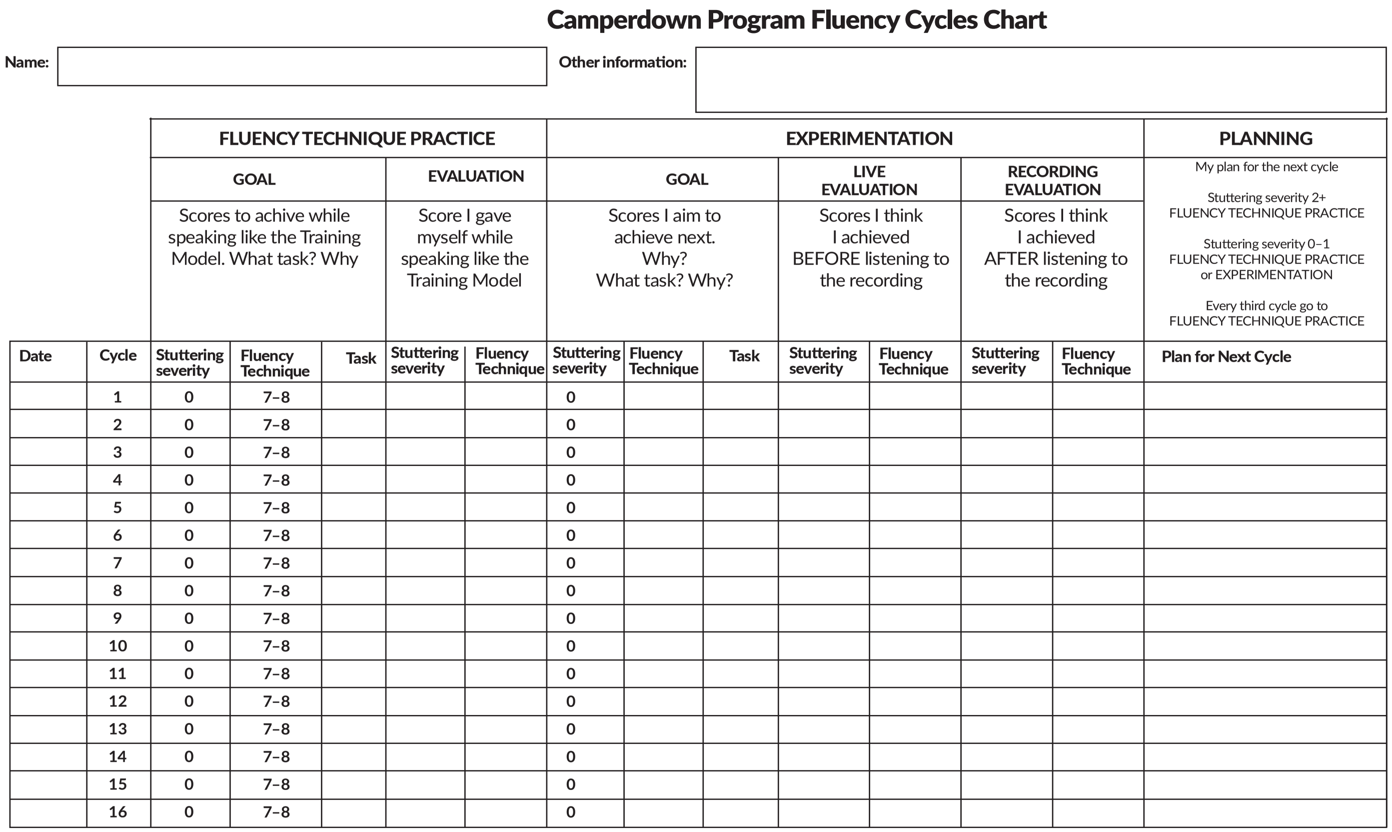
During Stage 2, clients continue to consolidate their use of the training model fluency technique, work towards their own natural sounding fluency technique that is sufficient to control their stuttering, practise self-evaluation skills for stuttering severity and fluency technique, and develop problem-solving skills to use in the next stage of treatment. They achieve these goals by practising in fluency cycles. This is recorded on the fluency cycles chart (Figure 5) or on the e-form, downloadable from the Australian Stuttering Research website ("Australian Stuttering Research Centre", 2022). A video explaining how to use the chart can be found on the Australian Stuttering Research Centre website ("Australian Stuttering Research Centre", 2022). Stage 2 can be organised in a group session (e.g. O'Brian et al., 2003).

Fluency cycles

Each fluency cycle has three parts that each take approximately five minutes: (1) Fluency technique practice, (2) Experimentation, and (3) Planning. Clients complete as many fluency cycles over as many weeks as is necessary to establish their own, natural sounding fluency technique to control their stuttering.

Part One: Fluency technique practice

The goal of this part is to consolidate the fluency technique learned during Stage 1. Just like a sports person who continually practises the basic skills in his /her sport, so the person who stutters needs to practise the basic skills to control stuttering. The speech during this part does not sound natural but should completely control the stuttering. As seen in Figure 5, the goals have been pre-set: stuttering severity is 0 and the goal of fluency technique is 7–8. The task should vary in each cycle, and clients can choose between practising along with the model, reading aloud from any book, talking about a predetermined topic, describing a picture, or having a conversation with the speech-language pathologist. Clients need to justify why they chose the activity each time. Self-confidence in a situation or the cognitive load of that situation often influences the choice of task. Recording the task during fluency technique practice is useful for discussion afterwards. Clients evaluate their performance for stuttering severity and fluency technique. Initially it may be necessary to listen to the recording. Later in Stage 2, this may not always be necessary.



Camperdown Program Fluency Cycles Chart

Name:

Other information:

		FLUENCY TECHNIQUE PRACTICE					**EXPERIMENTATION**							**PLANNING**
		GOAL			**EVALUATION**		**GOAL**			**LIVE EVALUATION**		**RECORDING EVALUATION**		My plan for the next cycle Stuttering severity 2+ FLUENCY TECHNIQUE PRACTICE Stuttering severity 0–1 FLUENCY TECHNIQUE PRACTICE or EXPERIMENTATION Every third cycle go to FLUENCY TECHNIQUE PRACTICE
		Scores to achive while speaking like the Training Model. What task? Why			Score I gave myself while speaking like the Training Model		Scores I aim to achieve next. Why? What task? Why?			Scores I think I achieved BEFORE listening to the recording		Scores I think I achieved AFTER listening to the recording		
Date	**Cycle**	**Stuttering severity**	**Fluency Technique**	**Task**	**Stuttering severity**	**Fluency Technique**	**Stuttering severity**	**Fluency Technique**	**Task**	**Stuttering severity**	**Fluency Technique**	**Stuttering severity**	**Fluency Technique**	**Plan for Next Cycle**
	1	0	7–8				0							
	2	0	7–8				0							
	3	0	7–8				0							
	4	0	7–8				0							
	5	0	7–8				0							
	6	0	7–8				0							
	7	0	7–8				0							
	8	0	7–8				0							
	9	0	7–8				0							
	10	0	7–8				0							
	11	0	7–8				0							
	12	0	7–8				0							
	13	0	7–8				0							
	14	0	7–8				0							
	15	0	7–8				0							
	16	0	7–8				0							

Figure 5: The fluency cycles chart

Part Two: Experimentation

Over a number of weeks, clients develop their own fluency technique, continually making it sound more natural while still controlling their stuttering. This can happen gradually by systematically decreasing a fluency technique score over many cycles, or clients can experiment with different amounts of technique until they find a level suited to them. The goal of stuttering severity is always 0 (see Figure 5), as the clients are always trying to maintain control of their stuttering. Clients decide for themselves on the goal of the fluency technique, to match their level of skill. Their level of skill is based on successful attempts in previous cycles. Goal-setting is determined by the client, not by the speech-language pathologist, as this helps the client to develop their problem-solving skills. They justify their goals to the speech-language pathologist; for example, that they lost control during the previous cycle and, therefore, need to increase the amount of fluency technique they will use next time to regain control. Again, clients choose the task between reading, speaking in monologue, or having a conversation or debate with the speech-language pathologist, and tell the speech-language pathologist the reason for their choice. Increasing self-confidence usually leads to more difficult tasks. The tasks during experimentation are recorded for future discussion. For the first fluency cycle, clients need guidance to help select the appropriate fluency technique goal. For later cycles, goals will be determined by performance in previous cycles. It is important to remember that control of stuttering is the primary goal, with experimenting with fluency technique scores being a secondary goal.

Clients evaluate their performance for stuttering severity and fluency technique straight after the performance ('Live evaluation' in Figure 5), and also after listening to their recording ('Recording evaluation' in Figure 5). The speech-language pathologist does not discuss the scores given straight after the performance but does so after listening to the recording in order to validate the client's scores.

Part Three: Planning

Initially, the speech-language pathologist helps clients to plan strategies and to set goals for the next fluency cycle. A stuttering severity of greater than 1 during the previous cycle indicates that a client was not in control of his/her stuttering. This would suggest a need to practise the technique again at the start of the next cycle at fluency technique practice (part 1 of the cycle, Figure 5). By contrast, if a stuttering severity score of 0 or 1 was achieved in the previous cycle, this would indicate reasonable control of stuttering and clients can choose to start the next cycle either with fluency technique practice (part 1 of the cycle, Figure 5) or with experimentation (part 2 of the cycle, Figure 5). Clients should start at least every third cycle with fluency technique practice (part 1 of the cycle, Figure 5). When clients are consistently successful in controlling their stuttering during the cycles, it may be appropriate to set the fluency technique goal at 4 or 5 for the fluency technique practice (part 1 of the cycle, Figure 5).

The above instructions are written on the fluency cycles form ('Planning' in Figure 5) to guide the client in the process. It is helpful for the client to complete as many fluency cycles as possible at home with a supportive person, between two clinic sessions. This creates the massed practice referred to earlier in the chapter in the analogy with learning a sport. Reading and monologue can be done, but conversation with the supportive person should be the main task in the self-administered fluency cycles.

In order to get used to the stuttering severity scores, clients are encouraged to record stuttering severity scores for daily situations even though the scores do not have an immediate use (only in Stage 3).

Stage 2 end-criteria

The goal of Stage 2 is to establish an individualised, natural sounding fluency technique which can be used to control the client's stuttering when and where he/she wishes. Clients can move to Stage 3 when they can use their individualised fluency technique during their everyday talking and throughout the entire clinic session in conversation with the speech-language pathologist, while sounding natural and controlling their stuttering with a stuttering severity score 0 or 1.

Stage 3

The aim of Stage 3 is for clients to generalise their stuttering control using their fluency technique to everyday speaking situations. The level of commitment to practise in everyday talking, and the ability to problem-solve well, impact on the ease of this generalisation. Progress is monitored by using the daily measurement chart (Figure 2) and the situation measurement chart (Figure 7, below). Both serve different purposes, i.e., to record fluency technique scores over time and to record stuttering-related scores (including anxiety, naturalness, …) in different speaking situations. It is important that clients are able to control their stuttering to an acceptable level while using an acceptable level of fluency technique. Also, during Stage 3, clients develop and follow an individualised hierarchy of speech transfer tasks. The following procedures typically occur during each weekly Stage three session.

Camperdown Program
Situations Measurement Chart

ADD SITUATIONS TO REPRESENT YOUR EVERYDAY LIFE

SITUATIONS	TYPICAL STUTTERING SEVERITY 0–8	HIGHEST STUTTERING SEVERITY 0–8	FLUENCY TECHNIQUE 0–8	ANXIETY (SUDS) 0–10	AVOIDANCE Rarely Sometimes Usually
Family					
Friends					
Social situations					
Boss or authority figure					
Clients at work					
Phone calls at work					
Formal presentations					
Ordering food or drink					

Figure 6: Situations measurement chart

Consistent control of stuttering

Throughout each clinic session, clients should speak without stuttering or with minimal stuttering and constantly evaluate their speech. The speech-language pathologist and the client have a conversation at the start of each clinic session. As mentioned before, this situation can be used to calibrate scores.If clients are not in control of their stuttering during this conversation, it is likely that they won't be during more challenging everyday talking situations. In such cases, strategies to gain control of stuttering again are then discussed and implemented before discussing and addressing everyday speaking progress.

Three types of practice

Clients continue to practise their fluency technique at home between clinic sessions. The speech-language pathologist reviews the amount and type of practice done by the client during the week, and together they determine whether it was appropriate to assist and maintain progress. Practice can be roughly divided into three types: (1) practising the basic fluency technique, (2) practising in controlled speaking activities, and (3) practising in planned everyday conversations.

(1) The aim of this type of practice is to consolidate the fluency technique in very simple tasks. Usually, the technique level used would be around 5–8, and frequently this practice is done by the client alone. Tasks for practising the basic fluency technique may include: reading the training text together with or after the pre-recorded model, reading other material, describing a picture or speaking in monologue. Sometimes it helps to start the activity at a high technique level (6–8) and then gradually move to a moderate technique level (3–5) and finish at a level acceptable to use in "the real world" (1–2). Practising the basic fluency technique is necessary when clients have difficulty maintaining control of the stuttering.

(2) The aim of this type of practice uses natural-sounding technique in more complex or challenging situations but ones which can still be controlled. It will typically involve another person. Such controlled speaking situations may include talking with a practice partner or other supportive person, reading a book to a listener, rehearsing a speech or presentation out loud, or having a conversation with a practice partner over loud noise (e.g., TV or radio). Public role-playing programs, for example, Scenari-Aid (Meredith, 2020), can also be used.

(3) The aim of this type of practice is to use "real world" situations, but ones the client has planned in advance and over which he/she has some control. Tasks include talking on the phone to make an enquiry, visiting a shop or business, talking to the

person at the counter of a supermarket, ordering food in a restaurant or bar, talking to a colleague during lunch or break, or introducing yourself during a social gathering.

Embedding practice into a client's routine makes it more likely to be done. A reminder system such as putting an alarm on a smart phone may also be useful.

Reporting scores and evaluation of recordings

Clients document stuttering severity scores, fluency techniques scores, and anxiety scores of situations during everyday speaking situations between visits. The daily measurement form (Figure 2) and the situation measurement form (Figure 7) can both be used for this purpose. Clients may assign a typical stuttering severity score and a highest score for each day with a corresponding fluency technique score for each. The speaking situation to which the highest severity score was assigned is described. It will become clear which situations are challenging for the client, and these can be documented on the situation measurement form (Figure 7) and targeted later on in treatment. It is important to also document anxiety scores.

During the clinic sessions, the speech-language pathologist discusses the scores, listens to any of the recordings, and evaluates with the client their proposed strategies to address any difficulties. If clients are in control of their stuttering but they use a lot of fluency technique, it is necessary to problem-solve towards using a more acceptable amount of fluency technique. If clients are not in control of their stuttering, the speech-language pathologist problem-solves with them as to why they are not in control. Possible reasons are that the fluency technique is not used or inappropriately used, that the linguistic or cognitive demands of some situations are challenging, or that clients are anxious in some situations. Most often all three issues overlap and need to be addressed.

Systems can be developed to help incorporate practice routines. If linguistically or cognitively demanding situations generate difficulties in using the fluency technique, gradually increasing the complexity of the tasks during practice is useful; for example, simple time-pressure tasks or debates. If anxiety scores are high, it may be necessary to add CBT-components to the treatment.

Addressing anxiety

The *Camperdown Program* does not incorporate standard CBT-components in the treatment; however, they are easily integrated into the program when or if needed. For example, anxiety often becomes an issue during Stage 3 generalisation activities, and may lead to the loss of control of the stuttering. Sometimes it is necessary to refer clients to a psychologist with specialist CBT-training. Clients can often be helped with an internet CBT-treatment; for example, the iGlebe program. The iGlebe program can be accessed on the Australian Stuttering Research Centre website ("Australian Stuttering Research Centre", 2022). This is a stand-alone internet-based treatment with strong evidence of efficacy when used with AWS and who have co-occurring anxiety disorders (e.g., Helgadottir et al., 2009; 2014). The speech-related anxiety reduced or disappeared, albeit without improvement of the speech. More details about the iGlebe program can be found below. It can be done together with the speech-language pathologist or by the clients themselves. Menzies et al. (2019a) showed only minor differences between iGlebe and CBT-treatment delivered by a clinical psychologist at the clinic. The iGlebe program is free of charge and can be accessed on the website of the Australian Stuttering Research Centre ("Australian Stuttering Research Centre", 2022).

If speech-language pathologists know how to deliver basic CBT-components, they can deliver them in conjunction with the *Camperdown Program*. A tutorial developed by Menzies et al. (2009) for speech-language pathologists can support this delivery. Menzies et al. describe four CBT-components: exposure, behavioural experiments, cognitive restructuring, and attentional training.

Individualised speech task hierarchy

Not all clients find the same speech tasks easy or difficult. It is essential that clients evaluate their speech in different situations and then make an individual list of speech tasks to address. The client and the speech-language pathologist can then work together to work out why clients find situations difficult (underlying reason), and work out strategies to address the difficulties. Treatment needs to focus on underlying reasons and not on simple practice. Over time, clients are encouraged to do this problem-solving without the assistance of the speech-language pathologist. In this way, they become able to maintain gains over time and avoid relapse.

Planning

At the end of each clinic session, and based on the information and performances of the client, the speech-language pathologist and client together plan the new strategies or changes for the practice tasks for the coming week.

Stage 3 end-criteria

The goal of Stage 3, and the criteria for progressing to Stage 4, is for the client to be able to use their fluency technique at an acceptable level to control stuttering in their everyday speaking environment, without avoiding situations. Sometimes, clients may only wish to use their technique some of the time or in some situations. That is entirely their choice and needs to be discussed with the speech-language pathologist. Some clients decide it is acceptable for them to have some more stuttering while using less fluency technique and some clients prefer the opposite. Stage 3 is finalised when these personal goals are achieved.

Stage 4

Stage 4 aims to maintain previous treatment benefits. Clinic sessions are scheduled less frequently as clients demonstrate they are maintaining the treatment gains. Consistent practice of the fluency technique is essential. Attending self-help groups can be useful at this stage.

During the clinic sessions in Stage 4, clients are required to maintain control of their stuttering throughout the session. They present stuttering severity scores, fluency technique scores, and anxiety scores that are acceptable within the set goals and they bring recordings of some everyday situations. They show the speech-language pathologist how they implemented strategies in situations that evoked increased stuttering.

Realistic expectation

It is necessary that clients have realistic expectations about their stuttering. Without practice, clients will not maintain the achieved treatment gains. Stuttering is a relapse-prone disorder. Stuttering may increase at times when clients do not practice sufficiently or when their lives become stressed. Clients need to remember that the fluency technique is like playing a sport – the skill is maintained with practice. On the other hand, it may be possible that clients choose not to practise for some time and only use the fluency technique in some periods in life.

Different clinical formats for the *Camperdown Program* and its evidence

The *Camperdown Program*, as described here, is the standard clinical format. AWS see the speech-language pathologist during individual, face-to-face sessions at the clinic. The *Camperdown Program* was trialled with 30 adults, 16 of whom were followed up for 12 months (O’Brian et al., 2003). They achieved no, or nearly no, stuttering in everyday speaking situations up to 12 months after starting the program. On average 20 hours of clinic sessions were necessary to achieve the treatment outcome.

The *Camperdown Program* can also be delivered to adolescents who stutter. Slight modifications, such as different training models, have been developed for this age group. They tend to take more time to master the fluency technique and also need more assistance with problem-solving. Parents of the adolescents are involved in the treatment; the degree of involvement depends on the age of the adolescent, the organisational skills of the adolescent, the availability of the parent, and the relationship between the adolescent and the parent. Despite the involvement of the parent, the adolescent needs to be included in every decision made in treatment.

Hearne et al. (2008) showed that the *Camperdown Program* in adolescents who stutter can be delivered but produced mixed results. They organised individual, face-to-face clinic sessions with one intensive group practice day for three adolescents who stuttered. One adolescent achieved minimal stuttering 12 months after treatment, one halved his stuttering severity, and one did not benefit from treatment. Two further studies of the program were conducted with adolescents via webcam. These two trials (Carey et al., 2012, 2014), consisting of 53 participants, produced group mean reductions in stuttering of 66%, and around 82% respectively, with the number of clinician hours decreasing still further to an average of between 10–12.

The *Camperdown Program* has also been trialled with adults by phone or webcam in a one-to-one set-up. O'Brian et al. (2008) showed the viability of the *Camperdown Program* by phone with 10 AWS. There was variation in outcomes with this method but, overall, the group showed an 83% reduction in stuttering immediately post-treatment and a 74% reduction 12 months later. Carey et al. (2010) showed no difference between treatment outcomes of 20 AWSed and received the *Camperdown Program* face-to-face at the clinic, versus 20 adults who received the *Camperdown Program* via webcam. Treatment outcome was measured immediately post-treatment and 6 months and 12 months post-treatment. These days, it is much easier to transfer the recordings and weekly data via electronic forms (see "Australian Stuttering Research Centre", 2022, for electronic versions of all *Camperdown* forms).

The *Camperdown Program* can also be run in group intensive formats and with students under clinical supervision (Cocomazzo et al., 2012). This study achieved similar outcomes to previous clinical trials of the program.

Case study

Assessment

Howard is a 37-year-old male, married with no children. He works as leader of an accounts team in a large business. He has stuttered since early childhood.

At assessment, he presented with moderate stuttering, rated Severity Rating (SR) 5 in the clinic, but he described his stutter as varying from SR 2–6 depending on the situation. With family and close friends, he could be around SR 2 but, in some work situations in particular, he could be as high as 6. Anxiety was not an over-riding issue but he admitted he did occasionally get anxious about his speaking in some situations.

He had previously received treatment about 15 years ago when he took part in an intensive group "smooth speech" program. He had a good result from this, but the benefits gradually reduced over the next 6–12 months. He was primarily seeking to regain control of his stutter, but wanted strategies to reduce the chance of relapse again.

We discussed the *Camperdown Program* with him as a treatment to help control his stuttering. We also discussed that the focus of the treatment was to teach him to problem-solve any issues with his stuttering and to help him to gradually take over management of his own stuttering control on a day-to-day basis.

Stage 1

SR Scale

Howard was introduced to the stuttering SR scale. His rating of his speech matched the speech-language pathologist's score fairly quickly. He recorded his speech in different situations over the next few weeks and confirmed his SR scores with those of the speech-language pathologist. Agreement in the use of the scale was reached very quickly.

Fluency technique

He was introduced to the fluency technique training model. At first, he was very focused on getting the technique "correct", going back to earlier training he had done using soft contacts, gentle onsets, etc. It took some time to explain that there is no such thing as a "correct" technique – every person will develop their own technique, individual to them, which will control their stutter. He had to focus on the features he needed to use to feel in control of his stutter. Once he had come to terms with this approach, he felt much more comfortable about what he needed to do to control his stuttering.

Fluency Technique Scale

Howard had no trouble with the fluency technique scale, giving mostly similar numbers to the speech-language pathologist for different technique levels.

Moving to Stage 2

After three sessions, he was reliable with his use of both the SR scale and the fluency technique scales. He was able to use his individualised fluency technique to control his stuttering at fluency technique level 7–8 while conversing with the speech-language pathologist throughout the entire session. These criteria meant he could move to Stage 2 of the program.

Stage 2

Fluency cycles

The aim of Stage 2 for Howard was two-fold: 1) to gradually make his speech sound more natural in the clinic while continuing to control his stutter and 2) to start to develop his evaluation and problem-solving skills so that he could decide how to manipulate his fluency technique to control his stuttering in different tasks. Initially he wanted the speech-language pathologist to tell him what to do next during the fluency cycles. But once he realised that he needed to do the evaluating and the thinking, he really enjoyed the fluency cycles process. He could very quickly see how he was learning what he needed to do to control his stuttering rather than the other way around.

He performed many of the cycles at home between visits, often with his wife, which made his progress reasonably fast. In the last couple of weeks, the speech-language pathologist and Howard focused on getting him to practise his technique under different conditions during fluency cycles while still in the clinic. He needed to work out how to adjust his technique to control his stutter when there were other competing demands; for example, when talking over loud noise, when doing a secondary task at the same time, when required to give quick answers to questions, or when others interrupted him. After seven sessions, he was using a technique level that was acceptable to him (fluency technique level 2) while completely controlling his stuttering. He had met criteria to move to Stage 3.

Stage 3

Generalisation

In Stage 3, Howard was introduced to the three different types of speech practice that he needed to do in order to consolidate and maintain his fluency technique.

He was a tennis player, so an analogy with this sport was given. He needed to 1) consolidate his fluency technique in simple exercises – practising his technique at high fluency technique numbers in simple situations (tennis analogy: 20 forehands, 20 backhands, 20 smashes, 20 volleys, making sure his grip and footwork were good), 2) practise his technique in simulated real situations over which he had complete control (tennis analogy: practising real games with his coach), and 3) practise his technique in planned real-world everyday situations (tennis analogy: real game under pressure, against different players, in different weather conditions). We developed a practice schedule that suited his daily routine and which encompassed doing these three types of practice.

Howard then started to use his fluency technique to control his stuttering out in the real world, as opposed to the clinic with just the speech-language pathologist. Initially, he was told to try to use it in situations where he felt comfortable and wanted to control his stuttering. He recorded his daily SR and fluency technique ratings and also his anxiety on his daily measurement chart. He also documented his highest SR for the day and the situation in which it occurred. Over the first couple of weeks, he worked out which situations were easy for him, and which were a bit more difficult. Then we started to analyse each of the tricky situations one at a time together, still with the emphasis on him trying to do most of the problem-solving himself, with assistance.

He was introduced to the specific process of problem-solving involving the three general areas where problems typically arise: issues with practice, issues with cognitive or linguistic demands, and issues with anxiety. He learnt to look at each difficult situation in terms of why his fluency technique was failing him. Did he need to change the type of practice he was doing to target a specific situation? Was anxiety affecting how he used his fluency technique? He and the speech-language pathologist often discussed some simple CBT-strategies to allow him to deal with minimal anxiety. Anxiety was not a major problem; referral to a psychologist was not necessary.

One-by-one he learnt to analyse each difficult situation he encountered and plan strategies to address the difficulty he was having. He commented that he felt far more in control of his speech than ever before. He did not expect to always have minimal stuttering, but he knew how to analyse any situation and work out a plan to address the difficulty. He knew how to address relapse before it took hold.

During the course of Stage 3, and as Howard felt more able to deal with any difficulties that arose, his sessions with the speech-language pathologist were spread further apart. Often, he would come to the clinic after a break of a couple of weeks and describe which situations had been tricky and how he had managed to address them. After 8 sessions spread over about 5 months, he moved into Stage 4, as he showed evidence of maintaining acceptable levels of stuttering, using acceptable fluency technique in most everyday situations, and had also demonstrated confident problem-solving skills to address any setbacks.

Stage 4

Maintenance

The focus of Stage 4 was to ensure that Howard continued to feel confident to address any fluctuations in his stuttering. He knew that he could not be in control of his stuttering 100% of the time and that some situations would be more difficult to control than others, but he needed to feel confident that he had the skills to address any problems as they arose, and, therefore, that major relapse was unlikely. Stage 4 lasted for about a year with the time between visits stretching to about 6 months.

Summary

Howard took 18 sessions over about 8 months to complete Stages 1–3 of the program and his progress was monitored for another year of infrequent sessions after moving into maintenance (stage 4). He felt confident that he had developed good problem-solving skills that should allow him to deal with fluctuations in his stuttering control in the future.

Discussion/implications

In this chapter, the *Camperdown Program*, a speech restructuring program for AWS, is put into context, described and discussed. The *Camperdown Program* is a speech restructuring treatment with the primary focus on reducing stuttering, but with a secondary focus on addressing associated speech-related anxiety when it becomes an issue. The individual, face-to-face clinic format is the most common method of implementation used in community clinics and is described in detail in previous sections.

As mentioned at the beginning of the chapter, it is important that when delivering the *Camperdown Program*, speech-language pathologists remember to integrate the three types of evidence: patient evidence, practice evidence, and research evidence (McCurtin & Cater, 2015). Most importantly, speech-language pathologists need to make sure they listen to, and address, the specific complaints and needs of each client. If an AWS has concerns primarily about cognition (for example, reducing the speech-related anxiety), these should be addressed before considering a stuttering reduction treatment such as the *Camperdown Program*. The various treatment options should always be discussed with each client. AWS who request the *Camperdown Program* need to be informed about the effort required to achieve and maintain treatment gains: that it involves long-term control of stuttering; and that it is not a "quick fix". Internal motivation is essential. While the *Camperdown Program* guide (O'Brian et al., 2018) presents the treatment concepts in a recommended sequence, it is anticipated that each concept will be individualised, as each client presents with a different set of problems, beliefs, and expectations. Speech-language pathologists need to make sure they are open-minded to learn about different treatment approaches. Restricting their skill set to a few treatments (McCurtin & Carter, 2015) does not offer the best possible care for the client. Broadening their knowledge and skill set, for example, to learn (in this case) about the *Camperdown Program*, needs to involve formal teaching by attending a workshop or by thorough self-study and monitoring from an experienced clinician. Finally, it is important to read and critically evaluate the research publications about the treatment that speech-language pathologists plan to deliver, in this case the *Camperdown Program*. Several clinical trials with the *Camperdown Program* have been conducted, and it became clear that not all adults or adolescents who stutter achieved the same goals. As Baxter at al. (2015) reflect about stuttering treatment for adults: "Establishing what a good outcome following [stuttering] treatment should be, is a key issue for the field" (p. 689). It is, therefore, important to set realistic expectations and to discuss the individual goals with the client prior to starting the *Camperdown Program*.

The *Camperdown Program* uses a self-report stuttering severity rating scale to measure stuttering reduction throughout the program. This feature is based on evidence that clients are able to use this measure reliably (O'Brian et al., 2004). O'Brian et al. (2020) propose the self-reported speech outcome (stuttering severity score) as an alternative for %SS as an outcome measure, even though the latter is used in most research publications. It is not surprising to observe that %SS and the self-reported severity scores do not correlate, as %SS is primarily a stutter count measure, while self-reported severity ratings take into consideration stuttering type as well as frequency. By looking what both outcomes entail, however, it may be less surprising: %SS describes the frequency of stuttering based on the total number of syllables, whereas self-reported severity scores take both frequency and type of stuttering moments into account. When looking at the distributions of the treatment outcomes in the study of O'Brian et al., %SS shows a highly positive skewed curve (more stuttering documented at lower values), while self-reported severity scores shows a more normal distribution.

Karimi et al. (2018) propose the Communication in Everyday Speaking Situations scale as an overarching outcome measure for treatment evaluation which takes into account stuttering features, cognitive features, and quality of life. This outcome measure is the answer to one question: "Considering all the issues associated with your stuttering, how satisfied are you with your communication in everyday speaking situations at the present time?" AWS answer this question with a 9-point scale, starting at 0 = extremely satisfied to 9 = extremely dissatisfied. By looking at the correlation of the Communication in Everyday Speaking Situations scale with existing scales, it revealed a significant and strong correlation with the self-reported severity scores, the *Unhelpful Thoughts and Beliefs Scale* (UTBAS, St Clare et al., 2009) and the total *Overall Assessment of the Speaker's Experience of Stuttering* (OASES, Yaruss & Quesal, 2010). The Communication in Everyday Speaking Situations scale did not correlate with %SS. This scale could be added to the evaluations throughout the *Camperdown Program* and other stuttering treatments to have a quick tool for evaluating overall improvement.

In the *Camperdown Program*, AWS are asked to make recordings of speaking situations when they are using their fluency technique. These recordings can be audio- or video-recordings. O'Brian et al. (2015) observed that the evaluations of audio- and video-recordings did not differ. If one were to use %SS, it would be necessary to use video-recordings because evaluations via audio- and video-recording significantly differ, with the latter being more reliable.

In the early days of the speech restructuring treatments, the focus of the treatment was often solely on the reduction of stuttering. However, research has made clear that speech restructuring treatment is often not sufficient for AWS, given the frequent co-morbidity with speech-related anxiety in AWS (Iverach et al., 2009b). The *Camperdown Program* incorporates the opportunity to also work on cognition, more specifically on the speech-related anxiety. O'Brian et al. (2018) suggest using the iGlebe program (as introduced before) for AWS (e.g., Menzies et al., 2019b) to address anxiety during implementation of the *Camperdown Program*. Menzies et al. (2019b) compared the treatment outcome of 32 adults who received three days of speech restructuring practice in an intensive group format followed by one clinic group session each month for five months. The program was based on the concepts of the *Camperdown Program* but did not include its stages three or four. Half the group received access to the iGlebe Program for five months after the intensive speech treatment. Treatment outcome in the group who had access to the iGlebe Program was clinically significantly better for self-reported stuttering severity scores and for the quality of life at 12 months after treatment.

The iGlebe Program has also been trialled with an international group of participants. Menzies et al. (2016) gave 267 AWSed from around the world access to the iGlebe Program. Most of these adults were native English-speaking and resided in Australia (n = 151), UK (n = 25), Canada (n = 24), US (n = 22), New Zealand (n = 9), South Africa (n = 6), and Ireland (n = 1). AWS from non-English speaking countries also participated, including those from Spain, India, Croatia, Singapore, Brazil, the Netherlands, Finland, China, Pakistan, Nigeria, Denmark, Indonesia, France, Austria, Iran, and Israel. About a fifth (18.4%) completed the program along with the post-treatment assessment. This was an acceptable response rate for participation in a standalone internet health program. Treatment outcome was similar to treatment outcomes of earlier trials with the iGlebe Program (e. g., Helgadottir et al., 2009; 2014).

Conclusion and future directions

If an adult or adolescent who stutters requests assistance specifically to target stuttering reduction, the *Camperdown Program* is an *Evidence-based treatment* to consider for multiple reasons. The *Camperdown Program* is a concept-based, behavioural treatment with the primary focus on client stuttering reduction. The fluency technique that is used is based on prolonged speech and is taught by imitating a model. During Stage 3, when the client transfers the fluency technique from the practice tasks to everyday speaking situations, it is also recommended that treatment directed at speech-related anxiety (CBT-components) is implemented, if appropriate for the client. One way to incorporate the CBT-components, if speech-language pathologists do not possess the necessary skills, is to give clients access to the iGlebe Program, which is free of charge. Access to this program can be found on the Australian Stuttering Research Centre website ("Australian Stuttering Research Centre", 2022). The *Camperdown Program* is supported by several clinical trials that can help speech-language pathologists to formulate realistic expectations for and with clients.

Multiple Choice Questions

1. The *Camperdown Program* is a program for
   a) AWS
   b) adolescents who stutter
   c) adults and adolescents who stutter
2. In the *Camperdown Program*, clients learn a new speech pattern based on
   a) gentle onset
   b) prolonged speech
   c) rhythm and prosody
3. The *Camperdown Program* consists of
   a) two treatment stages

   b) three treatment stages
   c) four treatment stages
4. The aim of the *Camperdown Program* is
   a) to achieve no, or low levels of, stuttering in all situations, for all clients
   b) to achieve lower levels of stuttering in all situations
   c) to achieve low levels of stuttering in some or all situations, depending on what the client seeks help for
5. To the *Camperdown Program*
   a) CBT-components are added in the treatment phase for all clients
   b) CBT-components are added in the treatment phase, if clients require help for anxiety related to the stuttering
   c) CBT-components can never be added, even if the clients require help for anxiety related to the stuttering

Suggested Reading

Australian Stuttering Research Centre (2023, February 13). https://www.uts.edu.au/asrc/resources.

Carey, B., O'Brian, S., Onslow, M., Block, S., & Jones, M. (2010). Randomised controlled non-inferiority trial of a telehealth treatment for chronic stuttering: the Camperdown Program. *International Journal of Language and Communication Disorders, January-February, 45*, 108–120.

Lowe, R., Menzies, R.G., Onslow, M., Packman, S., & O'Brian, S. (2021). Speech and anxiety management with persistent stuttering: Current status and essential research. *Journal of Speech, Language, and Hearing Research*. Advance online publication.

Menzies, R., O'Brian, S., Packman, A., Jones, M., Helgadóttir, F.D., & Onslow, M. (2019). Supplementing stuttering treatment with online cognitive behavior therapy: An experimental trial. *Journal of Communication Disorders, 80*, 81–91.

O'Brian, S., Carey, B., Lowe, R., Onslow, M., Packman, A., & Cream, A. (2018). *The Camperdown Program treatment guide*. https://www.uts.edu.au/research/australian-stuttering-research-centre/resources/camperdown-program.

References

Australian Stuttering Research Centre, (2023, February 13). *ASRC resources*. https://www.uts.edu.au/asrc/resources/asrc-resources.

Baxter, S., Johnson, M., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., & Goyder, E. (2015). The state of the art in non-pharmacological interventions for developmental stuttering.

Part 1: a systematic review of effectiveness. *International Journal of Language and Communication Disorders*, *50 (5)*, 676–718.

Blomgren, M. (2013). Behavioral treatments for children and AWS: A review. *Psychology Research and Behavior Management*, *6*, 9–19.

Bothe, A.K., Davidow, J.H., Bramlett, R.E., & Ingham, R.J. (2006). Stuttering treatment research 1970–2005: I. Systematic review incorporating trial quality assessment of behavioral, cognitive, and related approaches. *American Journal of Speech, Language Pathology*, *15*(4), 321–41.

Carey, B., O'Brian, S., Onslow, M., Block, S., Packman, A., & Jones, M. (2010). Randomized controlled non-inferiority trial of a telehealth treatment for chronic stuttering: the Camperdown Program. *International Journal of Language and Communication Disorders*, *45*, 108–120.

Carey, B., O'Brian, S, Onslow, M., Packman, A., & Menzies, R. (2012). Webcam delivery of the Camperdown Program for adolescents who stutter: A phase I trial. *Language, Speech, and Hearing Services in Schools*, *43*, 370–380.

Carey, B., O'Brian, S., Lowe, R., & Onslow, M. (2014). Webcam delivery of the Camperdown Program for adolescents who stutter: A phase II trial. *Language, Speech, and Hearing Services in Schools*, *45*, 314–324.

Cocomazzo, N., Block, S., Carey, B., O'Brian, S., Onslow, M., Packman, A., & Iverach, L. (2012). Camperdown Program for AWS: a student training clinic Phase I trial. *International Journal of Language and Communication Disorders*, *47*, 365–372.

Craig, A., Blumgart, E., & Tran, Y. (2009). The impact of stuttering on the quality of life in AWS. Journal of Fluency Disorders, 34(2), 61–71.

Dollaghan, C.A. (2007). *The handbook for Evidence-based practice in communication disorders*. Paul H Brookes Publishing.

Hearne, A., Packman, A., Onslow, M., & O'Brian, S. (2008). Developing treatment for adolescents who stutter: A phase I trial of the Camperdown Program. *Language, Speech, and Hearing Services in Schools*, *39*, 487–497.

Helgadottir, F.D., Menzies, R., Onslow, M. Packman, A. & O'Brian, S. (2009). Online CBT II: A phase I trial of a standalone, online CBT treatment program for social anxiety in stuttering. *Behaviour Change*, *26*, 254–270.

Helgadottir, F.D., Menzies, R.G., Onslow, M. Packman, A., & O'Brian, S. (2014). A standalone Internet cognitive behavior therapy treatment for social anxiety in AWS: CBTpsych. *Journal of Fluency Disorders*, *41*, 47–54.

Iverach, L., O'Brian, S., Jones, M., Block, S., Lincoln, M., Harrison, E., Hewat, S., Menzies, R., Packman, A., & Onslow, M. (2009). Prevalence of anxiety disorders among adults seeking speech therapy for stuttering. *Journal of Anxiety Disorders*, *2*, 928–934.

Iverach, L., Jones, M., O'Brian, S., Block, S., Lincoln, M., Harrison, E., Hewat, S., Cream, A., Menzies, R.G., Packman, A., & Onslow, M. (2009). The relationship between mental health disorders and treatment outcome among AWS. *Journal of Fluency Disorders*, *34*, 29–43.

Karimi, H., Onslow, M., Jones, M., O'Brian, S., Packman, A., Menzies, R., Reilly, S., Sommer, M., & Jelčić-Jakšić, S. (2018). The Satisfaction with Communication in Everyday Speaking Situations (SCESS) scale: An overarching outcome measure of treatment effect. *Journal of Fluency Disorders*, *58*, 77–85.

McCurtin, A. & Carter, B., (2015). 'We don't have recipes; we just have loads of ingredients': explanations of evidence and clinical decision making by speech and language therapists. *Journal of Evaluation in Clinical Practice*, *21*(6), 1142–1150.

Menzies, R., Onslow, M., Packman, A. & O'Brian, S. (2009). Cognitive behavior therapy for AWS: A tutorial for speech language pathologists. *Journal of Fluency Disorders*, *34*, 187–200.

Menzies, R., O'Brian, S., Lowe, R., Packman, A., & Onslow, M. (2016). International phase II clinical trial of CBTPsych: A standalone Internet social anxiety treatment for AWS. *Journal of Fluency Disorders*, *48*, 35–43.

Menzies, R., O'Brian, S., Packman, A., Jones, M., Helgadóttir, F.D., & Onslow, M. (2019). Supplementing stuttering treatment with online cognitive behavior therapy: An experimental trial. *Journal of Communication Disorders*, *80*, 81–91.

Menzies, R., Packman, A., Onslow, M., O'Brian, S., Jones, M., & Helgadóttir, F.J. (2019). In-clinic and standalone Internet CBT treatment for social anxiety in stuttering: A randomized trial of iGlebe. *Journal of Speech, Language and Hearing Research*, *62*, 1614–1624.

Meredith, G. (2020). Scenari-Aid; Simulated scenario system. https://asterius.federation.edu.au/scenariaid/

Messenger, M., Onslow, M., Packman, A., & Menzies, R. (2004). Social anxiety in stuttering: measuring negative social expectancies. *Journal of Fluency Disorders*, *29*, 201–212.

O'Brian, S., Carey, B., Lowe, R., Onslow, M., Packman, A., & Cream, A. (2018). *The Camperdown Program treatment guide*. https://www.uts.edu.au/asrc/resources/camperdown-program.

O'Brian, S., Jones, M., Onslow, M., Packman, A., Menzies, R., & Lowe, R. (2015). A comparison of audio and audiovisual measures of adult stuttering: Implications for clinical trials. *International Journal of Speech-Language Pathology*, *17*, 589–593.

O'Brian, S., Packman, A., & Onslow, M. (2008). Telehealth delivery of the Camperdown Program for AWS: A phase I trial. *Journal of Speech, Language, and Hearing Research*, *51*, 184–195.

O'Brian, S., Packman, A., Onslow, M., & O'Brian, N. (2004). Measurement of stuttering in adults: Comparison of stuttering-rate and severity-scaling methods. *Journal of Speech, Language, and Hearing Research*, *47*, 1081–1087.

O'Brian, S., Onslow, M., Cream, A., & Packman, A. (2003). The Camperdown Program: Outcomes of a new prolonged-speech treatment model. *Journal of Speech, Language, and Hearing Research*, *46*, 933–946.

O'Brian, S., Heard, R., Onslow, M., Packman, A., Lowe, R., & Menzies, R.G. (2020). Clinical trials of adult stuttering treatment: Comparison of percentage syllables stuttered with self-reported stuttering severity as primary outcomes. *Journal of Speech, Language, and Hearing Research*, *63*, 1387–1394.

Onslow, M., & O'Brian, S. (1998). Reliability of clinicians' judgments about prolonged-speech targets. *Journal of Speech, Language, and Hearing Research*, *41*, 969–975.

Packman, A., Onslow, M., Richard, F., & van Doorn, J. (1996). Syllabic stress and variability: A model of stuttering. Clinical Linguistics and Phonetics, 10(3), 235–263.

Plexico, L.W., Manning, W.H., & DiLollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. Journal of Fluency Disorders, 35(4), 333–354.

Sackett, D.L., Rosenberg, W.M.C., Gray, J.A.M., Haynes, R.B., & Richardson, W.S. (1996). Evidence-based medicine: What it is and what it isn't. *British Medical Journal*, *312*(7023), 71–72.

St Clare, T., Menzies, R., Onslow, M., Packman, A., Thompson, R., & Block, S. (2009). Unhelpful thoughts and beliefs linked to social anxiety in stuttering: Development of a measure. *International Journal of Language and Communication Disorders*, *44*, 338–351.

Spencer, E., Packman, A., Onslow, M., & Ferguson, A. (2009). The effect of stuttering on communication: A preliminary investigation. *Clinical Linguistics and Phonetics*, *23*, 473–488.

Yairi, E., & Ambrose, N. (2013). Epidemiology of stuttering: 21st century advances. *Journal of fluency disorders*,*38*(2), 66–87.

Yaruss, J.S., & Quesal, R.W. (2010). Overall Assessment of the Speaker's Experience of Stuttering. Stuttering Therapy Resources, McKinney

Chapter 7

Peter Schneider, Anke Kohmaescher & Patricia Sandrieser

KIDS: A Modification Approach in Stuttering Therapy for School Children

Abstract

In Germany, the modification approach '*KIDS*' is one of the most frequently applied methods in outpatient individual therapy for stuttering preschool and school children. As a child-oriented approach based on Van Riper's therapy (1971, 2006), it aims at the reduction of dysfunctional coping strategies and negative psychological reactions to stuttering. In addition, *KIDS* aims to improve quality of life and resilience. The child becomes able to help him/herself by modifying the moments of stuttering and to achieve a self-image as a competent speaker in a supportive environment, in which parents can act as disseminators of relevant information to other care takers. This chapter provides a background to the methodological process, presents the prerequisites necessary for *KIDS*, and describes the diagnostic process, the initial consultation, and the establishment of a triangular contract based on careful negotiations between all participants in the treatment. The presentation of the treatment phases is followed by a case study illustrating the variable adaptation of the methods in an individual case.

Key Terminology

Stuttering modification, school children, adaptation to individual cases, theory-driven procedures.

Introduction

"Children are allowed to stutter", abbreviated *KIDS* ('Kindern duerfen stottern' in German), is the provocative slogan from the therapy concept of Sandrieser and Schneider (2015), who have thus named an essential effective factor of their approach: non-avoidance. However, the sentence "Children are allowed to stutter" does not mean that children remain at the mercy of their stuttering. It must be supplemented: "…and they can learn to do it easily and without fear and thus become successful in communicating and socializing." When children adopt the attitude that stuttering is undesirable and even sanctioned in a society, they will evaluate stuttering symptoms as failures from which they try to escape as quickly as possible, and start to struggle with symptoms and develop avoidance behavior. They will try to avoid stuttering out of fear of the next symptom and the negative environmental reactions to it. The result is a loss of quality of life. If permission to stutter is conveyed, this negative vicious circle is counteracted, and inappropriate fears, along with the fighting and avoidance behavior, prove to be unnecessary. This also means informing all adults in the environment that children do not stutter on purpose and should not be punished for it, even with well-intentioned advice such as calming down. Hence, on the one hand, *KIDS* focuses on the emotional, cognitive and social aspects of stuttering in their respective environments. On the other hand, strategies for controlling stuttering events are taught, which is why *KIDS* is one of the approaches of stuttering modification (Natke & Kohmäscher, 2020).

KIDS is conceived in two different versions: *Mini-KIDS* (Sandrieser & Schneider, 2015, Waelkens, 2018) for children between 2 and 6 years of age, and *School-KIDS* for 7–12 years. In the following *KIDS* is described in general before focusing on *School-KIDS*.

In many respects, the situation of school children who stutter differs considerably from the situation of children of preschool age. For one thing, school-age children are confronted with linguistically diverse, as well as emotionally demanding, speech situations from the time they start school. Friends become increasingly important (Daniels, Gabel & Hughes, 2012), and children who stutter are more likely to be mocked and bullied than their fluent speaking peers (Erickson & Block, 2013). Furthermore, the probability of a permanent, unassisted reduction of stuttering symptoms (spontaneous remission) decreases considerably. While the remission rate for stuttering children under 10 years of age is around 75%, it is significantly lower for 8 to12 year-old children at 50% (DGPP, 2016). Thus, an effective stuttering therapy for children of primary school age is paramount to achieve a significant improvement in symptomatology and fewer negative consequences, by preventing speech anxiety at school.

In terms of therapeutic care, it has been shown that child-oriented stuttering modification therapies, like *KIDS*, are based on modification therapies designed for adults, while taking into consideration the special needs of elementary school children. According to study findings, self-efficacy and resilience take on special importance, as they significantly influence quality of life in the long term (Carter, Breen, Yaruss & Beilby, 2017; Plexico, Erath, Shores & Burrus, 2019). Overall, the number of clinical trials on efficacy and effectiveness for this age group is low, especially for stuttering modification therapies, and they mostly concern group treatment. Laiho and Klippi (2007) demonstrated quantitative as well as qualitative improvements in stuttering symptoms after intensive therapy for a group of 21 children between 6.8 and 14 years of age, which were maintained for 9 months after completion of therapy. Stuttering modification therapies may thus be effective for this age group, but the extent of effectiveness is currently unknown, and existing evidence cannot be readily extrapolated to other therapy formats.

History and background of *KIDS*

In Germany, stuttering modification for adults has been widely used for a long time, and early on, individual speech and language therapists transferred elements of stuttering modification to work with school children, although without publishing their experiences. In general, however, as in many other countries, there was great uncertainty about how best to help school-age children who stutter. Therefore, many speech and language therapists avoided stuttering therapy, and indirect or psychotherapeutic methods were used more frequently in treatments. Even when working directly on speech, there was often great reluctance to address the emotional aspects of stuttering. With the emergence of Dell's approach (1971, 2000; Dell & Starke, 2001; Schneider, 1999) and the development of *KIDS* (Sandrieser & Schneider, 2001, 2015) in the 1990s, the therapy landscape changed. Today, *KIDS* as a best-practice method is one of the most widely-used therapy concepts for stuttering school children in Germany. Accordingly, this chapter refers to the situation in Germany. To enable the reader to make the transfer to the conditions in his or her own country, the underlying German framework conditions are briefly described here: Treatment is possible only on medical prescription. As a rule, health insurance companies cover the costs. School children are mainly treated on an outpatient basis in private practices. This makes it more difficult to deal with the school situation, since speech therapy is not linked to schools. On the other hand, it is much easier to involve parents.[1]

---

[1] 'Parents' includes biological parents as well as legal guardians and caretakers.

Sandrieser and Schneider (2015) assume a predominantly genetically-determined, vulnerable neurophysiological system of speech control. This system persists in the majority of school children, and in most cases leads to dysfluencies typical of stuttering in response to specific triggers (Packman & Attanasio, 2010). These in turn are associated with a loss of control. To manage this loss of control, children intuitively develop coping strategies. If there are no, or only mild, accompanying behaviors and no stressful psychological reactions to stuttering, this is a sign that a child has developed functional coping strategies. Dysfunctional coping strategies, on the other hand, are characterized by struggle behaviors in the symptom, linguistic and situational avoidance behaviors, and emotional and cognitive responses. These may manifest as, for example, low social and communicative self-efficacy, speech and situational anxiety, self-deprecation as a speaker, and weakened resilience (Boyle, Beita-Ell, Milewski & Fearon, 2018; Carter, Breen & Beilby, 2019). *KIDS* therefore intervenes in negative coping processes, and strengthens resilience. This is done by teaching self-efficacy in communication, reducing fears related to speaking and stuttering, increasing communicative competence, and giving the opportunity to cope with stressful experiences. In addition, there is the establishment of an informed and supportive social environment to the extent which is possible.

Diagnostic Questions and Procedures

As an individualized approach, *KIDS* requires a differentiated diagnosis which, like the goals of *KIDS*, is based on the ICF (*International Classification of Functioning, Disability and Health*, WHO, 2001). Thus, beyond the level of body functions (i.e., the quality of speech and stuttering), *KIDS* substantially addresses activity, participation, personal factors and environmental factors. A detailed anamnesis and diagnosis are required at the beginning of therapy, which provides the basis for a consultation, at the end of which the parent or guardian can make decisions about the further course of action. The treatment process is accompanied by less extensive diagnostic evaluations. This serves to continuously adapt *KIDS* to the current situation. At the end, a final assessment is recommended to evaluate the success of treatment.

In *KIDS'* initial three-stage assessment, it is first determined whether stuttering is indeed present. The second stage determines the extent of stuttering on the basis of the quantity and quality of symptoms, and their impact on the quality of everyday life. In the third stage, the therapy goals are derived. If the anamnesis or spontaneous speech sample give indications of further areas that should be assessed (i.e., suspicion of a developmental language disorder, cluttering), or that may be of different diagnostic importance (i.e., suspected tic symptomatology, obsessive compulsive behavior), these areas must be the subject to documentation and counseling.

Case History Interview and Assessment

The data collection in the initial diagnostics comprises firstly, an interview with the legal guardians or parents and the child, including case history questionnaires, and second, an assessment consisting of a clinical observation of the child's spontaneous speech and, if necessary, further examinations.

Sixty minutes should be planned for the interview, examination of the child, reporting of the initial findings, and arrangements for further treatment. Additional time is needed for documenting the analysis. Since stuttering school children are aware of their stuttering, there is no substantive reason to investigate the history without the child present. In fact, the child can contribute pertinent information in areas where parents may have no insight. Because of the variability of stuttering symptoms it is also important to ask whether the symptoms shown that day are representative.

Topics covered in the interview with parents involve the onset and course of stuttering, the observed core symptoms, any struggling or avoidance behavior that may have occurred, and suspected or recognizable psychological reactions to stuttering. In addition, information on the family history, the child's speech and general development, and the resources of both the child, and his/her family and social environment are provided by the parents. Furthermore, the clinician evaluates the family's knowledge regarding their child's stuttering (i.e., the origin, possible courses of development, subjective degree of stress) and if stuttering has limited the child's participation in everyday situations, routines, and events.

Recommended Diagnostic Procedures

To be able to diagnose stuttering with certainty, a differentiated spontaneous speech analysis is necessary, in which the quantity and above all the quality (accompanying behavior, avoidance behavior) of the stuttering are recorded. A video recording is vital for this, and is highly recommended. It serves as a basis for evaluation and is also needed later to inform the parents. If recording in the therapy room is not possible, a home recording may serve as a reference. The widely used *Stuttering Severity Instrument* (SSI-4, Riley, 2009) has proven to be a sufficiently valid and standardized instrument for clinical practice. It can be used to assess the frequency and duration of core stuttering symptoms, as well as any physical concomitants of stuttering (head, torso, or limb movement, muscular facial tensions, change in volume, etc.), and naturalness of speech. The reading text of the *SSI-4* is suitable for children with sufficient reading skills to detect possible avoidance behavior, as words cannot be avoided while reading. If reading aloud triggers stuttering, this can be followed by a conversation about the stress of the school day. The child's naturalness of speech should be evaluated by the parents and the clinician together.

Avoidance behavior and tabooing of stuttering can be assessed with a provocation procedure such as the *RSE* (*Reactions to Stuttering by the Examiner;* Schneider, 2015). Here, the child is confronted with pseudo-stuttering or intentionally imitated stuttering, and directly questioned about his/her own symptomatology. If the child reacts defensively to the dysfluencies or the conversation about them, it may be hypothesized that the child experiences his/her stuttering as unpleasant. In some cases, it is useful to have a supplementary consultation with the teachers at school.

Questionnaires such as the *OASES* (*Overall Assessment of the Speaker's Experience with Stuttering*, Yaruss & Quesal, 2006, 2008; Yaruss, Coleman & Quesal, 2016), and Cook's (2013) *Questionnaire on the psycho-social burden of stuttering for children and adolescents*, as well as questions assessing reactions from the environment, serve to assess the ICF dimensions of activity, participation, personal and environmental factors. They provide information about the emotional burden, which does not have to correlate with the severity of stuttering (Cook, 2013).

The First Consultation

Based on this comprehensive assessment and the information from the case history, a well-founded consultation needs to be provided, preferably in a separate appointment. If stuttering is present, the family will be informed about the diagnosis, the current severity of the stuttering (using a scale from weak to severe), and treatment options and goals, so that the family can decide which treatment approach is appropriate for them. In some cases, the family is informed about the necessity of further speech and language assessment, (i.e., to exclude cluttering as a differential diagnosis, or to check on additional language or communicative-pragmatic deficits and word retrieval disorders). If selective mutism is suspected, differential diagnosis should also exclude covert stuttering masked by marked avoidance. The consultation also includes the necessity to refer to other professionals if other developmental disorders such as anxiety disorder or a general developmental retardation are assumed.

If therapy according to the *KIDS* concept is to take place, the mode of action, the effects, the methods, and any additional measures as well as the tasks of the parties involved (child, clinician, parents) are discussed. On this basis, a joint therapy decision and agreements on concrete implementation can be made.

Rationale and Framework of *School-KIDS*

School-KIDS is based on stuttering modification approaches for adults, and provides an age-appropriate attractiveness, clearness, and practicability for primary school children.

Objectives

The main objectives of *School-KIDS* are the following:

- the reduction of socially-disapproved secondary behavior and negative psychological reactions to stuttering;
- the improvement of quality of life and resilience through communicative competence, and a self-image as a competent and self-efficient speaker with the willingness and ability to help oneself;
- the ability to provide information about stuttering;
- to the extent possible, the creation of a supportive environment in which parents can act as disseminators to inform other care-givers.

KIDS assumes that speech fluency improves and the probability of recovery increases in school children if the above-mentioned goals are achieved. However, for some school children, recovery does not occur. Therefore, managing persistent stuttering is an equally relevant goal.

Underlying Assumptions

KIDS is primarily a concept that teaches problem-solving strategies. It goes beyond the establishment of a speech technique and integrates the child's environment. *KIDS* assumes that allowing children to show stuttering prevents dysfunctional coping strategies.

Another basic assumption of *KIDS* is that tabooing and trivializing stuttering leaves children alone with their problem and denies them opportunities to develop functional coping strategies. Functional coping occurs when children examine their fantasies in conversation with others, relieve themselves emotionally, and thereby experience comfort and support.

Setting

KIDS was initially developed for outpatient individual therapy with 1–2 therapy sessions per week. Additionally, there is very positive clinical experience with its use as intensive group therapy. *KIDS* is a therapy that can last half a year or longer and does not provide a pre-defined time whereupon therapy is ended.

Structure

KIDS consists of several treatment phases that may, but do not need to, appear in chronological order (figure 1):

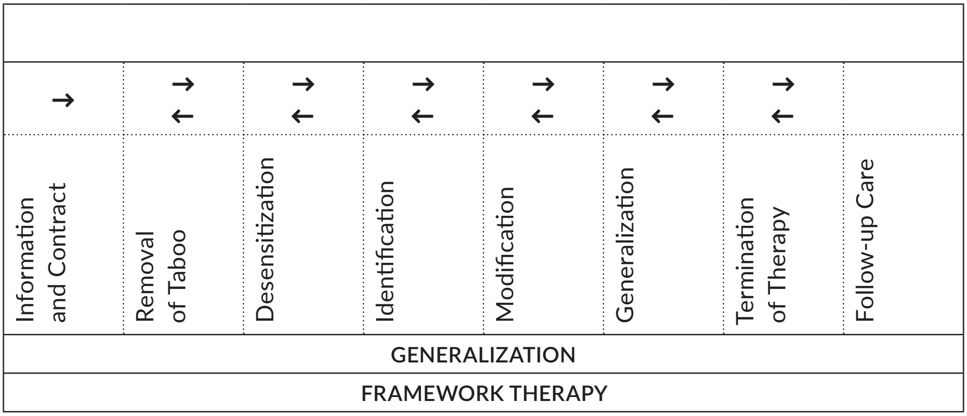


Figure 1: Phases of *KIDS* in its sequence

- Children rarely decide on their own, whether to apply for stuttering therapy. Therefore, at the beginning, an *information and contract phase* with parents and child establishes the necessary compliance and motivation for the goals of *KIDS*, which clearly differ from the common wish of a cure for stuttering. Throughout the treatment process there is continuous parental counseling and, if possible, active parental involvement, as well as regular review meetings in which the effects of the therapy to date are reflected upon, the procedure is adjusted, and it is ensured that everyone involved in the therapy is pursuing the same goals.
- One fundamental element of *KIDS* is the *removal of taboo from stuttering.*
- The second element, present throughout the entire therapy, is the *desensitization* against the symptomatology, and against the fear of listener reactions.
- *Identification* teaches the ability to objectively perceive, describe and imitate one's own symptoms and also involves cognitive, emotional and behavioral responses.

- The *modification* of stuttering builds on this, as the child learns speech techniques in order to control symptoms.
- From the beginning, great importance is attached to the *generalization* into everyday life. For this reason, in vivo tasks, homework, and the involvement of family, friends, and school are of great importance. Towards the end of the therapy, generalization is the exclusive topic.
- The *end of therapy* can be initiated when
  a) the child stutters mildly or not at all;
  b) has a positive self-efficacy in coping with stuttering symptoms, difficult speech situations and negative listener reactions related to stuttering;
  c) when adequate reactions prevail in the environment.
- Following the end of therapy, the maintenance of the acquired skills and attitudes is ensured in the *follow-up phase with refresher sessions.* Due to the strong influence of school and peer group, it is then even more important to strengthen the involvement of peers and school, which has already accompanied the whole therapy.
- A *framework therapy* can supplement the basic elements of *KIDS*, if necessary. This refers to all strategies that go beyond the core elements described here, such as establishing a relationship of trust with very distrustful rejecting children, the ability to reflect on situations and the thoughts, feelings and behaviors associated with them, or the development of adequate problem-solving behavior when being teased. The case study in chapter 7 shows what the concrete implementation of framework therapy can look like in individual cases.

The Principles of *KIDS*

KIDS adheres to four principles: variable therapy planning, strengthening resilience, child-orientation, and orientation to everyday life.

Variable therapy planning

The treatment stipulated by *KIDS* is fixed in its basic features, but must be adapted to the individual's needs and the treatment progress. Some phases must be shortened, postponed, or worked on particularly intensively. Obligatory phases are information and contract, identification, desensitization, generalization, and follow-up care. However, modification can be omitted if symptoms occur rarely in everyday life, and are short and without associated struggle behaviors. Variable treatment planning requires conscientious clinical reasoning and continuous monitoring of effects. Children and parents are constantly informed about goals and procedures during this process, and therapy agreements are adjusted as needed. If progress is absent, all parties involved should discuss a change in the approach up to the inclusion of non-stuttering-specific focuses if necessary.

KIDS requires careful planning of the degree of difficulty regarding linguistic and situational demands in speech tasks (Figure 2).

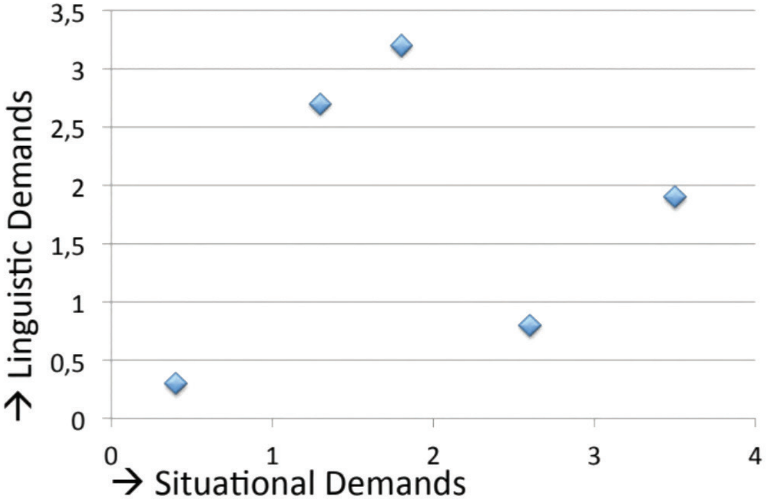


Figure 2: Exercises with hierarchical increase in demands (adapted from Sandrieser & Schneider, 2015)

A speech task can be linguistically demanding but situationally easy (e.g., explaining a complicated game rule to the clinician in the therapy room), or vice versa (e.g., asking a stranger outside for the time). The linguistic demands axis is relevant when a skill (e.g. pseudo-stuttering) has just been acquired, while the situational demands axis plays a major role in transfer (e.g. of pseudo-stuttering) to everyday life. As related to situational or speech anxiety, the hierarchy of situational demands corresponds to systematic desensitization.

Strengthening Resilience

Resilience is the characteristic of quickly regaining a high quality of life, or continuing to develop in a largely healthy manner, despite adverse or traumatic experiences (Noeker & Petermann, 2008). Oriented at the ICF, different levels can generally be affected:

- Personal factors, e.g., emotional processing of stressful experiences, self-esteem;
- Environmental factors, e.g., behavior of people in the child’s environment, school;

- Activity and participation, e.g., talking with friends, hobbies in clubs, oral participation in class.

The quality of resilience is influenced by various risk factors (e.g., bullying, emotional stress, illness) and protective factors (e.g., self-efficacy, high self-confidence, good problem-solving skills, supportive family situation). Resilience is strengthened by having repeatedly coped well with stressful situations (Noeker & Petermann, 2008).

In relation to stuttering, there are three main factors that can be both protective and a risk to the development of resilience (Craig, Blumgart, & Tran, 2011):

- a sense of self-efficacy and independence in relation to stuttering and communication as well as in social situations, arising from experience of how situations have been managed;
- social competence in general, and in dealing with being someone who stutters;
- support from social relationships.

Functional coping strategies contribute significantly to the positive development of these three factors (Sandrieser & Schneider, 2015). Hence, *KIDS* targets the child's self-efficacy and communicative competence in a supportive social network. Therefore, the clinician needs to demonstrate antithetical behavior and allow stuttering (Sandrieser & Schneider, 2015; Schlegel, 1995) while finding a good balance between protecting and challenging the child.

Antithetical behavior is based on beliefs (antitheses) of the clinician that differ from those of the client (theses). Thus, a positive, curious attitude toward stuttering is antithetical to negative evaluation and avoidance (thesis). Appropriate small steps accumulate to gradually develop a new constructive thesis. **Allowing** in KIDS means that the clinician shows understanding of all motives of the child, including fear of embarrassment or shame, and dysfunctional behaviors such as avoidance. The clinician does not judge the strategies of the child, even if these are more problematic than the stuttering itself, but takes them seriously and allows them to exist. But, with antithetical behavior the clinician shows functional alternatives and encourages the child to try out more favorable ways of thinking and behaving. The clinician encourages and makes the child aware of his/her successes, while also looking for viable compromises when the child wants to avoid an exercise. In these cases, the clinician must not tolerate avoidance, otherwise this would convey to the child that the clinician also considers avoidance to be a good reaction.

Child Reference

School-KIDS is challenging to a child's reluctance to learn and persevere, and it also involves many confrontational aspects. Therefore, a trusting relationship must be established, by listening carefully, observing closely, and consulting continuously. In this relationship, the child feels secure because he or she is involved in shaping the therapy. These agreements are called *contracting*, following *transactional analysis* (Schlegel, 1995; Stewart, 2000), and involve the child, parent, and clinician. As one becomes consciously involved in taking responsibility, one is able to attribute a share of success to oneself, and self-efficacy is enhanced. *Contracting* ensures that both the child and the parent engage in stuttering therapy, and take their share of responsibility for its success.

Child-friendly metaphors and exercises, a small-step practice structure, and individual reinforcement are other child-friendly aspects. The reinforcement shows progress and serves – in the sense of counter-conditioning – to establish a new behavior (e.g., stuttering openly, not avoiding it).

Everyday Life Reference

Transfer to everyday life and independence from the clinician is prepared for as early as possible, through in vivo work and homework. As often as possible, practice takes place outside the therapy room, so as to prevent a mental coupling of the therapy content to a place. In addition, supportive environmental conditions are established. The parents and family, supportive people and friends are all involved in the therapy, with leisure activities being included as well.

School is especially important because children who stutter have a higher risk of being bullied and/or stigmatized. Child and parents are interviewed about the school situation and previous attempts to find solutions for dealing with stuttering at school. The clinician enables the child and the parents to solve problems as far as possible by themselves. If necessary, the clinician can be asked to seek 'disadvantage compensation' directly with the school. However, he/she does not take over anything that the child or parents can solve themselves. A school visit in which the child, with the support of the clinician, explains his/her stuttering to the class has proved to be particularly helpful.

Phases of *KIDS*

Even though the goals and contents of the phases of *KIDS* are described separately and sequentially in what follows, they overlap in practice (see case study in Chapter 7). A sequence of goals tailored to each individual case is essential, and requires continual agreements in the contracting from the beginning.

Information and Contracting

In order to enable parents and children to decide on the further course of action, they need information about the consequences of not starting therapy, about trustworthy therapy methods available to them (objectives, procedure, risks, evidence, tasks of the people involved in the therapy process), and about methods to be advised against. The success of therapy is contingent upon shared decision-making, where the child and the parents are equal partners in their decisions about therapy or no therapy, and the chosen method. This requires the clinician to have a comprehensive knowledge of the therapy landscape and an awareness of his/her responsibility as a counselor (e.g., to offer children and linguistically impaired people information in simple language, to inform themselves about the cultural background of the family so as to be able to classify inquiries and concerns, and provide information material in foreign languages). In addition, the parents must be informed about the structural conditions (e.g., insurance coverage, waiting times), and it must be ensured that they have sufficient opportunity to ask questions to avoid misunderstandings. These questions often concern the therapy goal of the child and parents. They usually wish for the complete cure of stuttering. However, it cannot be promised that this will be achieved.

Once the parents have given the clinician the mandate to initiate therapy according to *KIDS*, the contracting begins (Berne, 2016; Sandrieser & Schneider, 2015; Sandrieser, 2018). This ensures that the child, and if possible, the parents, actively participate in the therapy, have the same realistic goals, and know and accept their share of responsibility.

The well-known and proven techniques of interviewing, systemic counseling, non-violent communication, and behavioral therapy can be successfully used in implementing contracting. This requires clarification of the roles of all parties involved (e.g., whether parents may serve as co-therapists) and reflection on their own behavior (Sandrieser & Schneider, 2015; Sandrieser, 2018). Based on Berne's (2016) concept of contracting in *transactional analysis*, a contract is an explicit mutual commitment to strive for concrete and realistic goals, which are formulated positively and in simple language. Contracts can be verbal, written or, especially for the child, drawn as a picture. During the process of contracting, the clinician moderates and pays attention to communication on equal and voluntary terms. Agreements are made on the following areas:

1. Structure (e.g., place, frequency, scheduling, costs of the therapy).
2. Process (e.g., methods, type of cooperation, exchange of information during therapy).
3. Responsibilities of the parties involved (mostly child, parents, and clinician).

This approach helps to prevent misunderstandings (e.g., unrealistic or different expectations of therapy) and helps to address and resolve annoyances. In addition, the contract supports the participants in the different phases of this process of change because it creates transparency and promotes personal responsibility, self-efficacy and readiness for the transfer to everyday life. In addition to the basic agreement on joint action, contracting is consistently used within a therapy session for short-term tasks, (e.g., for agreement on homework or exercises).

Desensitization

Desensitization is both a phase in the *KIDS* therapy concept and a therapeutic technique from behavior therapy, which is used repeatedly in all other phases. It serves to reduce or prevent conditioned fear reactions associated with stuttering. Conditioned fear reactions manifest themselves as relatively stereotypical patterns of feelings, thoughts, and behaviors. In desensitization, these patterns are broken down. Fortunately, in elementary school children, due to the shorter reinforcement history, less stable patterns can be assumed than in adults. In addition, children's fear responses can be mitigated more easily by supportive behaviors in the environment.

Learning processes within desensitization are based on repeated concrete experiences of mastering fearful situations and not having followed an old pattern. It is the clinician's task to facilitate such experiences. Desensitization is hierarchically structured (Figure 2). In the first step there is often no linguistic task to be solved by the child, but the child "only" needs to be present and observe the clinician and his/her conversational partner during in vivo tasks. It should be taken into consideration that the child and the parents may have different degrees of need for desensitization.

Among other things, desensitization themes mainly constitute the topic of stuttering and associated thoughts and feelings (taboo eradication), the symptomatology itself (including pseudo-stuttering and overt stuttering), speech fears and triggers of stuttering (making contact, giving a presentation), the loss of time due to stuttering and speech techniques, the use of speech techniques, and being different from others.

Especially with highly avoidant children, desensitization can lead to an increase in symptomatology, as the children dare to stutter more openly and no longer avoid anxiety-provoking situations. Parents must be informed about this in advance. The increase in symptomatology can be explained as an intermediate step towards a stronger self-awareness, and as a prerequisite for the modification in which the symptomatology is reduced again. As a metaphor, the image of the iceberg can be used (Sheehan, 1970): the bulk of the iceberg (= feelings, thoughts, avoidance of stuttering) is under the water and it needs to rise above the water in order to be able to work with it.

The parts of the identification (section 5.3) embedded in the desensitization phase additionally support desensitization to one's own symptomatology (Figure 3). Since several topics are worked on in parallel during the desensitization phase, this phase takes a relatively long time. Due to the varying learning pace of children, the number of hours needed cannot be predicted.

Goals of Desensitization

1. The child and parents react neutrally towards stuttering symptoms.
2. The child can name, imitate, and explain his/her core behaviors.
3. Avoidance behavior is notably reduced.
4. In most situations, the child is able to pseudo-stutter calmly.
5. The child is ready to speak out and inform others about his/her stuttering.
6. The child can appropriately reflect upon annoying or derogatory listener reactions and usually respond adequately.
7. For the most part, the child has control over his/her feelings of fear and expects to be able to cope with communication situations.
8. The child has largely gained a feeling of control over his/her stuttering and speaking.

The usual sequence of the desensitization phase begins with taboo eradication and freeing from the stigma of stuttering, by providing information about the symptomatology, causation and neurophysiology of stuttering and existing prejudices. Parallel to this, identification is started by teaching articulatory phonetics. Pseudo-stuttering and desensitization to listeners' reactions follow. With a little delay, many children may already prepare to learn the speech techniques.

Freedom from Taboo

An essential aspect for the eradication of stuttering as taboo is education and conversation about others' and one's own stuttering. Right at the beginning of therapy, the definition of stuttering, loss of control, and core and associated behaviors are taught (Sandrieser & Schneider, 2015; Sandrieser & Schneider, 2019). This is followed by applying this knowledge to the analysis of others' stuttering, imitated stuttering, and if interested, one's own stuttering. Reactive and learned behavior, as well as emotional and cognitive reactions to stuttering may be illustrated with the metaphorical picture of layers of onion skin.

The genetic predisposition and the neurophysiology of speech and stuttering are taught in a way that is easy for children to understand (Schneider & Kohmaescher, 2017). By posing questions to people in their environment, it becomes clear to the child that many prejudices and misinformation about stuttering exist, and that only education can provide a remedy. The children become "experts" on their stuttering and the parents are guided to act as positive models and disseminators.

An in-depth analysis of the school situation with the child forms the foundation and concrete framework for therapy in dealing with peers, the stress of school, teachers' prejudices, and/or poor verbal grades. The principle of systematic desensitization is taught using a "courage ladder", in which the child develops his/her personal desensitization hierarchy and undertakes initial "courage tests" with pseudo-stuttering in the therapy room. The child is given an overview of the stages of the therapy process and, as a preview of the modification, the clinician informs the child about speech techniques and their effects. Finally, the entire family is invited and informed about stuttering and the therapy. A school event on stuttering planned in the later course of therapy follows the same pattern.

Desensitization towards the Symptoms

First, desensitization against the symptomatology is done with pseudo-stuttering. In KIDS, this is defined as purposeful tension-free part-word repetitions. As soon as these can be used in small interaction sequences at the sentence level, in vivo desensitization against listener reactions is added. As mentioned earlier, situational demands and linguistic complexity are considered during planning. Using the analogy of the uncontrolled panic reaction of a hydrophobic person in water, the clinician conveys the speech motor effect of uncontrolled stuttering and the serenity-inducing effect of desensitization through pseudo-stuttering. All exercises are hierarchical, meant to be fun, and empowering in the sense of counter-conditioning, and they need a lot of reinforcement. For example, the child is allowed to determine when and how long the clinician should stutter. Afterwards, clinician and child reflect together on whether the pseudo-stuttering was relaxed and whether real stuttering symptoms occurred. In addition to pseudo-stuttering exercises, the clinician repeatedly demonstrates calm pseudo-stuttering in his/her speech, with the reminder that relaxed stuttering can also be learned from listening. The clinician also helps the child pay attention to effortless and short "easy" symptoms which already occur, thus conveying that symptoms which are close to the goal of relaxed stuttering already exist. Discrimination exercises desensitize against different types of symptoms. Toughening up against the loss of time can be achieved with a stopwatch, which is used to specify the duration to be endured for a block. Or the roll of a dice can be used to randomize the number of repetitions in a part-word repetition. Again, the child is first allowed to decide over the clinician.

Before practicing pseudo-stuttering more intensely, a playful error analysis with the child and parents is recommended. Here, parents learn to pay attention to good quality in the child's performance and to give feedback in a supportive way, in order to avoid incorrect patterns of pseudo-stuttering being practiced in subsequent training and homework.

Once a child has confidently mastered pseudo-stuttering at the word level, the linguistic and situational complexities are elevated. At all stages, it is important that the child is able to successfully complete the exercises. If pseudo-stuttering sometimes turns into a real symptom, this should not be treated as a mistake, but a welcome opportunity to analyze the real symptom according to the methods of identification (section 5.3).

Whether, when, and how parents can be involved must be carefully discussed with both parents and the child. In the course of desensitization, many children can be expected to experience less frequent blocking and prolongations, and a spontaneous reduction in associated behavior. Children experience an increasing sense of control over their speech, become able to control it consciously, and can direct their attention alternately to content planning and speech control. However, if the child has a low stuttering frequency at the beginning of the therapy because he or she successfully avoids stuttering symptoms, it can be expected that the stuttering frequency will increase. This can be seen as a positive effect, since the child on the one hand abandons his/her speech avoidance behavior and openly shows his/her stuttering, and on the other hand also avoids fewer situations and thus risks more stuttering being triggered. In this case, parents and, if necessary, the child must be made aware that this is a desired effect, and that on this basis the modification can better unfold its effect.

Desensitization toward Listeners' Reactions

The goal of desensitization toward listeners' reactions is to reduce anxiety and avoidance behavior related to speaking and stuttering in everyday life, and to exhibit stuttering in conversations with increased self-confidence and self-esteem and value oneself in the process. When the child becomes aware of the freedom gained through desensitization, he/she can engage in it more easily.

Open stuttering refers to audible core symptoms that have not been concealed by linguistic or situational avoidance behavior, postponement (delaying a feared stuttering event with interjections and phrases until controlled speech seems possible), or starters (intuitive strategies for starting a word in a controlled way, e.g., swallowing before a word or clicking the tongue). Accompanying behaviors, as bodily and facial movements, may initially persist, but often spontaneously diminish if the child uses open stuttering. Only if accompanying behavior persists it is worked on explicitly during desensitization or modification.

Hierarchical in vivo desensitization to listener reactions is begun as soon as the child is able to utter short sentences with pseudo-stuttering in role-play. For this phase, some children need more time, so that sometimes the child has already learned a modification technique, such as prolongation. As soon as a child manages to use the technique confidently, pseudo-stuttering and prolongation are desensitized together.

Identification

In the identification phase, the child's core symptoms are analyzed, along with any associated behaviors, avoidance and psychological reactions. Some children are even trained to stop symptoms as the first way to control them.

Goals of Identification

Identification serves:

1. Desensitizing toward one's own symptoms.
2. The development of the emotional, cognitive, sensory and motor bases for stuttering modification techniques.

Since identification, for the most part, proceeds in parallel with desensitization and later modification, this phase is actually very short, and is sometimes not even recognizable as an independent phase. Identification consists of four task areas in which a mirror, and audio- and video feedback are important tools. The task areas are:

1. **Articulatory phonetics**: the child is conveyed the basics of perception, conscious control and description of speech production. This includes the specific articulation of sounds (articulation type and location) during fluent speech.
2. **Analysis of symptoms**: articulatory phonetics is also used to analyze stuttering symptoms. This is done via real and imitated stuttering events, the latter being voluntary stuttering, which comes as close as possible to the real symptom regarding self-perception of effort and duration. When analyzing symptoms, attention is paid to the quality of symptoms. Individual stuttering moments are investigated with regard to affected word/syllable, length, secondary behaviors, and possible accompanying feelings and thoughts.

3. Identification of **avoidance behavior, thoughts and feelings** in conjunction with speech and stuttering.
4. **Symptom registration ('monitoring'):** The child is trained to direct his/her attention and register stuttering moments immediately, which represents the prerequisite for successful use of modification techniques. Monitoring is for quantity, which means the child has to register as many stuttering moments as possible in situations with linguistically increasing demands. Dell's (2000) idea of catching games is helpful to train this in a playful way. Finally, the child should be able to discern symptoms in spontaneous speech in others, and later in him/herself.

While pseudo-stuttering is used as the central technique in desensitization, in the identification phase the focus is on purposeful, imitated stuttering, i.e., an imitation of one's own, real symptoms. Identification of struggling in both the symptom and in pseudo-stuttering often reduce associated motor behavior. Fixed linguistic avoidance patterns (starter and postponement) are more often replaced by overt stuttering. By stopping a symptom during symptom analysis, the feeling of control over a symptom is strengthened.

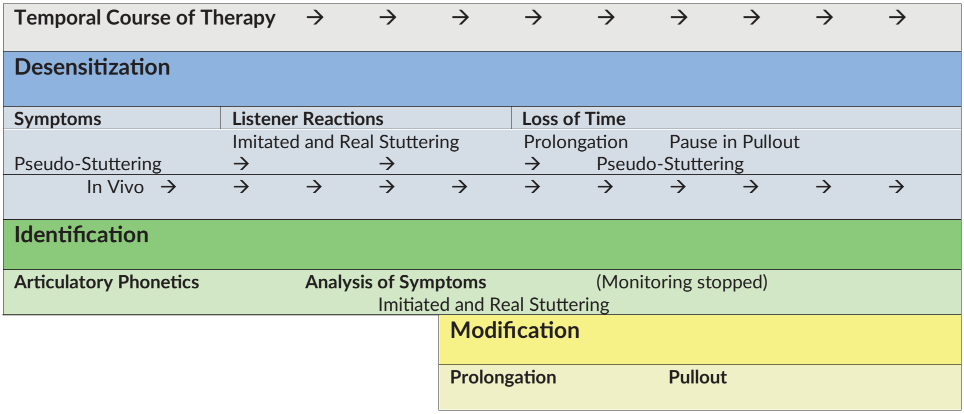


Figure 3: Example of individualized overlapping phases of desensitization, identification and modification.

With *School-KIDS*, identification begins at the start of the desensitization phase and progresses through all phases of the therapy (Figure 3). The identification begins with articulatory phonetics, infused with the curiosity and spirit of a researcher. Meanwhile, freedom from taboo and desensitization of the core symptoms are introduced. The symptom analysis is also characterized with the spirit of research, and encompasses other people's and one's own symptoms, both imitated and real. Having completed the work of articulatory phonetics, one proceeds to modification and working on prolongations, regardless of the progress in desensitization or symptom analysis. The symptom analysis is now intensified, since with the prospect of being soon able to control stuttering symptoms, the child experiences less emotional stress. Once the child is able to analyze and (occasionally) register his/her own symptom, the monitoring is explicitly exercised, which means that symptoms are noticed quickly and systematically. At this point, stopping in a symptom may be trained, which is useful for the upcoming modification phase. The strategies of identification are also applied during modification, generalization and follow-up, if the child fails to use modification techniques successfully, as they are the prerequisites for their application.

In the identification phase, various emotional reactions can occur: satisfaction with less frequent and milder symptoms, attempts to avoid the exercises, or, rarely, shock about the frequency or severity of one's completely underestimated symptoms. Even when the therapist confronts the child step by step with his/her own symptoms, such reactions cannot really be prevented. If the child expresses shock, this should not be considered as a failure in therapy. Usually, it is an important indication that the treatment plan needs to proceed cautiously. This situation is an opportunity to strengthen the child's willingness to change. In addition, the first steps of modification can be planned. If the child tries to avoid identification, this should be taken into account and worked on during desensitization.

Modification

The central idea of stuttering modification is the ability to modify stuttering symptoms and make them briefly easier and smoother, to enable the speaker to regain control over his/her stuttering. This involves learning modification techniques, and directly working on the symptoms. Regarding the emotional-cognitive level, this includes an inner locus of control and a feeling of self-efficacy (Schwarzer & Jerusalem, 2002). In the long term, this may reduce trigger factors for the frequency of stuttering. Within contracting, it must be asserted that it is impossible to modify all stuttering moments.

Goals of Modification

1. The child can apply the modification techniques with confidence, without having to pay much attention to the process and its correct realization.
2. The child is able to judge the quality of his/her modification techniques without any help, enabling him/her to find out the sources of mistakes and correct them in daily life.

3. The child is able to apply the modification techniques confidently in stressful situations.
4. The child stands by the fact that the modification techniques are effective.
5. The child is able to decide against the use of his/her modification techniques in situations where it seems to be more comfortable to stutter openly.
6. The child accepts that the techniques may fail in stressful situations.

In *KIDS*, two modification techniques can be trained:

1. The **prolongation** (preparatory set, Van Riper, 2006) for the prevention of a symptom.
2. The **pullout** (Van Riper, 2006), to resolve a symptom.

The principle of prolongation is, for consonants, to slow down the articulatory movements (slow motion), and for vowels, to use a gentle onset at the beginning of a word (Van Riper, 2006; Zueckner, 2014; Schneider & Sandrieser, 2015). This local technique may be used for the prevention of symptoms in fearful words. At the same time, the prolongation is part of the pull-out, in which control over the symptom is regained. Here, prolongation helps to transition gently and in a controlled manner into spontaneous, fluent speech. For the pullout, the symptom has to be noticed in time (monitoring) and to be stopped immediately. A pause occurs during which the articulatory posture is maintained. The purpose of this pause is to regain a sensory, motor-functional, and mental feeling of control. Usually, the muscular tension needs to be reduced. After the pause, the prolongation is used to continue with speaking without stuttering. Should the prolongation appear to be too difficult or is not acceptable for the child, it may be substituted by short, relaxed pseudo-stuttering (repetitions). This variant is called 'Pullout with pseudo-stuttering'.

Speech techniques must be practiced sufficiently often with a good quality of imitated stuttering, and the therapist should model them continuously. An independent, confident self-assessment based on an error analysis is the prerequisite for the child to be able to practice independently, and to detect and correct errors during transfer into everyday life. For most people, precise motor control is even more difficult with feelings of time pressure and emotional stress. Therefore, the use of modification techniques is trained step by step, analogous to the desensitization phase.

As the modification techniques are distinctly different from fluent speech, it is not self-evident for most children to use them in everyday situations with peers. Even if they do, the emotional arousal may complicate the use of the techniques. If children do not apply the techniques in their everyday life, the underlying decision against the use of the techniques needs to be reflected on, and the willingness to desensitize oneself to their use, as well as the accompanying loss of time, should be discussed. To prevent and meet anxiety about listener reactions, the therapist may ask conversational partners during in vivo exercises to give their opinions on stuttering and the modification techniques used. It is also helpful to explain the obvious modification techniques at school and to peers. To introduce the techniques, it may be ideal to have a session with another child who stutters who is able to demonstrate the techniques. The child can ask questions and will, in this way, be prepared to learn them in the later procedure. During this session, the child experiences that he/she can decide when the modification techniques should be used, like tools taken from a toolbox when needed. Modification techniques should be thoroughly and frequently trained, so the child can confidently use them in case of need.

Prolongation

Introducing prolongation begins with imitating meaningless syllables in slow motion (Sandrieser & Schneider, 2015; Zueckner, 2014) in front of the mirror, and then using this in meaningful words, once the principle of slow motion has been captured. The therapist can use a hand puppet, which models many correct attempts, but also performs mistakes that resemble those of the child and which clinician and child correct jointly.

At the end of the session, the child can evaluate his/her own prolongations, and make corrections if needed. Such sessions are preparatory for independent practice at home. Eventually, it is a matter of establishing “finger exercises’ as it would be in piano playing. The hierarchical exercises become increasingly more difficult concerning linguistic and situational demands, until the child can apply prolongations in everyday situations.

Pullout

The pullout is introduced in imitated symptoms. This stuttering symptom may be symbolized using a stick. The hand, representing the articulators, holds the stick tightly. At this time the child should develop problem-solving ideas as to how the tightly held stick can be freed by the hand, and then transfer this to his/her own speech. By making attempts together, the three elements 1) stopping; 2) waiting till the tension loosens; and 3) continuing to speak with prolongation (or relaxed pseudo-stuttering) are worked out and visualized as a traffic light.

At this point, the three elements of pullout are practiced and subsequently combined, before being transferred to a real symptom. Once again, intensive training is required, in which the clinician supports the child initially with visual signs that are faded out later on.

Analog to the prolongation, hierarchical training is carried out to encourage its use in everyday situations. If the pullout is combined with relaxed pseudo-stuttering, it may be considered to practice the variant of the pullout with prolongation at a later time.

Generalization

Considering therapy in its entirety, generalization is an essential component. What has just been learned needs to be continually applied to everyday life, and early on, practice takes place outside the therapy office to a considerable degree. With continuous homework contracts, the therapist establishes a homework culture in which the child is supported, comparable to the constant training in sports supported by others. Hence, frustration and over-expectations are prevented, and the transfer from the therapy content is accompanied over a longer period of time.

The Goals of Generalization

1. The child transfers his/her skills to many areas of life.
2. The child is prepared for the end of therapy.
3. At the end of therapy, the child feels competent to manage stuttering symptoms and speech-related anxiety.

Generalization at the Final Stage of Therapy

At the end of therapy, the generalization phase, in which hardly any new content is provided, is predominant. Instead, skills are trained in as many different areas of life as possible, which requires the child's own initiative and responsibility. The essential clinical strategies are the continuation of contracting, consultation and problem-solving, with the inclusion of parents and other individuals in the child's environment. Applying the modification techniques in all speech situations is unrealistic. It is much more important to develop a feeling of control to be able to use techniques whenever desired, which reduces anxiety in communicative situations. The decision to use them is depends on the situation, and is easier if people in the environment are informed that the child will use modification techniques and what these sound like. Tolerance of failure, and supportive people in their environment both help the child to process situations that have taken a stressful course. If modification techniques are not being applied, for example at school and with peers, 'coolness' is frequently the reason. It is advisable to visit the school and provide information about the technique to friends, classmates and teachers, and discuss with them the advantages of freedom by giving up avoidance, and to have exchanges on desensitization with other stutterers. In primary school, a child cannot be expected to use the modification techniques on his/her own, so a support system needs to be developed.

End of Therapy and Follow-up

The end of therapy is reached when no stuttering symptoms (recovery) or very mild residual stuttering exist. Residual stuttering refers to symptoms less than half a second long, without any accompanying struggle or avoidance behaviors, and no (or only a little) speech anxiety or other stress reactions related to communication, speaking and stuttering. The child and the environment show a predominant feeling of self-efficacy.

With regard to the end of therapy, it is important to check whether the changes are stable over time and occur in different areas of the child's life. If this is the case, the individual criteria for a possible resumption of therapy are agreed upon. In this phase, wherein the intervals between therapy sessions are stretched out, the therapist, parents and child come to the mutual decision that the end of treatment is desired and makes sense. It is imperative that the view of all participants is respected in this process.

During generalization, the maintenance of skills is established during continuously longer therapy-free intervals, in which the child practices on his/her own. During therapy sessions, the clinician and the child develop strategies for how to handle relapse, e.g., more stuttering symptoms or the return of stuttering-related anxiety and dysfunctional behaviors. The child is allowed to feel ambivalent – balancing between the joy of accomplishment and the sadness that a full cure is not possible. A comparison with the situation at the beginning of therapy can help to recognize and appreciate therapy progress.

Follow-up has to play a part in the finalization of therapy, and overall takes a form in which the child is no longer tied to the therapist. Here the therapist needs to be aware that relapse cannot be prevented by endless therapy and that generalization can be accompanied by the therapist only to a certain extent. Arrangements for continuing follow-up sessions, while stressing the child's self-responsibility, will prevent this.

Framework Therapy

A stuttering therapy is embedded in the child's environment (life context) and his/her family. Therefore, there may be reasons to draw attention to areas in therapy that do not adhere directly to *KIDS* but rather a sort of framework therapy. This concept was chosen because it builds a frame within which *KIDS* is pursued. Framework therapy should not be misconstrued or confused with therapeutic interventions in co-disorders (e.g., the additional treatment of specific language disorders or anxiety). Also, fundamental therapeutic strategies, such as building a therapeutic relationship or using a playful approach are not part of framework therapy.

Goals of Framework Therapy

1. The child achieves skills and competencies that are prerequisite for certain interventions in *KIDS*.
2. The child is less prone to risk factors that trigger stuttering or weaken resilience related to stuttering.

Framework therapy is not arbitrary in terms of content and methods, and is only justified when there is a basic relevance for stuttering and stuttering therapy. It needs to be agreed upon within the framework of contracting. Because framework therapy is contracted according to need, it is not assigned to specific therapy phases. Often, the need for framework therapy appears right at the start. Sometimes it becomes clear in the course of therapy which topics need to be addressed, e.g., self-image with stuttering, dealing with failures or processing negative experiences related to stuttering. This means that framework therapy is usually required at the start of therapy, though focus areas can be added or changed at any time. Interventions of framework therapy could be the main theme in one or more therapy sessions, or be a part of other interventions, e.g., working on conflict-solving strategies and pragmatic skills embedded in desensitization toward listeners' reactions. During working on freedom from taboos and desensitization, psychological education plays a huge role. This includes teaching medical facts systematically, not only to the patient but to all those involved, and enabling them to deal favorably and sovereignly with stuttering (Baeuml, Behrendt, Hennigsen & Pitschel-Walz, 2016).

As many prejudices surrounding stuttering exist, early education helps to place the patients and their families in the role of disseminators, and as protectors against the negative behavior of others. For Sandrieser and Schneider (2015), it is an important therapy goal that people who stutter feel themselves as competent conversational partners who have strategies which allow them to express themselves within a reasonable time. A standard part of every stuttering therapy is to counsel parents about how to assist and empower their child, and to offer compassion for the parents' sorrow. The situation-dependent variability of stuttering often demands the inclusion of teachers. Their contribution to therapy can take different forms, such as filling out questionnaires, making telephone calls, training, and having school visits with the child. In some cases, this enables the detection of important trigger factors that need to be worked on. The communication with the teachers may be direct, or indirect via the parents. Besides this, detection and handling of bullying may also be part of framework therapy.

Evaluating interactions within the family can serve to identify systemic aspects, such as dealing with a deficit, valuing behavior which does not conform to the norm, or identifying the attitude to therapeutic support as either a resource or a hindrance to the therapy. In addition, the cultural sphere plays an important role, e.g., dealing with illness, expressing feelings or role designations, as well as the role of stuttering in a culture. Information about self-help organizations and, as far as possible, contact with other people who stutter, is another essential component of framework therapy. In *KIDS*, parent groups are recommended as accompanying interventions for individual therapy.

Interventions that set the stage for stuttering-specific therapeutic interventions include working on self-monitoring, improving oral motor skills for pullout, or training divided attention to be able to use modification techniques efficiently. Often, framework therapy aims to reduce trigger factors for stuttering (Packman & Attanasio, 2010), such as the establishment of problem-solving strategies, the acceptance of negative feelings, social competence, dealing with teasing, and coping with disturbing and stressful stuttering experiences. As in the other phases, the aims for framework therapy need to be contracted and adjusted if necessary.

Case Study Noah

Noah, a 9-year-old boy, comes with his mother to the first session. He shows severe stuttering with long blocks and part word repetitions that are accompanied by struggling in terms of facial and whole-body movements. Speech avoidance is not apparent. His stuttering appeared for the first time at age four. In the assessment, he is shy at the beginning but opens up when being asked about his model railroad, and wants to share a lot of information despite his apparent struggle with stuttering. Mother and son explain problems with oral participation at school, with the beginning of avoidance behavior in class. According to Noah, the teachers are uninformed and sometimes behave carelessly. Certain classmates would tease him. Owing to his gifts he is already in fourth grade, so is the youngest and smallest of his classmates, which makes him feel inferior to them. In RSE (Reactions to Stuttering by the Examiner; Schneider, 2015) when his symptoms are addressed, he shows a strong reaction of embarrassment, but reflects openly on his observations with the therapist. Up to this point, therapy has not taken place, since the symptoms have worsened greatly just in the past two months. The mother feels helpless and sorrowful with Noah's stuttering, but is able to support and value him. His father also stutters.	Case History and Assessment
At the next session, the parents attend without Noah. They share the clinician's evaluation of symptoms and understand that the chance for remission is rather low. Considering therapy, they wish for Noah to learn a self-confident way to deal with his stuttering, and for his symptoms to become less and milder. The father is open to a fluency shaping or stuttering modification approach, whereas the mother rules out fluency shaping. Having received detailed information about School-KIDS, the parents mandate the therapy. Doing this, it is emphasized that treatment of the father's stuttering is neither a prerequisite nor a component of Noah's therapy. Another consultation with the parents is scheduled in order to discuss the situation at school in more detail.	Initial Recommendations & Clinical Advice
In the following sessions, Noah is informed about stuttering. In the 'bumping experiment' (wherein a person is trying to write properly, while another person repeatedly bumps his/her arm) he experiences what is meant by loss of control, and he transfers this reaction in the experiment to his current and common struggling and avoidance behavior. His insights are documented in 'a stuttering onion.' Later on, he intensely observes how his mother reacts to the 'bumping experiment' and both come to the conclusion that it is unfair to devalue stuttering. Noah learns about the neurophysiology of stuttering by drawing a large picture with 'the speech center' in the brain which sends signals ('little messengers') to the articulators. He reflects on the fact that his 'speech center' is prone to making mistakes. He sees the connection to his father's stuttering and a possible genetic predisposition. In another session, he finds out about stuttering prejudices by developing a quiz about stuttering, that he is eager to take to his grandma and grandpa's house.	Freedom from Taboos

During this time two conversations take place with both parents, in which a guide for parents (Schneider & Kohmaescher, 2017) is recommended. Furthermore, strategies are developed to educate Noah's teachers about how to deal with his stuttering and support him emotionally at school. The confirmation that they are dealing well with Noah's stuttering at home is a relief to the parents.	Education & Contracting
As Noah is drawing the seating arrangement in his classroom, he gives an extensive talk about his sadness and wishes, and he formulates a therapy goal – to gain insight how he can make his stuttering become milder, to dare to improve his oral participation in class, and learn how to deal with peers who annoy him. *The clinician and Noah develop a contract that resembles a railway map with the different phases and goals of therapy visualized, including the modification techniques and their effects. Noah explains the expected treatment course to his mother, the clinician adds information about shared responsibility, and she moderates arrangements concerning therapeutic homework.*	Contracting & Triangular Contract
Finally, the whole family, including the elder sister and the grandparents are invited to an education session about stuttering. Noah presents his share with a self-created Power Point presentation, and is enthusiastic about the attention and appreciation he experiences. Afterwards, he can well imagine holding such an event in his class.	Removal of Taboos & Family Session
By means of the topic 'extreme water phobia', Noah and his clinician discuss possible coping styles, such as avoidance, uncompromising confrontation, and gradual approach towards the feared water. This is then transferred to stuttering and the options of desensitization. The fact that desensitization will make his speech center more relaxed and less prone to errors motivates Noah to engage in pseudo-stuttering. Being able to do this easily, the level of difficulty on the linguistic level can be raised quickly towards monologues with voluntary stuttering. The situational demands are increased on the one hand by practicing on the street, and on the other hand by practicing with an intern and a friend.	Desensitization of Symptoms & Towards Listener Reactions
During identification, a short part of each therapy session is spent analyzing the location and type of articulation in fluent speech and voluntary symptoms, as well as imitating the stuttering symptoms of a person on video. Noah has developed an inquisitive, searching attitude, and is interested in exploring his own stuttering. By agreement, the clinician is allowed to interrupt Noah if he stutters, since during therapy he hardly stutters any more. His mother confirms that at home he also speaks more fluently.	Identification: Articulatory Phonetics & First Symptom Analysis
Noah finds articulatory phonetics easy, so he can begin to work on prolongations rather soon. It is apparent that he is consciously controlling his articulation, but he does not take the time he needs to do it properly. For desensitizing against time loss, the clinician and Noah practice articulatory transitions and correct each other if they are, whether deliberate or not, too fast. Another playful practice is to bet on who achieves the longest prolongation.	The Start of Modification & Desensitization to Loss of Time

Prolongation and pseudo-stuttering run parallel for many sessions with in vivo, personalized training. The mother learns to judge the quality of the technique, and is allowed to train these techniques regularly as Noah's practice partner at home. Since teasing has returned recently, a school visit is prepared and Noah develops problem-solving strategies as well, as he practices oral participation in role plays. The parents learn about the 'disadvantage compensation' and this is put into practice adequately.	Desensitization in Vivo Framework Therapy: Problem-Solving for Teasing
Noah modifies real stuttering symptoms spontaneously in a manner quite close to the pullout. The therapist takes this up for practice and trains pullouts in imitated symptoms with Noah. *During practice, it seems hard for Noah to maintain an adequate pause after stopping. To transfer his skills to real symptoms requires registering them promptly. When considering whether to resume work on symptom registration, the clinician decides that this is neither possible nor necessary, as Noah only shows short, effortless symptoms, even in stressful situations.*	Modification & Pullout Identification & Symptom Registration
Following extensive preparation and difficulties in arranging an appointment, the school visit is about to take place. Noah's classmates and his teacher react very positively, and teasing recedes from then on. Noah is even protected at recess in the schoolyard.	Desensitization, Freedom from Taboos
By chance, the clinician learns that at home Noah has set up his own YouTube channel in which he announces his stuttering before presenting Lego Star Wars figures.	Spontaneous Freedom from Taboos
Due to mild symptoms and recent positive coping strategies in benevolent surroundings, all participants agree to take a three-month break from therapy. Noah feels well-prepared for exchanging schools.	Therapy Break
After the therapy break, stuttering continues to be mild and speech avoidance remains absent. Noah suggests a visit to the new school. His social status is good in a difficult class, surely because of his self-confident appearance with his stuttering. *Noah is a member of the theatre group. In therapy, the review, practice and generalization of the pullout are central, above all in withstanding the accompanying loss of time.*	Freedom from Taboos Generalization, Desensitization to Time Loss
Pullouts are now rarely used in everyday life because Noah no longer feels disturbed by his stuttering symptoms. In most natural speaking situations and in vivo, symptoms are not triggered any more nor have to be modified. *Noah reports on very few longer blocks (every 1–2 months) that he is not able to control. In this regard, his mother feels more insecure than he does.* *In contracting, it is clarified what should be done if the frequency of symptoms increases, and under which circumstances a re-examination might be useful. Two more follow-up sessions are planned for the coming year.*	Preparation for the Finalization of Therapy Contract Work
In the follow-up session, Noah seems relaxed. His symptoms occur more often, but are too short to be treated with prolongations or pullouts. He reports that the long uncontrollable blockings have subsided. He sees no need to deal with them at the time. His parents also see no need to resume therapy. Disability compensation for school is not necessary anymore.	Follow-Up after Six Months and a Year

Until his final high school exams, Noah has no interest in therapy. Even though his stuttering is more frequent and comprises some struggling behavior, he does not consider this a problem. He continues to be active in theater. His school grades, regardless of oral participation, have become worse, since at the moment he is less motivated to work for school. He considers a refresher for the oral final exam (graduation from high school). Noah and his parents are informed that disability compensation would need to be applied for in time, before the final exam.	Post Five-Year Follow-Up

Conclusion and Perspectives

With *School-KIDS*, a theory-based therapy concept of stuttering modification is available to school-aged children. It retains the well-proven elements of therapy from Van Riper (1971, 2006) and Dell (2000) and demands individualized therapy within a framework. The concept is influenced by current research on the origin of (social) anxiety, the meaning of resilience, and quality of life, which is why – following the ICF – the entire environment (life situation) of the child who stutters is taken into consideration. Contracting explicitly promotes the child's self-efficacy and success through carefully staggered practices which are graduated from easy to difficult. In Germany, *School-KIDS* is a widely used therapy approach, and has proved to be applicable and subjectively effective in individual as well as group therapy. However, when it comes to establishing the objective external evidence of its effectiveness, this is complicated by the individualization of the approach, in which the duration and intensity of therapy goals are not the same for all patients. Therefore, the authors have made some efforts to gain evidence by developing a treatment manual (Schneider & Sandrieser, 2018). From 2018 to 2022, *School-KIDS* has been evaluated in the multi-center pragmatic trial *PMS KIDS* (registration DRKS00015851, Kohmaescher, 2018). The therapy courses of 73 school-age children who stutter, treated in various outpatient settings, were followed over 12 months. Outcomes showed significant and clinically relevant improvements in affective, cognitive and behavioral aspects of stuttering, supporting the value of *KIDS* as a therapy option for school-aged children who stutter (Kohmäscher, Heim, Primassin, Heiler & da Costa Avelar, 2022).

Definitions

Antithetical behavior refers to the clinician's belief (antithesis) that differs from the patient's behavior or belief (thesis), e.g., that the clinician finds stuttering interesting whereas the child does not like it.

Articulatory phonetics is a work area in identification, in which the basis for fluent and stuttered speech production are mediated.

Imitated stuttering – in *KIDS*, the child's stuttering symptoms are purposely imitated, including core symptoms as well as tension and secondary behaviors.

Freedom from taboo is explained by a process within desensitization, in which the child learns how to openly talk about stuttering and the therapy, so that the taboo of stuttering is eradicated.

Allowing stands for the therapist's attitude of acceptance, in which the child and the parents are allowed to express thoughts and feelings, and also show and try out behaviors which until now they did not dare to, or which they assumed to be undesirable, uncomfortable or dangerous.

Pseudo-stuttering in *KIDS* refers to deliberate stuttering in the form of struggle-free, relaxed part-word repetitions or, in some rare cases, prolongations.

Contracting, borrowed from transactional analysis, describes the procedure in *KIDS* to permanently meet and reflect upon binding, positively-formulated and goal-directed agreements in the process of therapy.

Multiple Choice Questions

1. *KIDS* intervenes in negative coping strategies by:
    a) strengthening self-efficacy (in dealing with symptoms and in communication).
    b) reducing anxiety.
    c) teaching the child to talk fluently with speech techniques.
    d) increasing communicative competences.
    e) working through burdensome experiences with stuttering.
2. The ICF-oriented initial assessment in *KIDS* enables one to:
    a) assess whether stuttering is present.
    b) estimate the length of therapy.
    c) appraise the need for therapy.
    d) derive therapy goals.
    e) predict how successful the therapy will be.

3. *KIDS* is based on essential principles:
    a) variable treatment plan, strengthening resilience, child- and everyday life-reference.
    b) variable treatment plan, strengthening speech fluency, child- and everyday life-reference.
    c) treatment plan according to phases of *KIDS*, strengthening resilience, child- and everyday life-reference.
    d) variable treatment plan, strengthening resilience, child orientation, help for self-help.
    e) variable treatment plan, strengthening resilience, modification, everyday life-reference.
4. With regard to the phases in *KIDS* it needs to be kept in mind that:
    a) the phases need to be strictly separated from each other.
    b) the information and contracting phases are central at the beginning, though will continue to be relevant in the therapy process.
    c) desensitization is of great significance, and is worked on parallel to elements of identification.
    d) the necessity and arrangement of modification depends on success of desensitization, and the complexity of the child's symptoms.
    e) generalization of skills learned in therapy should be pursued as soon as possible.
5. *KIDS* therapy ends when:
    a) the child is able to modify all stuttering symptoms.
    b) regular therapy sessions are no longer necessary, and the follow-up phase can be instigated.
    c) the child does not stutter any more.
    d) in the clinician's view, a remission has been reached, or only mild stuttering exists.
    e) the child (and his/her parents) wish to end the therapy, and this is sensible in the view of the clinician.

Recommended Reading

Schneider , P., Kohmaescher, A. (2022): *Schul-KIDS. Manual zur Therapie stotternder Schulkinder*. Natke.

Schneider, P., Kohmaescher, A. (2017). *My child stutters – what can I do?* Natke.

Sandrieser, P., Schneider, P. (2015). *Stottern im Kindesalter* (4. ed.). Thieme.

Dell, C.W. (2000). *Treating the school-age child who stutters: a guide for clinicians*. Stuttering Foundation of America.

Manning, W.H., DiLollo, A. (2017). *Clinical decision making in fluency disorders*. Plural Publishing.

Furman, B. (2016). *Kids' skills in action: stories of playful and practical solution-finding with children.* Helsinki Brief Therapy Institute.

References

Baeuml, J., Behrendt, B., Henningsen, P., Pitschel-Walz, G. (2016). *Handbuch der Psychoedukation: fuer Psychiatrie, Psychotherapie und Psychosomatische Medizin*. Schattauer.

Berne, E. (2016). *Transactional analysis in psychotherapy: a systematic individual and social psychiatry*. Pickle Partners Publishing.

Boyle, M.P., Beita-Ell, C., Milewski, K.M., Fearon, A.N. (2018). Self-esteem, self-efficacy, and social support as predictors of communicative participation in adults who stutter. *Journal of Speech, Language, and Hearing Research*, *61*, 1893–1906.

Carter, A.K., Breen, L.J., Beilby, J.M. (2019). Self-efficacy beliefs: experiences of adults who stutter. *Journal of Fluency Disorders*, *60*, 11–25.

Carter, A., Breen, L., Yaruss, J.S., Beilby, J. (2017). Self-efficacy and quality of life in adults who stutter. *Journal of Fluency Disorders*, *54*, 14–23.

Cook, S. (2013). Fragebogen zur psychosozialen Belastung durch das Stottern fuer Kinder und Jugendliche. *LOGOS Interdisziplinaer*, *21*, 97–105.

Craig, A., Blumgart, E., Tran, Y. (2011). Resilience and stuttering: factors that protect people from the adversity of chronic stuttering. *Journal of Speech, Language, and Hearing Research*, *54*, 1485–1496.

Daniels, D.E., Gabel, R.M., Hughes, S. (2012). Recounting the K-12 school experiences of adults who stutter: a qualitative analysis. *Journal of Fluency Disorders*, *37*, 71–82.

Dell, C.W. (1971). *Treating the school-age child who stutters*. The Stuttering Foundation.

Dell, C.W. (2000). *Treating the school-age child who stutters: a guide for clinicians*. Stuttering Foundation of America.

Dell, C.W., Starke, A. (2001). *Therapie fuer das stotternde Schulkind* (3., rev. ed.). Demosthenes.

Deutsche Gesellschaft fuer Phoniatrie und Paedaudiologie (DGPP) (Ed.). (2016). *Pathogenese, Diagnostik und Behandlung von Redeflussstoerungen: Evidenz- und konsensbasierte S3-Leitlinie*. AWMF-Registernummer 049-013, Version 1. https://www.awmf.org/uploads/tx_szleitlinien/049-013l_S3_Redeflusstoerungen_2016-09-verlaengert.pdf.

Erickson, S., Block, S. (2013). The social and communication impact of stuttering on adolescents and their families. *Journal of Fluency Disorders*, *38*, 311–324.

Kohmaescher, A. (2018). *PMS KIDS – Prospektive multizentrische Studie zur Wirksamkeit ambulanter Stottertherapie nach dem Stottermodifikationsansatz KIDS*. https://www.pms-kids.de.

Kohmaescher, A., Heim, S., Primassin, A., Heiler, S. & Da Costa Avelar, P. (2022, May 27). *Effectiveness of outpatient-directed stuttering modification treatment for primary school children: a multicenter randomized trial.* Joint World Congress on Stuttering and Cluttering, Montréal (Canada).

Laiho, A., Klippi, A. (2007). Long- and short-term results of children's and adolescents' therapy courses for stuttering. *International Journal of Language & Communication Disorders, 42*, 367–382.

Natke, U., Kohmaescher, A. (2020). *Stottern: Wissenschaftliche Erkenntnisse und evidenzbasierte Therapie* (4. ed.). Springer.

Noeker, M., Petermann, F. (2008). Resilienz: Funktionale Adaptation an widrige Umgebungsbedingungen. *Zeitschrift fuer Psychiatrie, Psychologie und Psychotherapie, 56*, 255–263.

Packmann, A., Attanasio, J. (2010). *A model of the mechanism underpinning early intervention for stuttering.* ASHA Convention, Philadelphia.

Plexico, L.W., Erath, S., Shores, H., Burrus, E. (2019). Self-acceptance, resilience, coping and satisfaction of life in people who stutter. *Journal of Fluency Disorders, 59*, 52–63.

Riley, G., Bakker, K. (2009). *SSI-4: Stuttering severity instrument*. PRO-ED.

Sandrieser, P. (2018, January). *Vertragsarbeit in der Logopaedie.* Forum Kindersprache, Tamm.

Sandrieser, P., Schneider, P. (2015). *Stottern im Kindesalter* (4. ed.). Thieme.

Sandrieser P., Schneider P. (2019). *KIDS – direkte Therapie mit stotternden Kindern. Sprachfoerderung und Sprachtherapie in Schule und Praxis, 19*, 148–152.

Schlegel, L. (1995). *Die transaktionale Analyse: Eine Psychotherapie, die kognitive und tiefenpsychologische Gesichtspunkte kreativ miteinander verbindet* (4., completely rev.. ed.). *UTB fuer Wissenschaft Psychologie*. Francke.

Schneider, P. (1999). Stottertherapie bei Kindern in Orientierung an Carl Dell. *Forum Logopaedie, 1*, 5–12.

Schneider, P. (2013). *Stottern bei Kindern erfolgreich bewaeltigen: Ratgeber fuer Eltern und alle, die mit stotternden Kindern zu tun haben.* Natke.

Schneider, P. (2015). Reaktionen auf Stottern der Untersucherin (RSU). W: P. Sandrieser, P. Schneider (Ed.), *Stottern im Kindesalter* (4. ed., p. 108–109). Thieme.

Schneider, P., Kohmaescher, A. (2017). *My child stutters – what can I do?* Natke.

Schneider , P., Kohmaescher, A. (2022): *Schul-KIDS. Manual zur Therapie stotternder Schulkinder*. Natke.

Schneider, P., Sandrieser, P. (2018). *Manual Schul-KIDS*. Unpublished manuscript.

Schwarzer, R., Jerusalem, M. (2002). Das Konzept der Selbstwirksamkeit. *Zeitschrift fuer Paedagogik Beiheft, 44*, 28–53.

Sheehan, J.G. (1970). *Stuttering: research and therapy*. Harper & Row.

Stewart, I. (2000). *Transaktionsanalyse in der Beratung: Grundlagen und Praxis transaktionsanalytischer Beratungsarbeit* (3. ed.). Junfermann.

Van Riper, C. (1971). *The nature of stuttering*. Prentice-Hall.

Van Riper, C. (2006). *Die Behandlung des Stotterns*. Bundesvereinigung Stotterer-Selbsthilfe.

Waelkens, V. (2018). *Mini-KIDS: direct therapy for children who stutter*. Acco.

World Health Organization (WHO) (2001). *International Classification of Functioning, Disability and Health: ICF*. World Health Organization.

Yaruss, J.S., Coleman, C., Quesal, R.W. (2016). *Overall Assessment of the Speaker's Experience of Stuttering: Ages 7–12 (OASES-S)*. Stuttering Therapy Resources.

Yaruss, J.S., Quesal, R.W. (2006). Overall Assessment of the Speaker's Experience of Stuttering (OASES): documenting multiple outcomes in stuttering treatment. *Journal of Fluency Disorders*, *31*, 90–115.

Yaruss, J.S., Quesal, R.W. (2008). OASES: Overall Assessment of the Speaker's Experience of Stuttering Interpretive Report. Pearson.

Zueckner, H. (2014). *Intensiv-Modifikation Stottern: Therapiemanual*. Natke.

Chapter 8

George Fourlas & Dimitris Marousos

Integrating Clinical Practices to Address the Overall Stuttering Experience of the School Age Child. The *Lexipontix Programme* Paradigm

Introduction

It is a common experience among clinicians who work with school age Children Who Stutter (CWS) to feel devalued, frustrated or disempowered by the lack of progress as well as relapse (Hancock & Craig, 1998). In many cases, children are able to speak fluently in therapy but are unable to generalize this (Webster, 1979). They may be oversensitive to a listener's evaluation and may have unhelpful thoughts about communication despite their improvement in fluency (Plexico, Manning & DiLollo 2010; Tilling, 2011). They may lose motivation and become "bored" of therapy after some time. Often, a focus on fluency makes speech techniques part of the problem rather than part of the solution (Murphy, Yaruss & Quesal, 2007). Parents report being unable to help, and many times they are trapped in unhelpful roles such as urging the use of speech techniques, and challenging the therapy and the clinician's skills (Langevin, Packman & Onslow, 2010).

The Lexipontix Therapy Programme attempts to introduce an alternative approach to stuttering therapy by:

- eliciting clients' Best Hopes from therapy and facilitating children and their parents to move towards them (George, Iveson, & Ratner, 2013);
- exploring the overall stuttering experience of children and their parents in order to individualize therapy according to their overall needs and expectations, as well as available resources;
- merging well known and evidence-based theories and clinical practices into a coherent whole;
- introducing therapy as a role-play game based on a theme, making therapy meaningful and fun;
- using child-friendly material, enjoyable activities and card games;

- investigating the benefits of the use of different *Speech Tools* for speech management and functional communication;
- building therapeutic relationships, engaging the child, their family and significant others, and making best use of the expertise of each participant;
- focusing on solutions; on the successful part of the client's experience of life, communication and/or therapy;
- being brief and minimal, making decisions that bring about the biggest possible change in the shortest time;
- making best use of the resources of the family and the child;
- facilitating the change process by attempting optimal use of the child and family's Extra-therapeutic Factors (Imel & Wampold, 2008).

A key element of the *Lexipontix Programme* is the *Lexipontix Assessment Protocol* (LAP) (Fourlas & Marousos, 2018). Every candidate for the *Lexipontix Therapy Programme* is initially assessed following the LAP. This Protocol is based on the *International Classification of Functioning Disability and Health* (ICF) (WHO, 2001). It aims to map the overall stuttering experience of a child in a way that enhances understanding of the needs and resources of the child and family. It is also used as a guide when considering available therapy options as well as selecting between available clinical modules in the application of the *Lexipontix Therapy Programme* (Fourlas & Marousos, 2014; 2019). The LAP may be administered to any school-age child who stutters, irrespective of the therapy programme to be followed. It constitutes an autonomous, well-structured, comprehensive, clinically-tested, evidenced-based assessment protocol, within the ICF framework.

The present chapter provides a taste of how the *Lexipontix Programme* integrates theories, clinical practices and tools within the ICF framework, in order to activate the resources of the child and family and facilitate them in making steps towards preferred changes.

Exploring the Overall Needs of the Child and Family – The Formulation Chart

> *"What are your Best Hopes from therapy?", "What would you like to achieve by coming here, what difference would that make in your life?"*

Parents' expectations may be:

- to support their child's communication, social interaction, learning and welfare in the best possible way;
- to feel more confident and optimistic about the future of their child, and

- to manage their own emotional and cognitive responses as parents of a child who stutters.

The difficulties and needs of each child and family at a cognitive, emotional, behavioral, experiential or interactional level, as well as their resources (such as skills, knowledge, experience of successful management, beliefs and attitudes, social network support, readiness for change) constitute unique and significant Contextual Factors (Howe, 2008) in the child's stuttering experience. The interaction between Contextual Factors and speech difficulty per se determines the overall functioning of the child, and creates a unique stuttering experience.

The unique stuttering experience of each child at a certain point in time, is depicted in a *Lexipontix* Formulation Chart, see figure 1 below. The Formulation Chart is an evidence-based working model for assessing, mapping, interrelating and understanding a child's stuttering-related data. Furthermore, it is also a working model for treatment planning and monitoring purposes. The Formulation Chart is based on the ICF model (WHO, 2001) and its adaptation to stuttering by Yaruss and Quesal (2004).

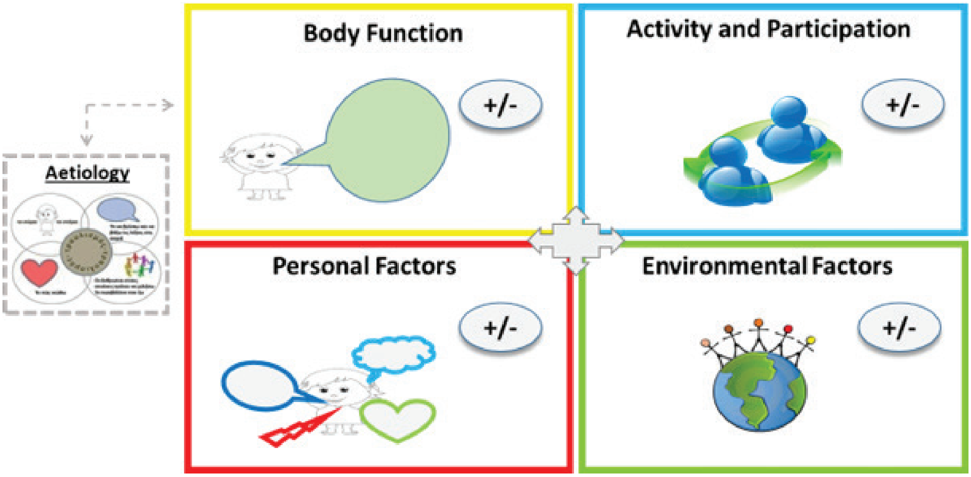


Figure 1: The Formulation Chart – Schematic Presentation

There are four interrelated categories in the Formulation Chart: Body Functions, Personal Factors, Activity and Participation, and Environmental Factors. Within each of the four categories, distinct subcategories are listed, see figure 2. Based on current research and literature, these subcategories have been carefully chosen to include, in a comprehensive way, different parameters which define stuttering experience for school-age children who stutter (Fourlas & Marousos, 2018). An overview of the clinical rationale supporting each of the categories in the *Lexipontix* Formulation Chart will be discussed in turn.

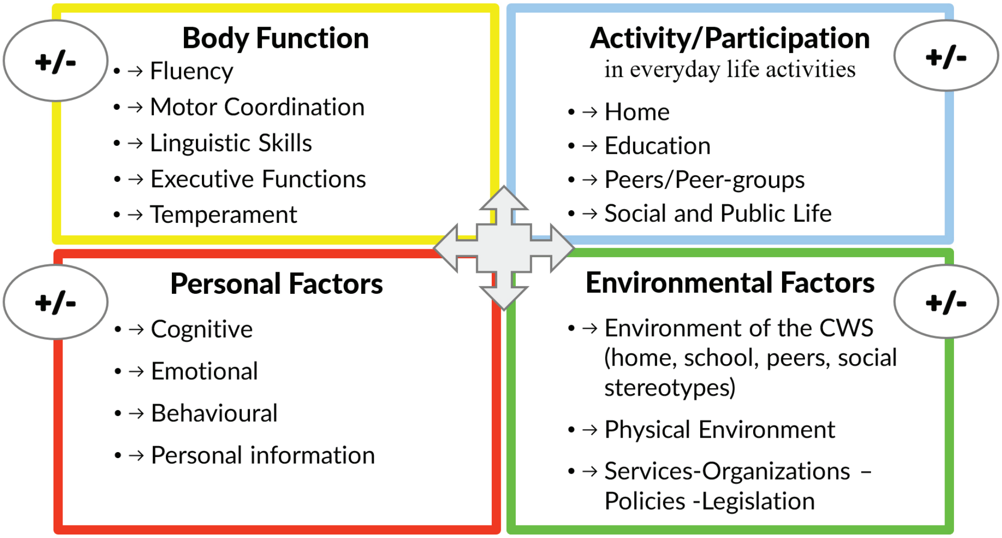


Figure 2: The Formulation Chart – Descriptive Presentation

Body Function

There is a body of research that indicates areas of interest within the Body Function Category. These areas may include:

a) quantitative and qualitative characteristics of verbal and non-verbal stuttering behaviors conditioned to the moment of stuttering (Guitar, 2013). Measurements include non-stuttering like dysfluencies (Ambrose & Yairi, 1999; Conture, 2001; Fourlas, 2011; Tumanova, Conture, Lambert, & Walden, 2014; Yairi and Ambrose, 1992) and articulatory rate (Van Zaalen-op't Hof, Wijnen, & De Jonckere, 2009a), to be used both as fluency-related data and for differential diagnosis purposes (St. Louis, Myers, Bakker & Raphael, 2007; Van Zaalen-op't Hof, Wijnen & De Jonckere, 2009a; 2009b);

b) speech naturalness (Kelly & Conture,1991; Yaruss & Conture, 1995);

c) oro-motor coordination skills (Alpermann & Zückner, 2008; Cook, Rieger, Donlan & Howell, 2011; Riley & Riley, 1979; Van Lieshout, Hulstijn & Peter, 1996);

d) language skills (Alpermann & Zückner, 2008; Anderson & Conture 2000; Arndt & Healy, 2001; Bernstein-Ratner & Silverman, 2000; Dworzynski, Howell & Natke, 2003; Blood, Ridenour, Qualls & Hammer, 2003; Ntourou, Conture & Lipsey, 2011; Yaruss, LaSalle & Conture, 1998; cf. Nippold, 2012);

e) executive functions (Anderson, Pellowski, Conture & Kelly, 2003; Anderson & Wagovich, 2014; Anderson, Wagovich & Hall, 2006; Bakhtiar, Ali & Sadegh, 2007; Carlson, 2005; Ntourou, 2014; Eggers, De Nil & Van den Berg, 2010; 2013; Embrechts, Ebben, Franke & van de Poel, 2000; Hakim & Bernstein-Ratner, 2004; Heitmann, Asbjørnsen & Helland, 2004; Johnson, Conture & Walden, 2012; Ntourou & Anderson, 2015; Ofoe, Anderson & Ntourou, 2015; Reilly & Donaher, 2005; Sasisekaran & Byrd, 2013), and

f) temperament dimensions (Anderson, Pellowski, Conture & Kelly, 2003; Eggers, De Nil & Van den Berg, 2009; 2010; 2013; Johnson, Walden, Conture & Karrass, 2010; Jones, Choi, Conture & Walden, 2014; Karrass et al., 2006; Lewis & Goldberg, 1997; Ntourou, 2012; Ntourou, Conture & Walden, 2013; Schwenk, Conture & Walden, 2007).

The Body Functions Assessment Protocol (Fourlas & Marousos 2018) is a structured assessment tool, especially designed for the *Lexipontix Programme*, to collect data on the aforementioned subcategories. Formal and informal tests may be additionally used for the assessment of specific parameters in motor coordination, language skills, executive functions and temperament. Clinicians are advised to collect data for the areas under consideration by making use of the LAP or any other assessment instruments they are familiar with. This allows the incorporation of assessment procedures which clinicians already use and are familiar with.

Activity and Participation

The Activity/Participation category of the Formulation Chart explores the impact of stuttering on a child's everyday life. For school-age children who stutter, the impact of stuttering should be thoroughly explored during assessment, and addressed in therapy (Healey & Scott, 1995; Raming & Bennet, 1995; Yaruss, Coleman & Quesal, 2012). Subcategories in the Activity/Participation Category are specified on the basis of research focusing on communication and interaction in different environments, where the functioning of the child who stutters is not necessarily analogous to the observed fluency difficulty. These environments are home, school and peer-group environments, in social and public life communication contexts (Ahlbach & Benson, 1994; Beilby, Byrnes, & Yaruss, 2012; Blumgart, Tran, Yaruss, & Craig, 2012; Bobrick, 1995; Carlisle, 1985; Hood, 1998; Jezer, 2003; Johnson, 1930; Koedoot, Versteegh, & Yaruss, 2011; St. Louis, 2001; Yaruss & Quesal, 2006). The LAP (Fourlas & Marousos 2018) proposes the use of specific assessment instruments for data collection regarding the activity and participation of the child who stutters in everyday life circumstances. Some informal instruments of the LAP such as the structured interviews for the parents and the child, and the Teacher's Questionnaire, are especially designed for data collection purposes. Others, such as the Palin Parent Rating Scales (Palin-PRS) (Millard & Davis, 2012) and the OASES-S (Yaruss, Coleman & Quesal, 2010), constitute well known and widely used instruments. Additional or alternative assessment instruments may also be used.

Personal Factors

The Personal Factors category of the Formulation Chart encompasses a child's personal information. It is more focused on the child's cognitive, emotional and behavioral responses to his/her stuttering experience. These responses may be automatically elicited as spontaneous, impulsive reactions to external events. The very same responses often reveal more personal, pervasive and permanent internal states such as core beliefs, emotional diatheses, and behavioral repertoires developed over the years of stuttering experience. There is abundant literature looking at the communication attitudes of school-age children who stutter (Blumgart, Tran, & Craig, 2010; Bricker-Katz, Lincoln & McCabe, 2009; Brutten & Vanryckeghem, 2007; Clark & Wells, 1995; Guttormsen, Kefalianos & Næss, 2015; Iverach et al., 2009; Menzies, Onslow, Packman, & O'Brian, 2009; Messenger, Onslow, Packman, & Menzies, 2004; Mulcahy, Hennessey, Beilby & Byrnes, 2008; Ntourou, Marousos, Paphiti, Fourlas, Vanryckeghem, 2016; Yaruss & Quesal, 2004). Negative communication attitudes of children who stutter are often regarded as contributing factors to stuttering chronicity (Guttormsen, Kefalianos & NæssNæss, 2015). Affective reactions to stuttering may positively or negatively influence participation in daily activities (De Nil & Brutten, 1991a; 1991b; Guitar, 2013; Lev-Wiesel, Shabat & Tsur, 2005; Stewart & Brosh, 1997; Yaruss, 2001; Yaruss, Coleman & Quesal, 2010), and may impact overall quality of life by engendering avoidance behaviors (Plexico, Manning & Levitt, 2009; Powers, Vörding & Emmelkamp, 2009; Ryff, 1995; Ryff & Keyes, 1995; Starkweather & Givens-Ackerman, 1997). LAP instruments such as the Child Interview, the Parents' Interview and a projective assessment procedure for the elicitation of emotions related to stuttering experience are used for data collection, in addition to clinical instruments such as *Communication Attitude Test* (CAT) (Vanryckeghem & Brutten, 2020) and Blob Tree (Wilson & Long, 2009).

Environmental Factors

Environmental Factors may be related to a child's home or school environment, to the wider social and physical environment, as well as to social services, organizations, policies and legislation. Parents have a strong influence on their children's personalities and thought patterns (Calkins, 1994; Kagan & Snidman, 1991). They also have an influence on the child's stuttering experience and the stuttering moments per se (Guitar, Kopf-Schaefer, Donahue-Kilburg & Bond, 1992; Guitar & Marchinkoski, 2001; Newman & Smit, 1989; Winslow & Guitar, 1994). Although parents do not cause stuttering (Nippold & Rudzinski, 1995; cf. Yairi, 1997), a child's stuttering may increase parental anxiety (Biggart, Cook & Fry, 2007; Zenner, Ritterman, Bowen & Gronhord, 1978), and this in turn often gives rise to behaviors which have a negative impact on the child's fluency (Kloth, Janssen, Kraaimaat & Brutten, 1998; Meyers & Freeman, 1985a; 1985b).

The stigma of stuttering (Blood, Blood, Tellis & Gabel, 2003; Craig, Tan & Craig, 2003; St. Louis, Reichel, Yaruss, & Lubker, 2009) often feeds on stuttering stereotypes evident in the school environment (Dorsey & Guenther, 2000; Evans, Healey, Kawai & Rowland, 2008; Frank, Jackson, Pimentel & Greenwood, 2003) and society (Craig, Tan & Craig, 2003). Children who stutter may internalize this stigma (McAdams, 1993), and may feel disempowered (Blood & Blood, 2004). They may experience bulling and teasing by some peers (Davis, Howell & Cooke, 2002; Hugh-Jones & Smith, 1999; Langevin, 2009; Langevin, Bortnick, Hammer & Wiebe, 1998), or have the acceptance and support of other peers and significant others (Hearne, Packman, Onslow & Quine, 2008; Langevin, Kully & Ross-Harold, 2007).

Data for the Environmental Factors category in the Formulation Chart is collected by making use of the LAP instruments such as the parent and child structured interviews, and the projective test for the elicitation of parental emotions related to stuttering experience. A Teacher Questionnaire, included in the *Lexipontix Assessment Manual* (Fourlas & Marousos, 2018), records information related to the school life of the child. Administration of the Palin PRS gives insight into parents' perception of the impact of stuttering on the child, the severity of stuttering and its impact on the parents, parental knowledge of stuttering, and confidence in managing it.

Using the Formulation Chart

By bringing together all significant information in a holistic perspective, the *Lexipontix* Formulation Chart guides the assessment process. The use of the *Lexipontix* Formulation Chart addresses the questions of "what" needs to be included in an assessment protocol of a school age child who stutters, and "why". In contrast, the LAP deals with the "how" questions of the assessment process.

Data collected during the assessment process are transferred into the Formulation Chart. Color coding is used in all assessment instruments provided by the LAP, to help with mapping data onto the four categories of the Formulation Chart, i.e., Body Function, Personal Factors, Environmental Factors, and Activity and Participation. The goal is to end up with a chart that organizes data in a brief yet functional way, that makes sense and illustrates potential therapy routes to meet clients' Best Hopes from therapy.

Mapping data into the Formulation Chart is a collaborative process that involves the child, parents and the therapist. It is based on the acknowledgement, evaluation, interpretation, clarification, classification, correlation, understanding, and validation of all the information revealed in the assessment process. This process enhances understanding of, and consensus upon, the child's stuttering experience, that enables the formulation of valid clinical hypotheses and guides to taking management decisions.

Making use of the Formulation Chart assessment, findings are discussed with the child and parents, and therapy goals are set, in collaboration with all participants. The Formulation Chart is the "dynamic compass" which navigates the therapist while planning, selecting, activating and delivering the relevant "Modules" of the *Lexipontix Programme*. Modules are distinct entities containing interrelated clinical tools and practices. Different Modules are implemented according to each child's individual needs, as mapped on the Formulation Chart. For example, a high CAT score or comments and narrations indicative of negative attitudes, which are recorded in the assessment interviews, highlight the need for CBT Modules. High counts in stuttering behaviors – that is involvement of Body Functions – point towards the utilization of more speech techniques Modules. The heightened involvement of Environmental Factors related to parental behaviors points to an increased need for implementation of Alliance Modules. In a following section (Case Studies), case studies of selecting Modules to cover individual needs are presented.

Change is expected as a result of therapy, for it to be considered effective. Assessment is an ongoing process in therapy, and the Formulation Chart is used as a change monitoring tool. Formulation Chart updates are encouraged and anticipated, and are indicative of a child's current needs and resources. Information mapped in the Formulation Chart during initial assessment forms the baseline for pre- and post- treatment comparisons, for monitoring treatment results and for planning additional therapy.

Therapy in a Meaningful Context – *The Factory of Mind*

The *Lexipontix Programme* helps a child to initiate positive changes in activity and participation in everyday life circumstances, and to improve quality of life. Therapy is built on a theme, it is fun and it makes sense; it is about exploring and understanding the stuttering experience, finding alternative ways of management, and producing meaningful changes (Botterill, 2011; Fry & Cook, 2004; Fry & Farrants, 2003). The Programme aims at Communication Restructuring, i.e., a person is enabled to:

- reconstrue their communicative role;
- alter the definition of communicative success and failure;
- respond in a functional and meaningful way to the demands of a communicative event.

As a result of Communication Restructuring, the child experiences a rationalized and harmonious relationship with their stuttering, and stuttering no longer poses a worrying threat.

The *Lexipontix Programme* combines well-known theories and clinical practices that are commonly used and have been proven as effective in Stuttering Therapy: *Parent-Child Interaction (PCI) Therapy* (Eyberg et al., 1999; Kelman & Nicholas, 2008; 2020), *Cognitive Behavioral Therapy* (CBT) (Beck, 1967a; 1967b; Beck, 1995), and speech management techniques – both Stuttering Modification (Van Riper, 1971; 1973) and Fluency Shaping (Ingham & Andrews, 1973). These provide the theoretical scaffolding which supports most clinical practices and tools of the Programme.

School-age children are familiar with fictional characters, and often empathize with them. The protagonists in the *Lexipontix Programme* are the child, in the role of a *Superhero* who tries to defend his *Factory of Mind* (figure 3), and a naughty mouse called *Lexipontix*, which tries to *Intrude into* or *Invade* the *Factory of Mind* and *Sabotage* the *Factory Machines*. The child is empowered by *Allies* and *Tools*, and is involved in *Missions* and *Experiments* in order to deal with the activity of *Lexipontix*. There are four interrelated *Factory Components* that work synergistically in communication, before, during and after a communicative event: The *Machine of Thoughts*, the *Lab of Emotions*, the *Body Sensors* and the *Machine of Actions and Words*. These *Components* correspond to the key elements of the CBT cycle: Thoughts, Emotions, Somatic Reactions, and Behaviors (Beck, 1967a; 1967b;). The *Factory* is regulated by the *Control Centre* which is the central control panel of the *Factory of Mind*. It continuously receives and sends information, keeping all *Factory Components* in equilibrium.

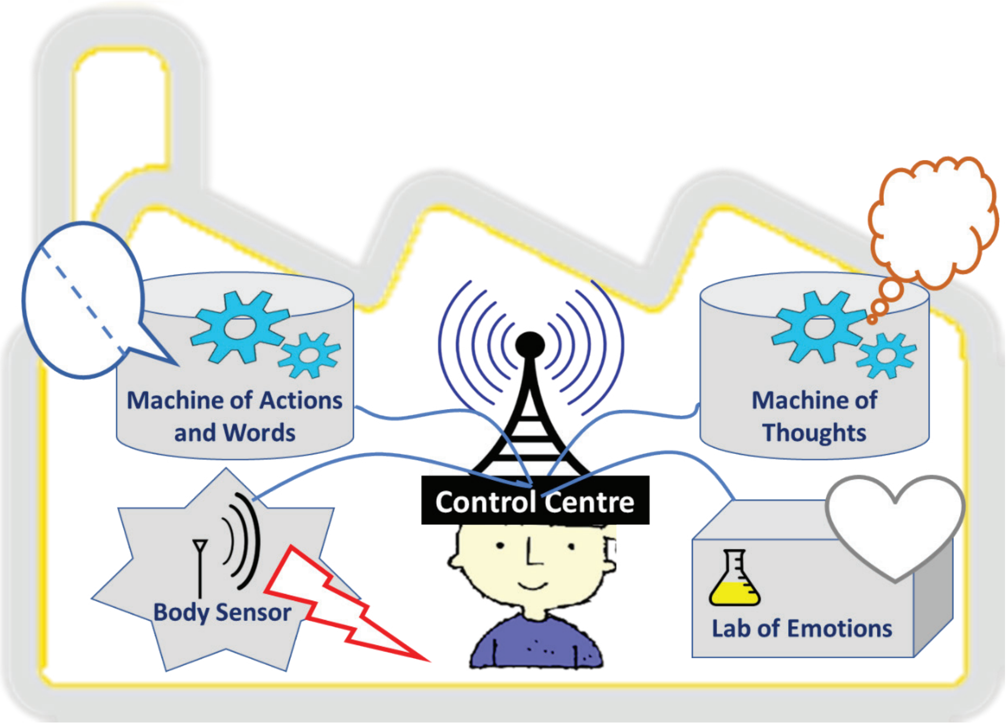


Figure 3: The Factory of Mind

Lexipontix is a well-known visitor who represents both internal as well as external threats. The former corresponds to the organic and personal (affective, cognitive and behavioral) factors of stuttering; the latter to environmental and communicative variables. Against *Lexipontix* is a *Superhero*, the child who stutters. Stuttering occurs when *Lexipontix* attempts to *intrude* into the *Factory of Mind* (anticipation of a stuttering event), *Sabotages* any of the *Factory Machines* (the experience of a stuttering event), or *Invades* the *Control Centre* of the *Factory*. For example, the Negative Automatic Thought "*I will stutter and all my classmates will laugh at me*" produced at the very moment the child is asked to read aloud in the class, is an example of an attempt of *Lexipontix* to *intrude* into the *Factory of Mind*. In case the child perceives this thought as a fact or as the only possible scenario, a *Sabotage* takes place in the *Machine of Thoughts*. An *Invasion* may happen if the child asks to go to the toilet in order to avoid his turn to read aloud. *Invasion*, as a result of a successful *Sabotage*, triggers a vicious cycle leading to avoidance, or to a moment of stuttering. As therapy progresses the child is empowered to self-discover his own super-role in therapy, his *Super-Powers*, potentials and skills, which he uses to dominate *Lexipontix*.

Like most superheroes, the child has a supporting network of friends or co-workers. This is the therapeutic *Alliance* which the child gradually builds and broadens. Parents enter the *Alliance* from day one, together with the therapist, and they are amongst the founding members of the *Alliance*. Parents and child are engaged in therapy as equal partners (Anderson & Gehart, 2007; Biggart, Cook & Fry, 2007). Parents are allocated their own cognitive, emotional and behavioral therapy aims. They are empowered to develop a shared understanding of their child's difficulty (cognitive level), to empathize with the child by recognizing their thoughts and emotions (emotional level), and to act as fluency and communication facilitators (behavioral level). The child gradually *Recruits* into the *Alliance* teachers, classmates, relatives and friends. Recruitment of new Allies involves the child (a) talking openly about stuttering and the therapy experience, and (b) asking potential allies to make specific adaptations when interacting with them, such as doing *Experiments* together, giving time, stuttering openly, or practicing with *Speech Tools*. The expansion of the *Alliance* brings about positive attitudinal changes to both the child, and to people in their environment. Assertiveness skills are enhanced, desensitization grows, and social stereotypes are deconstructed. Research on resilience and stuttering indicates that social support is one of the 'protective factors' against the adversity of chronic stuttering (Craig, Blumgart & Tran, 2011).

In *Lexipontix* terminology, therapy aims to empower the child to gain, maintain or regain control over the *Control Center* of the *Factory*. In this way *Lexipontix* is kept under control, and his *Invasions* are prevented from having a significant impact on the functioning of the *Factory of Mind* (Fourlas & Marousos, 2014). The child gradually experiences a rationalized and harmonious relationship with his stuttering, and stuttering becomes not a worrying threat anymore. This aim is compatible with the chronic nature of stuttering, and the ultimate goal of Communication Restructuring.

Selecting Clinical Tools

The Programme develops in two phases. Phase A (figure 4) lasts for 13 sessions. Progress is then assessed, and additional therapy may be recommended in Phase B according to individual needs. For children in no further need of therapy, follow-up sessions are scheduled in 1-, 3-, 6- and 12-months' time. Most children and parents experience significant change by the end of Phase A, and follow the path of the follow-up review sessions. Phase A consists of a Core Structure and a Modular Structure, which consists of several optional Modules. Modules are interrelated clinical tools and practices adjacent to the Core Structure. There are three types

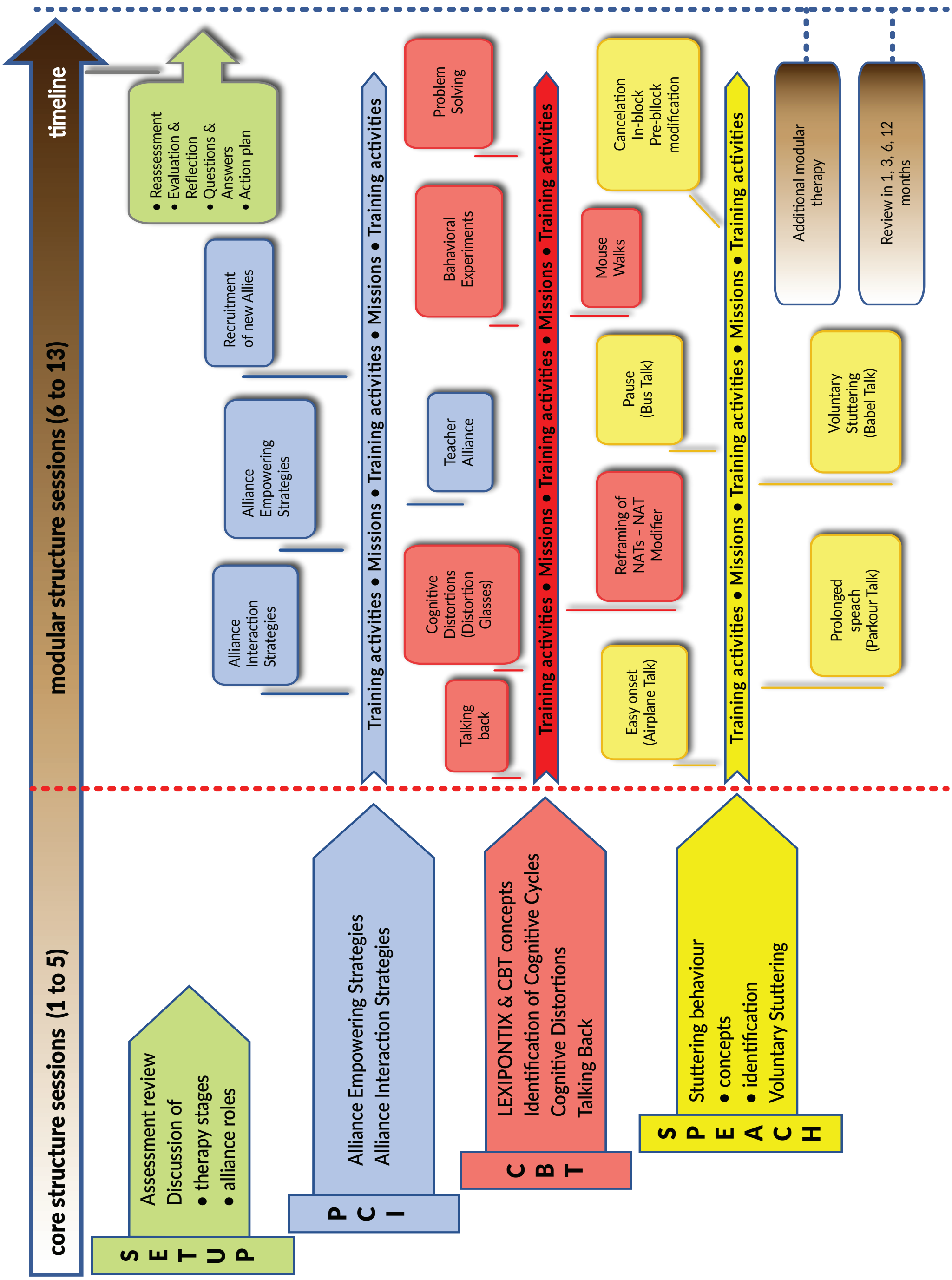


Figure 4: *Lexipontix Programme* Core & Modular Structures: Modules & Treatment Plan (Fourlas & Marousos 2015)

of *Tools* that are incorporated in the Core and Modular Structures: *Blue*, *Red* and *Yellow Tools*, which correspond to the *Parent-Child Interaction Therapy*, the CBT and the speech management components of the Programme, respectively. In Phase B, additional Modules are implemented sharing therapy principles and clinical practices in common with Phase A.

All participants in the *Lexipontix Programme* follow the same Modules in the Core Structure, but in the Modular Structure, the Programme is highly adjustable to the needs of each child/family. This adaptable 'Modular Structure' provides the Programme with the necessary flexibility to meet individual needs. The selection of Modules follows certain principles:

- Modules are selected using data recorded in the Formulation Chart during initial assessment or the course of therapy.
- Modules are selected on the principle of "minimal-sufficient-effective". The Modules that are expected to make the biggest change in the shortest time, making optimum use of the resources of the Alliance, will be selected.
- Selection of Modules is a collaborative process that involves all the Alliance, with the child having the final call.

Blue Tools

The *Parent-Child Interaction Therapy* component (Eyberg, 2005; Eyberg et al., 1999; Kelman & Nicholas, 2008 & 2020; Querido, Bearss, & Eyberg, 2002; Zisser & Eyberg, 2010) is introduced in the form of Alliance Interaction Strategies and Alliance Empowering Strategies. A highly significant Alliance Empowering Strategy is Special Time. Special Time is introduced from session one to:

- help the child and the family to make best use of their potential by practicing Alliance Interaction Strategies that enhance fluency (Millard, Nicholas & Cook, 2008);
- help the therapist get additional information at an early stage in the Programme on individual strengths, and on family dynamics and communication;
- prepare the ground for family Board Games;
- strengthen the *Alliance* relationships;
- build a safe and desensitized environment for practicing *Yellow Tools* and *Red Tools* (i.e., *Tools* for speech and *Tools* for thoughts and emotions, respectively).

Two additional Alliance Strategy Modules which are activated in the Modular Structure are the Recruitment of new Allies Module, and the Teacher Alliance Module. The former empowers the child to *Recruit* more members in the *Alliance*, and the latter empowers the child to educate their schoolmates and the staff of the school, so as to create a positive communicative environment at school.

The Core and Modular Alliance Strategies of the Programme are presented in Table 1.

Table 1: Alliance Strategies in the Core and Modular Structures

	Alliance Interaction Strategies (list not exhaustive)	Alliance Empowering Strategies (list not exhaustive)	Recruitment of new Allies	Teacher Alliance
Core Structure	• *child takes the lead in play* • *child regulates / leads the Alliance*	• *special time* • *praise* • *desensitization / openness about stuttering*		
Modular Structure	• *communication rate modification* • *linguistic modifications*	• *desensitization / openness about stuttering* • *turn taking*	• *advertising* • *recruiting Allies* • *assertiveness*	• *educating school mates and stuff* • *recruiting allies at school*

Red Tools

By applying the CBT model in stuttering therapy, children who stutter are helped to gain insight into automatically elicited responses associated with the moment of stuttering and derived from their stuttering experience. These responses can be cognitive ("*they will think I am stupid if I stutter*"), emotional (anxiety, fear), physical (sweaty palms, raised heart rate) or behavioral (increased stuttering or avoidance behaviors).

In the Core Structure of the *Lexipontix Programme*, the CBT component involves:

- identification of feelings and attitudes;
- identification of Negative Automatic Thoughts (NATs) (Beck, 1967a; 1967b);
- initial processing of NATs by means of Talking Back (Cook & Botterill, 2009);
- identification and challenging of Cognitive Distortions (Beck, 1995).

Games and therapy activities have been developed to serve the above aims. Certain clinical tools and practices have been incorporated, including Socratic Questions (Padesky, 1993), Anxiety Meter (similar to Worry Dial; Scott, 2010), Rating Scales, Identification and Challenging of NATs, and Progressive Exposure (Beck, 1995).

There is also a choice of *Red Tools* – Modules to be activated in the Modular Structure. These Modules are:

- Cognitive Distortions (*Distortion Glasses*), i.e., the identification of exaggerating or irrational thought patterns, which impose a negative bias in thinking (Beck, 1995);
- Problem Solving (Stallard, 2005; 2019);
- Behavioral Experiments (Menzies et al., 2008; Menzies, Onslow, Packman & O'Brian, 2009; Stallard, 2005; 2019);
- Talking Back (Cook & Botterill, 2009; Stallard, 2005; 2019);
- Reframing of NATs by means of Modification (*The NAT Modifier Tool*) (Cook & Botterill, 2009; Scott, 2010, Stallard, 2005; 2019);

- Voluntary Stuttering (*Mouse-Walks*) i.e., dealing with Cognitive Cycles triggered by practicing Voluntary Stuttering in real communicative situations.

Yellow Tools

Yellow tools are related to Speech Techniques. In *Lexipontix*, Speech Techniques are used on purpose and to produce meaningful results. They are used to serve certain communicative demands and to enhance functional communication (Fourlas, 2011). Contrastive Production, that is talking using the Technique and the Anti-Technique, is practiced to increase proprioceptive feedback and control over the articulatory movements. Children are guided to self-discover which Technique best serves the communicative demands of a specific communicative event. In addition, they learn how to make use of the Techniques in Missions and Behavioral Experiments in order to challenge cognitions and control emotional reactions. Missions are collaboratively designed actions for practicing *Red* and *Yellow Tools* in real-life communicative events. Both Fluency Shaping (Ingham & Andrews, 1973) and Stuttering Modification Techniques (Van Riper, 1971; 1973) are included in the Programme. Different Speech Techniques constitute separate Modules. The following Modules have been incorporated:

- Parkour Talk – Prolonged Speech;
- Airplane Talk – Easy Onset;
- Bus Talk – Pause;
- Rebound Talk – Cancellation;
- Instant Parkour Talk – In-block Modification, and
- Cassandra Talk – Pre-block modification.

To encourage familiarity, reflection and insight, children are encouraged to negotiate and set up their own jargon related to Speech Techniques and not necessarily use the proposed terms.

Case Studies

Three clinical cases of school-age children who stutter will be discussed, as examples of integrating clinical practices in order to address the unique overall stuttering experience of each individual child, in the context of the *Lexipontix Programme*. A close look at the Formulation Charts of Mary, 8 yrs. (table 2), Peter, 9 yrs. (table 3), and Giannis, 11 yrs. (table 4) reveals that each child experiences a different and unique stuttering experience. All three children demonstrate speech dysfluencies, but they are different in all other parameters related to their stuttering as well as their abilities and skills. They also differ in terms of their overall needs.

Table 2: Mary’s Formulation Chart

Formulation Chart: Mary, 8 years	
Body Function	**Activity / Participation in everyday life activities**
Family history of anxiety disorders (mother, grandmother). ***Fluency***: %SS=3 and SR=7/10. Mostly blocks. Physical concomitants evident at stuttering moments: tension at forehead, eyelid twitches, slapping face. ***Language***: word finding difficulties, phonological difficulties (palatalization: palatal realization of alveolar fricatives). Typical articulatory rate and naturalness of speech, Oro-motor coordination difficulties attributed to premature birth. ***Temperament***: Negative reactivity, oversensitivity to social evaluation, low flexibility (“*she wants things her way*”), impulsivity, impatience. Good executive functions – no difficulties identified.	***At home***: active participation in family conversations, lies occasionally and gets easily irritated in arguments. Parents express worries, fear, insecurity, and concern about stuttering. ***At school***: high achievement in written tasks, low participation in oral tasks – more active occasionally. ***In peer-groups***: Hesitation or reluctance to interact / communicate. Avoidance of stuttering: change of sounds, words and avoidance of speaking situations. ***Social & Public life***: Experience of unpleasant feelings: fear, embarrassment, anger, anxiety. Stuttering restricts participation in social occasions (parties, outings, extracurricular activities). Life satisfaction is negatively affected (OASES-S score=3.55).
Personal Factors	**Environmental Factors**
Mary’s Best Hopes from therapy: Words to come out easier, not to feel embarrassed, to have more courage talking to others. Attends 3rd grade in primary school – high grades. Followed speech therapy which targeted phonology of speech for 1 year. Perfectionist. Low self-confidence. Familiar cognitive reactions: “*I will fail. I will get teased*”. Emotional reactions: Anxiety, fear, embarrassment. Behavioral reactions: Avoidance, stuttering is not openly discussed. Headaches are reported when reading aloud in class. Self-invented speech strategies: pause for breathing, word repetition. Cognitive strategies: imaginary image of the family. ***Personal attributes***: inventive, courageous, resilient, persistent. Negative attitudes to communication: CAT score: 22/33.	***Parents’ Best Hopes***: Words to come out easier, Mary to gain confidence and calmness. Father works long hours. Mother unemployed, mainly at home. Oldest brother, aged 11. Mother reports being a perfectionist herself. Stuttering is discussed openly at home. ***Palin PRS***: Low parental knowledge and confidence in managing stuttering, severe impact of stuttering on parents. Anxiety gives rise to frequent parental prompts: eg ‘*speak slower/clearer*’. No SLT at school. Supportive teacher, open to learn and collaborate. ***Social stereotype***: Stuttering is a serious psychological disorder. Teasing for stuttering and weight-related teasing, at school. Insurance company covers speech therapy expenses. Specialized fluency therapy provision available in the area of habitation.

Table 3: Peter’s Formulation Chart

Formulation Chart: Peter, 9 years	
Body Function	**Activity / Participation in everyday life activities**
Familial history of cluttering – father is a person who clutters. ***Fluency***: spontaneous speech %SS=7, reading %SS=4 and SR=4/10. Mostly sound and syllable repetitions and mild prolongations. No physical concomitants. High frequency of NSLD (mostly part phrase repetitions). Long hours of sleeping associated with better fluency. Typical to fast rate of speech. Good naturalness. Good oro-motor coordination skills. ***Language skills***: low narrative skills, lack of organization in long utterances, for argumentation, and giving explanations. ***Temperament***: Sensitivity, low self-regulation, good adaptability to novelty. ***Executive Functions***: difficulties in sustaining attention, inhibitory control, working memory, organization and goal-directed work.	***At home***: Stuttering has an adverse impact on parents: nervousness, sadness, couple conflicts, guilt. Peter is less affected by his stutter: “*Stuttering is not a big deal*” for him. Motivated to participate in family daily works (e.g., shopping, cleaning). Few opportunities offered. ***At school***: Exclusion from oral participation has been agreed between parents and teacher. ***In peer-groups (classmates/friends/social interactions)***: Popular child: has many friends, highly involved in social interactions, never stays alone. Peter enjoys the company of others and has a good time with them (well-being and satisfaction with life). ‘Mild’ Stuttering impact according to OASES-S (score=1.32).
Personal Factors	**Environmental Factors**
Peter’s Best Hopes from therapy: “*To learn how to help my talking by speaking slowly. This will make my parents and me happier*”. ***Cognitive reactions***: “*Speech is not always easy. Others wouldn’t like speaking like me, I delay people talking to me. My parents help me talking. I will learn slow talking and therefore not stutter*”. ***Emotional reactions***: Optimism. “*Stuttering will go with time*”. ***Behavioral reactions***: Avoidance of oral participation at school. Long discussions with friends despite stuttering. Talking slowly helps – although rarely used. Extra-curricular activities: Sailing, Foreign language lessons. ***Personal attributes***: sociable, happy, diplomatic, persistent, athletic. Attends 4th grade in primary school – medium grades. Low score in *Communication Attitude Test*: CAT score = 6/33.	***Parents’ Best Hopes***: Peter to manage his fluency better and we, as parents, to feel less anxious & more confident regarding Peter’s future. Peter is the only child. Both parents work in the mornings. Both parents present with fast articulatory rate on their own speech. ***Palin PRS***: High parental anxiety. Low parental knowledge and confidence in managing stuttering. Parents try to support Peter by (a) saying the word for him when he finds it difficult (b) answering themselves to other’s questions. Parents’ main concern for Peter is not to be stressed. Daily conflicts regarding school study and homework assignments. ***School***: Supportive Teacher. Seeks ways to help. Peter’s exclusion from oral participation was decided to protect Peter from exposure. ***Social Stereotype***: Stuttering is a stigmatizing weakness. Public insurance covers therapy expenses.

Table 4: Giannis's Formulation Chart

Formulation Chart: Giannis, 11 years	
Body Function	**Activity / Participation in everyday life activities**
Familial history of stuttering – grandfather stutters. ***Fluency***: spontaneous speech %SS=18, reading %SS=12.3 and SR=7/10. Syllable and sound repetitions, blocks and prolongations mostly initiating phrases. Physical concomitants: Sudden hand movements at blocks. ***Articulatory rate***: Typical rate of speech with sudden spurts which negatively affect speech naturalness. ***Language skills***: Average scores in formal tests. Executive functions: Difficulties in projects requiring sustained attention, organizational skills, and goal-directed actions. Good oro-motor coordination and diadochokinesis. ***Temperament***: Good self-regulation. High negative reactivity. Premature birth. No milestones delay.	***At home***: All family members (including Giannis) interrupt each other – difficulties in taking turns are reported. Giannis fully participates in family conversations and answers all incoming phone calls at home. Sometimes, Giannis' speech becomes unintelligible due to high frequency of stuttering events. ***At school***: High participation in school lessons and events. He raises hand eagerly. He does not give up, even on days with severe stuttering. ***In peer-groups***: Few bound friends – classmates from kindergarten. Easy, effortless communication with peers. Feels uncomfortable to answer questions about his stuttering – does not know much. ***Social & Public life***: Often invited by classmates to parties – always responds. Less eager to communicate with friends at the village. He avoids going to his mother's village at the weekend. Mild to medium stuttering severity in OASES-S (score=2.14)
Personal Factors	**Environmental Factors**
Giannis's Best Hopes from therapy: "*Speech to come out easier so that teasing to be eliminated*". Attends 6th grade at school – average school achievement. Negative attitude towards speech & language therapy: '*boring*'. Four years in speech therapy with phonology and fluency goals. ***Cognitions***: "*I do not speak well, like other children. Speech is hard. My parents worry for my speech. Stuttering is my fault*". ***Emotions***: Disappointment and fatigue. ***Behaviors***: Stuttering is openly discussed. Practices with speech techniques (reading aloud in slow rate) frequently but techniques are not used functionally in daily communication or in reading aloud in class. ***Personal attributes***: sincere, sensitive, conscientious, supportive. Communication attitudes – CAT: Score 9/33.	***Parents' Best Hopes***: Speech to improve so that Giannis feels emotionally strong. Family of four – younger sister 6 yrs old. Parents work long hours – at home in the evenings. Grandmother is involved in childcare. ***Palin PRS***: Parent's knowledge and confidence in managing the stammer – Moderate. Parents feel moderately anxious. Parental prompts: "*You must try, using the speech techniques you learned in speech therapy*". School teacher not available for consultation. Classmates are supportive. Giannis experiences teasing by children in the village every summer. No social stereotypes identified: "*Stuttering is just a hinderance to communication*"

Data presented in the Formulation Charts of the three clinical examples above indicates differential activation of Modules. The *Lexipontix Programme* allows for adaptations to the implementation of the Programme according to the individual needs of each child. Specific Modules are activated to address the most significant parameters of the stuttering experience that is evident for Mary, Peter and Giannis, as shown in table 5, below. In the columns on the right of the table, ticks indicate the proposed *Lexipontix* Modules for each child.

Table 5: Selected Modules for the Modular Structure (sessions 6–13). for Mary, Peter and Giannis

	Mary	Peter	Giannis
Alliance Strategies – Blue Tools			
1. Alliance Interaction Strategies		X	X
2. Alliance Empowering Strategies		X	X
3. Recruitment of new Allies	X	X	X
4. Teacher Alliance	X	X	
CBT Modules – Red Tools			
1. Talking back	X		
2. Cognitive Distortions (Distortion Glasses)	X		
3. Reframing of NATs (NAT Modifier)	X		X
4. Behavioral Experiments	X		
5. Voluntary Stuttering (Mouse Walks)	X	X	
6. Problem Solving	X		X
Speech Modules – Yellow Tools			
1. Voluntary Stuttering (Babel Talk)			X
2. Prolonged Speech (Parkour Talk)		X	
3. Easy Onset (Airplane Talk)	X		X
4. Pause (Bus Talk)			X
5. Post-block modification / Cancellation (Rebound Talk)	X		X
6. In-block modification / Pull out (Instant Parkour Talk)			
7. Pre-block modification / Preparatory sets (Kassandra Talk)			
8. Other			

In the Modular Structure of the *Lexipontix Programme*, the selection of Modules is driven by the child's Formulation Chart. The clinical rationale behind selection is based on the initial assessment data given above. In this perspective, the Modules selected for Mary, Peter and Giannis are provisional. The Formulation Chart is updated session by session, and the initial selection of Modules is reconsidered based on ongoing data.

In Mary's Programme, there will be an emphasis on CBT Modules (*Red Tools*) due to her strong cognitive and emotional reactions, and her pervasive use of stuttering avoidance behaviors which restrict her academic achievement, communication and quality of life. The decision to focus on CBT Modules is supported by her perfectionistic profile, temperament characteristics, and her family history of anxiety disorders. Furthermore, Mary's Best Hopes from therapy are pointing towards increased emotional resilience, which also points to CBT Modules.

In addition to CBT Modules, Mary's therapy Programme will incorporate Alliance Strategies (*Blue Tools*) and Speech Modules (*Yellow Tools*). Recruitment of new Allies will help Mary to keep an open attitude about stuttering with friends. The Teacher Alliance Module will help her benefit from the support of her caring teacher. These Alliance Strategies are selected to create a supportive network at school, which is expected to enhance Mary's oral participation, and improve her quality of life. In addition, activation of a speech Module is required to facilitate speech control and management of the stuttering moments. Post-block Modification (*Kassandra Talk*) is one of the available options to be introduced. This Module can build upon the word repetition strategy already invented and used as a coping mechanism by Mary. Practicing Post-block Modification (*Kassandra Talk*) requires acknowledgement of the moment of stuttering, and this may also facilitate the desensitization process. The Easy Onset (*Airplane Talk*) Module is another option which, if selected, may facilitate an easy, relaxed approach to the initial sound of the word in order to enhance speech management and to reduce tension in Mary's physical concomitant behaviors.

Considering the selection of Modules for Peter's Modular Structure, it becomes evident that emphasis is laid on Alliance Strategies (*Blue tools*). All four Alliance Strategies Modules are introduced. Alliance Interaction Strategies (such as Slow Parental Speech Rate, Letting the Child Direct the Play) as well as Alliance Empowering Strategies (such as building Confidence, enhancing Autonomy / Internal Locus of Control) are expected to bring positive changes. These strategies are also expected to facilitate optimum parental support, to minimize daily conflicts at home, and support all family members to achieve their Best Hopes from therapy. The practice of Alliance Interaction Strategies in Special Times is expected to have positive impact on articulatory rate, self-regulation, executive functions and language skills. Such changes are expected to reduce pressures on fluency imposed by factors cited in the Body Functions category of Peter's formulation chart.

The Recruitment of new Allies Module, takes advantage of Peter's popularity and wide social network. This Module will help Peter to create a supportive network for himself, which is expected to increase his resilience even further. Peter's teacher has already tried to play a supportive role in class by excluding Peter from oral tasks. The activation of the Teacher Alliance Module may induce joint decisions for alternative means of support. A possible CBT Module (*Red Tool*) to be activated in Peter's case is the Voluntary Stuttering (*Mouse Walks*) Module. This is expected to help all family members to deal with their unhelpful cognitions and unpleasant feelings related to stuttering. The Prolonged Speech (*Parkour Talk*) Module is also suggested for activation. This *Speech Tool* seems to be in accordance with Peter's cognition that "*talking slowly helps*" and it is expected to contribute to a better handling of his speech disfluencies.

In the case of Giannis, more emphasis is given to the Speech Modules (*Yellow Tools*). Giannis presents with a high percentage of stuttered syllables, frequent physical concomitants and high severity ratings for his stutter. His speech naturalness is affected by sudden speech spurts. Giannis reports that he feels tired by his severe stutter and that his speech becomes occasionally unintelligible. Speech Modules will pursue increased speech management in everyday communicative situations, making talking easier for Giannis. His good oro-motor coordination as well as his advanced self-regulation skills are considered facilitatory parameters in mastering speech management techniques. The selection of a speech management Module such as Prolonged Speech (*Parkour Talk*) may build on Giannis' slow rate reading practice experience. Prolonged Speech may help him to better manage his sudden speech spurts. The fact that most of Giannis' stuttering moments occur at the beginning of a phrase is an indicator for the activation of the Easy Onset (*Airplane Talk*) Module. The Voluntary Stuttering (*Babel Talk*) Module could also be an alternative or additional Module. This Module may help Giannis to gain proprioceptive awareness of articulatory movements and increased control over the motoric aspects of speech. This knowledge may gradually help voluntary blocks, and sound or syllable repetitions to turn into a mechanism for speech-control over involuntary stuttering behaviors. Giannis, having a long history of practicing Speech Techniques and of having therapy, reports fatigue and low motivation for additional therapy. His motivation to participate in a new course of therapy probably depends on the therapy making sense, and being fun, motivating and different. Giannis will use Speech Techniques intentionally, to produce meaningful results, to serve certain communicative demands, and to enhance functional communication. He will be able to experiment with different *Speech Tools* in order to explore ways that they can serve his communicative or speech management aims. Together with his *Allies* (parents, siblings, other relatives, and friends), Giannis will participate in *Yellow Tools* Missions. Reflecting on the use of *Speech Tools* in real-life circumstances at the end of Missions, Giannis and his *Allies* may discover for themselves the difference that *Speech Tools* make in communication and communication-related parameters.

Despite emphasis being given to speech management Modules, Giannis's Formulation Chart indicates additional therapy needs. The ability to deal with teasing was stated as one of his Best Hopes from therapy. The introduction of the Alliance Strategies (*Blue Tools*) will help Giannis to deal with teasing and move towards this expectation. Activation of Modules, such as Alliance Interaction and Alliance Empowering Strategies as well as Recruitment of new Allies, are expected to facilitate turn-taking in communication at home and enhance knowledge on stuttering, as well as increasing the parents' confidence in their supporting role. *Blue Tools* will also help the parents to experience and explore more helpful roles in supporting Giannis than just prompting him to use Speech Techniques.

The *Lexipontix Programme* – Efficacy research

Based on clinical trials, the *Lexipontix Programme* was developed following a multi-dimensional validation process described in an early report (Fourlas & Marousos, 2015). The current version represents the 3rd revision of the Programme. It is supported by an Assessment (Fourlas & Marousos, 2018) and a Treatment Manual (Fourlas & Marousos, 2019) as well as clinical material, forms and games in electronic form. Manuals, official training and supervision are means of maintaining consistency in the implementation of the Programme.

Published case studies of two of the children who participated in the initial clinical trial period are paradigms of the validation process. They are also indicative of the expected outcomes of the *Lexipontix Programme*. In both case studies, parents report positive changes, and comparisons of pre- and post-therapy assessment results revealed important changes (Fourlas & Marousos, 2015).

Two further studies provide evidence of the efficacy of the *Lexipontix Programme*. In the first study, pre- and post-therapy measurements (%SS and Severity Rating for spontaneous speech and reading, OASES-S, CAT, Palin PRS) were compared for a sample of 26 children and their parents who participated in the *Lexipontix Programme*. A statistically significant difference was found in all measurements (Fourlas & Ntourou, 2020; 2021). The results demonstrate that children who completed the *Lexipontix Programme* presented with reduced stuttering frequency, and a more positive attitude towards their speech at the end of treatment (Phase A). Furthermore, they demonstrated significant improvement in communication activities, participation in daily activities, and overall quality of life. Parents were also found to acknowledge these improvements in their child, to feel more confident in managing stuttering, and be less worried about it.

The second study (Fourlas, Ntourou, Spyridis & Batzifoti, 2021) explored the parental perspectives and expectations of, and experiences with, the *Lexipontix Programme*. Results demonstrate that parents' expectations for *Lexipontix* were largely fulfilled. Parents rated different aspects of the Programme highly, and they reported positive changes in various domains (e.g., cognitive, affective, motoric, environmental). These domains correspond to the related fields of the Formulation Chart, and as such, are indicative of changes in the overall stuttering experience of parents and child.

Conclusion

> Everybody has won, and all must have prizes
>
> Carroll, 1865

Research has uncovered the so-called "Dodo Effect", which describes that – with rare exceptions – there is little significant difference in effectiveness between different psychotherapeutic approaches (Tallman & Bohart, 2004). Research has shown that it is the similarities – the "Common Factors" – rather than the differences between approaches that account for the observation that all approaches are, in general, effective. (Herder, Howard, Nye & Vanryckeghem, 2006; Law, Garrett & Nye, 2004; Robey, 1998; Zebrowski, 2012). The Common Factors that account for the effectiveness of an approach and their contributing percentages, are:

- the Therapeutic Relationship (the strength of the Therapeutic Alliance between the therapist and client) – accounts for 30%;
- the Extra-therapeutic Change (the resources of the client and his system, characteristics of the child and family that facilitate or hamper progress) – accounts for 40%;
- the Technique (evidence based, theoretically orientated, therapeutic methods, strategies, or tactics) – accounts for 15%;
- the Hope/Expectancy (how much the client becomes hopeful and believes in therapy as well as how much the therapist believes in the credibility of the treatment) – accounts for 15% (Assay & Lambert, 1999; Bernstein Ratner, 2005; Franken, Kielstra-Van der Schalk & Boelens, 2005; Hubble, Duncan & Miller, 1999; Lambert & Bergin, 1994; Miller, Duncan, & Hubble 1997).

Right from the beginning, the *Lexipontix Programme* explores the participants' expectations and Best Hopes from therapy. The Programme builds *Alliances*, strong therapeutic relationships, and uses "techniques" in order to make best use of the Extra-therapeutic Factors, i.e., the resources of the child and their family system, to guide them towards their Best Hopes. The *Lexipontix Programme* activates all the Common Factors in a minimal and meaningful way, making optimum use of the resources of the clients and the therapist. It is fun, concise and goal-directed, comprehensive but also flexible, and is easily tailorable to meet individual needs. It is supported by a smart assessment process, based on the ICF model, that results in mapping the overall stuttering experience of the child in the Formulation Chart. The Formulation Chart indicates the appropriate Modules for each child to be activated in the Modular Structure of the Programme. Therapists are provided with all the necessary Assessment and Therapy Manuals, material, forms and games in order to implement the Programme. A Solution Focused Brief Therapy approach (de Shazer et al., 2007), in all therapeutic work, drives therapy throughout the Programme. The *Lexipontix Programme* is a challenge, for both clinician and client. Therapists need to acknowledge the expertise of their clients, and to move from the traditional "doing" role in therapy to the role of a facilitator. They also need to get specialized training in order to fulfil the specific competence of a fluency specialist clinician (European Fluency Specialists),[1] and to be able to embrace the theoretical principles of, and embark on the clinical practices proposed by, the *Lexipontix Programme*. Clients may present with different levels of readiness for change and for taking the responsibility of their own therapy. *Lexipontix* is a challenge for all. It is a challenge worth taking up.

Multiple Choice Questions

A. Alice, an 11-years old girl who stutters, is attending the *Lexipontix Programme*.

1. Who participates in her speech and language therapy sessions regularly?
    a) Alice;
    b) Alice's parents;
    c) Alice together with her parents;
    d) Alice's teacher.
2. How many sessions have been scheduled for Phase A of the *Lexipontix Programme*?
    a) 13;
    b) 8;

---

[1] http://www.europeanfluencyspecialists.eu/

  - c) 16;
  - d) 5.

B. Nicholas is a 9-years old boy who stutters. At school he experiences teasing by his classmates who call him Ni-Ni-Nicholas all the time.

1. Where would you classify this data on Nicholas' Formulation Chart?
   - a) Body Function;
   - b) Activity & Participation;
   - c) Personal Factors;
   - d) Environmental Factors;
2. Which two *Lexipontix Programme* Modules would help him best to deal with teasing?
   - a) Talking Back;
   - b) Easy Onset (Airplane Talk);
   - c) Recruitment of new Allies;
   - d) Teacher Alliance.

C. Jason is a 10-years old boy who stutters. His stuttering involves repetitions and blocks with a stuttering frequency of %SS=4.

1. Where would you classify this data on Jason's Formulation Chart?
   - a) Body Function;
   - b) Activity & Participation;
   - c) Personal Factors;
   - d) Environmental Factors.

D. Jason (the child described in question 3) avoids reading aloud in class, and he has never spoken to others about his stuttering openly.

1. Where would you classify this data on Jason's Formulation Chart?
   - a) Body Function;
   - b) Activity & Participation;
   - c) Personal Factors;
   - d) Environmental Factors;
2. Which Modules would you consider activating in the Modular Structure of the *Lexipontix Programme*?
   - a) Blue Tools;
   - b) Red Tools;
   - c) Yellow Tools;
   - d) Desensitization Tools.

Suggested Reading

de Shazer, S., & Dolan, Y., with Korman, H, Trepper, T.S., McCollom, E., & Berg, I.K. (2007). *More than Miracles: The State of the Art of Solution-Focused Therapy*. Haworth Press.

Kelman, E., & Nicholas, A., (2020). *Palin Parent-Child Interaction Therapy for Early Childhood Stammering*, (2nd Ed). Routledge.

Stallard, P. (2005). *A clinician's guide to think good – feel good. Using CBT with children and young people*. John Wiley & Sons Ltd.

Stallard, P. (2019). *Think Good, Feel Good: A Cognitive Behaviour Therapy Workbook for Children and Young People*, (2nd Ed). John Wiley & Sons Ltd.

Yaruss, J.S., & Quesal, R.W. (2004). Stuttering and the International Classification of Functioning, Disability and Health (ICF): an update. *Journal of Communication Disorders*, *37*, 35–52.

References

Ahlbach, J., & Benson, V. (Eds.). (1994). *To say what is ours*. National Stuttering Project.

Alpermann, A., & Zückner, H. (2008). Speech motor skills of stuttering children. *Sprache-Stimme-Gehör*, *32*, 36–40.

Ambrose, N.G., & Yairi, E. (1999). Normative disfluency data for early childhood stuttering. *Journal of Speech, Language, and Hearing Research*, *42(4)*, 895–909.

Anderson, J.D., & Conture, E.G. (2000). Language abilities of children who stutter: A preliminary study. *Journal of Fluency Disorders*, *25*, 283–304.

Anderson, H., & Gehart, D. (2007). *Collaborative therapy: relationships and conversations that make a difference*. Taylor and Frances Group.

Anderson, J.D., Pellowski, M., Conture, E., & Kelly, M. (2003). Temperamental characteristics of young children who stutter. *Journal of Speech, Language and Hearing Research*, *46*, 1221–1233.

Anderson, J.D., & Wagovich, S.A. (2014). A domain-general approach to understanding the multifactorial nature of stuttering. *Invited presentation at the annual conference of the American Speech-Language-Hearing Association*, Orlando, FL.

Anderson, J.D., Wagovich, S.A., & Hall, N.E. (2006). Nonword repetition skills in young children who do and do not stutter. *Journal of Fluency Disorders*, *31(3)*, 177–199.

Arndt, J., & Healy, E.C. (2001). Concomitant disorders in school-age children who stutter. *Language, Speech, and Hearing Services in Schools*, *32*, 68–78.

Assay, T.P., & Lambert, M.J. (1999). The empirical case for the common factors in therapy: Quantitative findings. In: M.A. Hubble, B.L. Duncan, & S.D. Miller (Eds.), *The Heart and Soul of Change: What Works in Therapy*, pp. 33–56. American Psychological Association.

Bakhtiar, M., Ali, D.A.A., & Sadegh, S.P.M. (2007). Nonword repetition ability of children who do and do not stutter and covert repair hypothesis. *Indian Journal of Medical Sciences, 61*, 462–470.

Beck, A.T. (1967a). *The diagnosis and management of depression*. University of Pennsylvania Press.

Beck, A.T. (1967b). *Depression: clinical, experimental, and theoretical aspects. New York: Harper and Row*. Republished as: Beck, A.T. (1970). *Depression: causes and treatment*. University of Pennsylvania Press.

Beck, J.S. (1995). *Cognitive therapy: basics and beyond*. The Guilford Press.

Beilby, J.M., Byrnes, M.L., & Yaruss, J.S. (2012). The impact of a stuttering disorder on western Australian children and adolescents. SIG 4 *Perspectives on Fluency and Fluency Disorders*, November 2012, 22, 51–62.

Bernstein-Ratner, N. (2005). Evidence-based practice in stuttering: some questions to consider. *Journal of Fluency Disorders, 30*, 163–188.

Bernstein-Ratner, N., & Silverman, S. (2000). Parental perception of children's communicative development at stuttering onset. *Journal of Speech, Language & Hearing Research, 43*, 1252–1263.

Biggart, A., Cook, F., & Fry, J. (2007). The role of parents in stuttering treatment from a Cognitive Behaviour Therapy perspective. *Proceedings of The Fifth World Congress on Fluency Disorders (2006), Dublin, Ireland*, 25–28th July, 268–375.

Blood, G., & Blood, I. (2004). Bullying in adolescents who stutter: Communicative compentence and self-esteem. *Contemporary Issues in Communication Science and Disorders, 31*, 69–79.

Blood, G.W., Blood, I.M., Tellis, G.M., & Gabel, R.M. (2003). A preliminary study of self-esteem, stigma and disclosure in adolescents who stutter. *Journal of Fluency Disorders, 28*, 143–159.

Blood, G.W., Ridenour, V.J.,Jr., Qualls, C.D., & Hammer, C.S. (2003). Co-occurring disorders in children who stutter. *Journal of Communication Disorders, 36*, 427–448.

Blumgart, E., Tran, Y., Yaruss, J.S., & Craig, A. (2010). Social anxiety disorder in adults who stutter. *Depression and Anxiety, 27*, 687–692.

Bobrick, B. (1995). *Knotted tongues: Stuttering in history and the quest for a cure*. Simon & Schuster.

Botterill, W. (2011). Developing the therapeutic relationship: from 'expert' professional to 'expert' person who stutters. *Journal of Fluency Disorders, 36*, 158–176.

Bricker-Katz, G., Lincoln, M., & McCabe, P. (2009). A lifetime of stuttering: How emotional reactions to stuttering impact activities and participation in older people. *Disability and Rehabilitation, 31*, 1742–1752.

Brutten, G., & Vanryckeghem, M. (2007). *Behaviour Assessment Battery for School-Age Children who Stutter*. Plural Publishing, Inc.

Calkins, S. (1994). Origins and outcomes of individual differences in emotion regulation. In: N.A. Fox, & J. Campos (eds). *The Development of Emotional Regulation: Biological and Behavioural Considerations*. Society for Research in Child Development.

Carlisle, J.A. (1985). *Tangled tongue: Living with a stutter*. University of Toronto Press.

Carlson, S. (2005). Developmentally sensitive measures of executive function in preschool children. *Developmental Neuropsychology, 28(2)*, 595–616.

Carroll, L. (1865). Alice's Adventures in Wonderland. Henry Holt and Co.

Clark, D.M., & Wells, A. (1995). A cognitive model of social phobia. In: R.G. Heimberg, M.R. Liebowitz, D.A. Hope, & F.R. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment*, pp. 69–93. The Guildford Press.

Conture, E.G. (2001). *Stuttering: Its Nature, Diagnosis and Treatment*. Boston: Allyn & Bacon.

Cook, F., & Botterill, W. (2009). *Tools for success: Cognitive-Behavior therapy taster (DVD)*. Stuttering Foundation.

Cook, S., Rieger, M., Donlan, C., & Howell, P. (2011). Testing orofacial abilities of children who stutter: The Movement, Articulation, Mandibular & Sensory Awareness (MAMS) assessment procedure. *Journal of Fluency Disorders, 36*, 27–40.

Craig, A., Blumgart E., & Tran, Y. (2011). Resilience and Stuttering: Factors that protect people from the adversity of chronic stuttering. *Journal of Speech, Language and Hearing Research*, *54*, 1485–1496.

Craig, A., Tan, C., & Craig, M. (2003). Stereotypes towards stuttering for those who have never had direct contact with people who stutter: A randomized and stratified study. *Perceptual & Motor Skills*, *97*, 235–245.

Davis, S., Howell, P., & Cooke, F. (2002). Sociodynamic relationships between children who stutter and their non-stuttering classmates. *Journal of Child Psychology and Psychiatry, 43(7)*, 939–947.

De Nil, L.F., & Brutten, G.J. (1991a). Speech-associated attitudes: Stuttering, voice disordered, articulation disordered, and normal speaking children. *Journal of Fluency Disorders*, 15, 127–134.

De Nil, L.F., & Brutten, G.J. (1991b). Speech-associated attitudes of stuttering and nonstuttering children. *Journal of Speech and Hearing Research*, *34*, 60–66.

de Shazer, S., & Dolan, Y., with Korman, H, Trepper, T.S., McCollom, E., & Berg, I.K. (2007). *More than Miracles: The State of the Art of Solution-Focused Therapy*. Haworth Press.

Dorsey, M., & Guenther, R.K. (2000). Attitudes of professors and students towards college students who stutter, *Journal of Fluency Disorders*, *25*, 77–83.

Dworzynski, K., Howell, P., & Natke, U. (2003). Predicting stuttering from linguistic factors for German speakers in two age groups. *Journal of Fluency Disorders*, *28*, 95–113.

Eggers, K., De Nil, L.F., & Van Den Bergh, B.R.H. (2009). Factorial temperament structure of stuttering, voice disordered, and normal speaking children. *Journal of Speech, Language and Hearing Research*, *52*, 1610–1622.

Eggers, K., De Nil, L.F., & Van den Bergh, B.R.H. (2013). Inhibitory control in childhood stuttering. *Journal of Fluency Disorders*, *38*, 1–13.

Eggers, K., De Nil, L.F., & Van den Bergh, B.R.H. (2010). Temperament dimensions in stuttering and typically developing children. *Journal of Fluency Disorders*, *35(4)*, 355–372.

Eyberg, S.M. (2005). Tailoring and adapting Parent-Child Interaction Therapy for new populations. *Education and Treatment of Children*, *28*, 197–201.

Eyberg, S.M., & Members of the Child Study Laboratory (1999). *PCIT treatment manual*. Session outlines. University of Florida.

Embrechts, M., Ebben, H., Franke, P., & van de Poel, C. (2000). Temperament: A comparison between children who stutter and children who do not stutter. In: H.G. Bosshardt, J. Yaruss & H. Peters (Eds.), *Proceedings of the Third World Congress on Fluency Disorders: Theory, Research, Treatment and Self-help*, pp. 557–562. University of Nijmegen Press.

Evans, D., Healey, E.C., Kawai, N., & Rowland, S. (2008). Middle school students' perceptions of a peer who stutters. *Journal of Fluency Disorders*, *33(3)*, 203–219.

Fourlas, G. (2011). "Functional Communication Modification Therapy": Effects on adults who stutter. *9th Oxford Dysfluency Conference proceedings*. Elsevier.

Fourlas, G., & Marousos, D. (2014). "Lexipontix": Developing a structured stuttering therapy programme for school age children. *4th European Symposium on Fluency Disorders 2014*. Antwerp.

Fourlas, G., & Marousos, D. (2015). A report on the development and clinical application of Lexipontix, a new therapy programme for school age CWS. *Procedia – Social and Behavioral Sciences*, 193 (2015) 92–107.

Fourlas, G., & Marousos, D. (2018). *Lexipontix – Volume I: Assessment Process*. Konstantaras – Medical Publications.

Fourlas, G., & Marousos, D. (2019). *Lexipontix – Volume II: Therapy Manual*. Konstantaras – Medical Publications.

Fourlas, G., & Ntourou, K., (2020, November). 12232: Lexipontix Program: Early Evidence of its Effectiveness for School-age Children Who Stutter. *Proposal accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA (Convention canceled).*

Fourlas, G., & Ntourou, K., (2021). Effects of the Lexipontix programme on children's overall stuttering experience. Early evidence. *12th Oxford Dysfluency Conference (ODC), 7–8 January 2021.*

Fourlas, G., Ntourou, K., Spyridis, I., Batzifoti, V. (2021). Exploring parental perspectives, expectations, and experiences with Lexipontix. *12th Oxford Dysfluency Conference (ODC), 7–8 January 2021.*

Frank, A.L., Jackson, R.A., Pimentel, J.T., & Greenwood, G.S. (2003). School-age children's perception of a person who stutters. *Journal of Fluency Disorders*, *28*, 1–15.

Franken, M.C., Kielstra-Van der Schalk, C.J., Boelens, H. (2005). Experimental treatment of early stuttering: a preliminary study. *Journal of Fluency Disorders;30(3)*: 189–99.

Fry, J., & Cook, F. (2004). Using cognitive therapy in group-work with young adults. In: A. Packman, A. Meltzer and H.F.M. Peters (Eds.), *Proceedings of the Fourth World Congress on Fluency Disorders, 2003: Theory, Research and Therapy in Fluency Disorders*, pp. 63–68. University of Nijmegen Press.

Fry, J., & Farrants, J. (2003). What's at stake? Adolescents' perceptions of the consequences of stuttering. In: K.L. Baker and D. Rowley (Eds.), *Proceedings of the Sixth Oxford Dysfluency Conference*, pp. 275–278. York Publishing Press.

George, E., Iveson, C., & Ratner, H. (2013). *BRIEFER: A Solution Focused Practice Manual*. Brief Therapy Press.

Guitar, B. (2013). *Stuttering: An integrated approach to its nature and treatment (4th ed)*. Lippincott Williams & Wilkins.

Guitar, B., Kopf-Schaefer, H.K., Donahue-Kilburg, G., & Bond, L. (1992). Parental verbal interactions and speech rate: A case study in stuttering. *Journal of Speech and Hearing Research*, *35*, 742–754.

Guitar, B., & Marchinkoski, L. (2001). Influence of mothers' slower speech on their children's speech rate. *Journal of Speech, Language and Hearing Research*, *44*, 853–861.

Guttormsen, L.S., Kefalianos, E., & Næss K.A.B. (2015). Communication attitudes in children who stutter: A meta-analytic review. *Journal of Fluency Disorders*, *46*, 1–14.

Hakim, H.B., & Bernstein Ratner, N. (2004). Nonword repetition abilities of children who stutter: an exploratory study. *Journal of Fluency Disorders*, *29(3)*, 179–199.

Hancock, K., & Craig, A. (1998). Predictors of stuttering relapse one year following treatment for children aged 9 to 14 years. *Journal of Fluency Disorders*, *23*, 31–48.

Healey, E.C., & Scott, L.A. (1995). Strategies for treating elementary school-age children who stutter: An integrative approach. *Language, Speech, and Hearing Services in Schools*, *26*, 151–161.

Hearne, A., Packman, A., Onslow, M., & Quine, S. (2008). Stuttering and its treatment in adolescence: The perceptions of people who stutter. *Journal of Fluency Disorders*, *33*, 81–98.

Heitmann, R.R., Asbjørnsen, A., Helland, T. (2004). Attentional functions in speech fluency disorders. Logopedics, *Phoniatrics, Vocology 29(3)*: 119–27.

Herder, C., Howard, C., Nye, C., & Vanryckeghem, M. (2006). Effectiveness of behavioral stuttering treatment: A systematic review and meta-analysis. *Contemporary Issues in Communication Sciences and Disorders*, *3*, 76–81.

Hood, S.B. (Ed.). (1998). *Advice to those who stutter (2nd ed.)*. Stuttering Foundation of America.

Howe, T.J. (2008). The ICF Contextual Factors related to speech-language pathology. *International Journal of Speech-Language Pathology*, 10, 27–37.

Hubble, M.A., Duncan, B.L., & Miller, S.D. (1999). *The heart and soul of change: What works in therapy?* American Psychological Association.

Hugh-Jones, S., & Smith, P.K. (1999). Self-reports of short- and long-term effects of bullying on children who stammer. *British Journal of Educational Psychology*, *69(2)*, 141–158.

Imel, Z., & Wampold, B. (2008). The Importance of Treatment and the Science of Common Factors in Psychotherapy. In: S. Brown, & R. Lent (Eds.), *Handbook of counselling Psychology* (4th ed.). (pp. 249–262). John Wiley & Sons Inc.

Ingham, R.J., & Andrews, G. (1973). Behavior therapy and stuttering: A review. *Journal of Speech and Hearing Disorders, 38*, 405–411.

Iverach, L., O'Brian, S., Jones, M., Block, S., Lincoln, M., Harrison, E., Hewat, S., Menzies, R., Packman, A., & Onslow, M. (2009). Prevalence of anxiety disorders among adults seeking speech therapy for stuttering. *Journal of Anxiety Disorders, 23*, 928–934.

Jezer, M. (2003). *Stuttering: A life bound up in words*. Small Pond Press.

Johnson, W. (1930). *Because I stutter*. Appleton-Century.

Johnson, K., Conture, E., & Walden, T. (2012). Efficacy of attention regulation in preschool-age children who stutter: A preliminary investigation. *Journal of Communication Disorders, 45*, 263–278.

Johnson, K., Walden, T., Conture, E., & Karrass, J. (2010) Spontaneous regulation of emotions in preschool children who stutter Preliminary findings. *Journal of Speech, Language, Hearing Research, 53*, 1–18.

Jones, R., Choi, D., Conture, E., & Walden, T. (2014). Temperament, Emotion, and Childhood Stuttering. *Seminars in Speech and Language, 35(2)*, 114–131.

Kagan, J., & Snidman, N. (1991). Temperamental factors in human development. *American Psychologist, 46(8)*, 856–862.

Karrass, J., Walden, T., Conture, E., Graham, C., Arnold, H., Hartfield, K., & Schwenk, K. (2006). Relation of emotional reactivity and regulation to childhood stuttering. *Journal of Communication Disorders, 39*, 402–423.

Kelly, E.M., & Conture, E.G. (1991). Speaking rates, response time latencies, and interrupting behaviors of young stutterers, nonstutterers, and their mothers. *Journal of Speech, Language, and Hearing Research, 35*, 1256–1265.

Kelman, E., & Nicholas, A. (2008). *Practical intervention for early childhood stammering. Palin PCI Approach*. Speechmark.

Kelman, E., & Nicholas, A., (2020). *Palin Parent-Child Interaction Therapy for Early Childhood Stammering*, (2nd Ed). Routledge.

Kloth, S.A.M., Janssen, P., Kraaimaat, F., & Brutten, G.L. (1998). Child and mother variables in the development of stuttering among high-risk children: A longitudinal study. *Journal of Fluency Disorders, 23*, 217–230.

Koedoot, C., Versteegh, M., & Yaruss, J.S. (2011). Psychometric evaluation of the Dutch translation of the OASES-A. *Journal of Fluency Disorders, 36*, 222–230.

Lambert, M.J., & Bergin, A.E. (1994). Therapist characteristics and their contribution to psychotherapy outcome. In: A.E. Bergin & S.L. Garfield (Eds.), *Handbook of Psychotherapy and Behavior Change* (4th ed.). John Wiley & Sons, Inc. (Original work published 1983).

Langevin, M. (2009). The Peer Attitudes Toward Children Who Stutter Scale: Reliability, known groups validity, and negativity of elementary school-age children's attitudes. *Journal of Fluency Disorders, 34(2)*, 72–86.

Langevin, M., Bortnick, K., Hammer, T., & Wiebe, E. (1998). Teasing/bullying experienced by children who stutter: Toward development of a questionnaire. *Contemporary Issues in Communication Science and Disorders, 25*, 12–24.

Langevin, M., Kully, D.A., & Ross-Harold, B. (2007). The comprehensive stuttering program for school-age children with strategies for managing teasing and bullying. *Stuttering and Related Disorders of Fluency*, 131–149.

Langevin M., Packman A., & Onslow M. (2010). Parent perceptions of the impact of stuttering on their preschoolers and themselves. *Journal of Communication Disorders 43(5)*, 407–23.

Law, J., Garrett, Z., & Nye, C. (2004). The efficacy of treatment for children with developmental speech and language delay/disorder: A meta-analysis. *Journal of Speech, Language & Hearing Research, 47*, 924–943.

Lewis, K.E., & Goldberg, L.L. (1997). Measurements of temperament in the identification of children who stutter. *European Journal of Disorders of Communication, 32*, 441–448.

Lev-Wiesel, R., Shabat, A., & Tsur, A. (2005). Stuttering as reflected in adults' self-figure drawings. *Journal of Developmental and Physical Disabilities, 17*, 85–93.

McAdams, D. (1993). *The Stories We Live By: Personal myths and the making of the self*. The Guildford Press.

Menzies, R., O'Brian, S., Onslow, M., Packman, A., St Clare, T., & Block, S. (2008). An experimental clinical trial of a cognitive behavior therapy package for chronic stuttering. *Journal of Speech, Language and Hearing Research and Therapy, 33*, 335–343.

Menzies, R.G., Onslow, M., Packman, A., & O'Brian, S. (2009). Cognitive behavior therapy for adults who stutter: A tutorial for speech-language pathologists. *Journal of Fluency Disorders, 34*, 187–200.

Messenger, M., Onslow, M., Packman, A., & Menzies, R. (2004). Social anxiety in stuttering: measuring negative social expectancies. *Journal of Fluency Disorders, 29*, 201–212.

Meyers, S.C., & Freeman, F.L. (1985a). Interruptions as a variable in stuttering and disfluency. *Journal of Speech and Hearing Research, 28*, 428–435.

Meyers, S.C., & Freeman, F.L. (1985b). Mother and child speech rates as a variable in stuttering and disfluency. *Journal of Speech and Hearing Research, 28*, 436–444.

Millard, S.K., & Davis, S. (2012). Palin Parent Rating Scales. Online. [accessed 1.11.2016]. Freely Available: https://www.palinprs.org.uk/secure/pprs_connect.php

Millard, S.K., Nicholas, A., & Cook, G.M. (2008). Is Parent-Child Interaction Therapy effective in reducing stuttering? *Journal of Speech, Language and Hearing Research, 51*, 636–650.

Miller, S.D., Duncan, B.L., & Hubble, M.A. (1997). *Escape from Babel: Toward a Unifying Language for Psychotherapy Practice.* Norton.

Mulcahy, K., Hennessey, N., Beilby, J., & Byrnes, M. (2008). Social anxiety and the severity and typography of stuttering in adolescents. *Journal of Fluency Disorders*, *33*, 306–319.

Murphy, W.P., Yaruss, J.S., & Quesal, R.W. (2007). Enhancing treatment for school-age children who stutter: I. Reducing negative reactions through desensitization and cognitive restructuring. *Journal of Fluency Disorders*, *32(2)*, 121–38.

Newman, L.L., & Smit, A.B. (1989). Some effects of variations in response time latency on speech rate, interruptions, and fluency in children's speech. *Journal of Speech and Hearing Research*, *32*, 635–644.

Nippold, M.A. (2012). Stuttering and language ability in children: Questioning the connection. *American Journal of Speech-Language Pathology*, *21*, 183–196.

Nippold, M.A., & Rudzinski, M. (1995). Parents' speech and children's stuttering: A critique of the literature. *Journal of Speech and Hearing Research*, *38*, 978–989.

Ntourou, K. (2012). A behavioral study of emotional reactivity and emotion regulation in pre -school age children who stutter. *European Symposium in Fluency Disorders*, Antwerp, 2012.

Ntourou, K. (2014). *Executive Function Skills and Stuttering*. Stuttering Foundation Webinar.

Ntourou, K., & Anderson, J.D. (2015). *Executive function, Attention & Stuttering: Theoretical and Clinical Implications*. ASHA presentation.

Ntourou, K., Conture, E.G., & Lipsey, M.W. (2011). Language abilities of children who stutter: A meta-analytical review. *American Journal of Speech-Language Pathology*, *20*, 163–179.

Ntourou, K., Conture, E.G., & Walden, T.A. (2013). Emotional reactivity and regulation in preschool-age children who stutter. *Journal of Fluency Disorders*, *38(3)*, 260–274.

Ntourou, K., Fourlas, G., Marousos, D., Paphiti, M., & Vanryckeghem, M. (2016). Communication attitude of preschool and school-age Greek-speaking children who do and do not stutter. *ASHA Annual Convention*, November 2016, Pennsylvania.

Ofoe, L., Anderson, J.D., & Ntourou, K. (2015). A Meta-analysis of Domain-General Cognitive Processes in Children who Stutter. *ASHA poster*.

Padesky, C.A. (1993). *Socratic questioning: changing minds or guided discovery?* European Congress of Cognitive Therapies. London.

Plexico, L.W., Manning, W.H., & DiLollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. *Journal of Communication Disorders; 35(4): 33–54*.

Plexico, L.W., Manning, W.H., & Levitt, H. (2009). Coping responses by adults who stutter: Part II. Approaching the problem and achieving agency. *Journal of Fluency Disorders*, *34*, 108–126.

Powers, M.B., Vörding, M., & Emmelkamp, P.M.G. (2009). Acceptance and commitment therapy: A meta-analytic review. *Psychotherapy and Psychosomatics*, *8*, 73–80.

Querido, J.G., Bearss, K., & Eyberg, S.M. (2002). Theory, research, and practice of Parent-Child Interaction Therapy. In: F. W Kaslow & T. Patterson (Eds.), Comprehensive handbook of psychotherapy, Volume two: *Cognitive/Behavioral/Functional approaches* (pp. 91–113). Wiley.

Ramig, P.R., & Bennett, E.M. (1995). Working with 7–12-year-old children who stutter: Ideas for intervention in the public schools. *Language, Speech, and Hearing Services in Schools*, *26*, 138–150.

Reilly, J., & Donaher, J. (2005). Verbal Working Memory Skills of Children Who Stutter: A Preliminary Investigation. *Contemporary Issues in Communication Science & Disorders*, *32*, 38–42.

Riley, G.D., & Riley, J. (1979). Component model for diagnosing and treating children who stutter. *Journal of Fluency Disorders*, *4*, 279–293.

Robey, R. (1998). A meta-analysis of clinical outcomes in the treatment of aphasia. *Journal of Speech, Language and Hearing Research*, *41*, 172–187.

Ryff, C. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, *4(4)*, 99–104.

Ryff, C., & Keyes, C.L.M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69(4)*, 719–727.

Sasisekaran, J., & Byrd, C.T. (2013). A preliminary investigation of segmentation and rhyme abilities of children who stutter. *Journal of Fluency Disorders*, *38*, 222–234.

Schwenk, K., Conture, E., & Walden, T. (2007). Reaction to background stimulation of preschool children who do and do not stutter. *Journal of Communication Disorders*, *40*, 129–141.

Scott, L.A. (2010). *Implementing Cognitive-Behavioral therapy with school-age children (DVD)*. Stuttering Foundation.

St. Louis, K.O. (2001). *Living with Stuttering*. Morgantown, WV: Populore Publishing Company.

St. Louis, K.O., Myers, F.L., Bakker, K., & Raphael, L.J. (2007). Understanding and treating cluttering. In: E.G. Conture & R.F. Curlee (Eds.) *Stuttering and Related Disorders of Fluency*, *(3rd ed)*, (pp. 297–325). Thieme Medical Publishers.

St. Louis, K.O., Reichel, I.K., Yaruss, J.S., & Lubker, B.B. (2009). Construct and concurrent validity of a prototype questionnaire to survey public attitudes towards stuttering. *Journal of Fluency Disorders*, *34*, 11–28.

Stallard, P. (2005). *A clinician's guide to think good – feel good. Using CBT with children and young people*. John Wiley & Sons Ltd.

Stallard, P. (2019). *Think Good, Feel Good: A Cognitive Behavioural Therapy Workbook for Children and Young People*, (2nd Ed). John Wiley & Sons Ltd.

Starkweather, C.W., & Givens-Ackerman, J. (1997). *Stuttering*. Pro-Ed.

Stewart, T., & Brosh, H. (1997). The use of drawings in the management of adults who stammer. *Journal of Fluency Disorders*, *22*, 35–50.

Tallman, K., & Bohart, A.C. (2004) The client as a common factor: Clients as self-healers. In: M.A. Hubble, B.L. Duncan & S.D. Miller (1999). *The Heart and Soul of Change: What Works in Therapy?* American Psychological Association.

Tilling, J.V. (2011). Listener perceptions of stuttering, prolonged speech, and verbal avoidance behaviors. *Journal of Communication Disorders*; *44*: 161–72.

Tumanova, V., Conture, E.G., Lambert, E.W., & Walden, T.A. (2014). Speech disfluencies of preschool-age children who do and do not stutter. *Journal of communication disorders*, 49, 25–41.

Van Zaalen-op't Hof, Y., Wijnen, F., & De Jonckere, P.H. (2009a). A test of speech motor control on word level productions: The SPA Test (Dutch: Screening Pittige Articulatie). *International Journal of Speech-Language Pathology*, *11(1)*: 26–33.

Van Zaalen-op't Hof, Y., Wijnen, F., & De Jonckere, P.H. (2009b). Differential diagnostic characteristics between cluttering and stuttering. Part one. *Journal of Fluency Disorders*, *34(3)*: 137–54.

Van Lieshout, P.H.H.M., Hulstijn, W., & Peter, H.F.M. (1996). Speech production in people who stutter: Testing the motor plan assembly hypothesis. *Journal of Speech and Hearing Research*, *39*, 76–92.

Van Riper, C. (1971). *The nature of stuttering*. Prentice-Hall.

Van Riper, C. (1973). *The treatment of stuttering*. Prentice Hall.

Vanryckeghem, M., & Brutten, G.J. (2020). *Communication Attitude Test – Greek version*. Panhellenic Association of Speech & Language Therapists.

Webster, R. (1979). Empirical considerations regarding controversies in stuttering therapy. In: H. Gregory (Eds.), *Controversies in Stuttering Therapy (pp.209–239)*. University Park Press.

Wilson, P., & Long I. (2009). *The Big Book of Blob Trees*. Speechmark.

Winslow, M., & Guitar, B. (1994). The effects of structured turn taking on disfluencies: A case study. *Language, Speech and Hearing Services in Schools*, *25*, 251–257.

World Health Organization (2001). *International Classification of Functioning, Disability and Health*. World Health Organization.

Yairi, E. (1997). Home environment and parent-child interaction in childhood stuttering. In: R.F. Curlee & G.M. Siegel (eds), *Nature and Treatment of Stuttering: New Directions (2nd ed)*, pp. 24–48. Allyn & Bacon.

Yairi, E., & Ambrose, N.G. (1992). A longitudinal study of stuttering in children: A preliminary report. *Journal of Speech and Hearing Research*, *35*, 755–760.

Yaruss, J.S. (2001). Evaluating treatment outcomes for adults who stutter. *Journal of Communication Disorders*, *34(1–2)*, 163–182.

Yaruss, J.S., Coleman, C., & Quesal, R.W. (2010). OASES-S: *Overall Assessment of the Speaker's Experience of Stuttering-School-Age (Ages 7–12)*. Pearson Assessments.

Yaruss, J.S., Coleman, C.E., & Quesal, R.W. (2012). Stuttering in School-Age Children: A Comprehensive Approach to Treatment. *Language, Speech and Hearing Services in Schools*, *43*, 536–548.

Yaruss, J.S., & Conture, E.G. (1995). Mother and child speaking rates and utterance lengths in adjacent fluent utterances: Preliminary observations. *Journal of Fluency Disorders*, *3*, 257–278.

Yaruss, J.S., LaSalle, L.R., & Conture, E.G. (1998). Evaluating stuttering in young children: Diagnostic Data. *American Journal of Speech-Language Pathology*, *7*, 62–76.

Yaruss, J.S., Coleman, C., & Quesal, R.W. (2010). OASES-S: *Overall Assessment of the Speaker's Experience of Stuttering-School-Age (Ages 7–12)*. Pearson Assessments.

Yaruss, J.S., & Quesal, R.W. (2006). Overall Assessment of the Speaker's Experience of Stuttering (OASES): documenting multiple outcomes in stuttering treatment. *Journal of Fluency Disorders*, *31*, 90–115.

Yaruss, J.S., & Quesal, R.W. (2004). Stuttering and the International Classification of Functioning, Disability and Health (ICF): an update. *Journal of Communication Disorders*, *37*, 35–52.

Zebrowski, P. (2012). Stuttering Intervention for School-Aged Children. *Iowa Speech and Hearing Association (ISHA)*, Spring Convention.

Zenner, A.A., Ritterman, S.I., Bowen, S., & Gronhord, K.D. (1978). Measurement and comparison of anxiety levels of parents of stuttering, articulatory defective and non-stuttering children. *Journal of Fluency Disorders*, *3*, 273–283.

Zisser, A., & Eyberg, S.M. (2010). Treating oppositional behavior in children using Parent-Child Interaction Therapy. In: A.E. Kazdin & J.R. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents* (2nd ed.) (pp. 179–193). Guilford.

Chapter 9

Hilda Sønsterud

Multidimensional Individualized Stuttering Therapy (MIST): An effective approach for people who stutter

Purpose of the chapter

The main purpose of this chapter is to present an approach which emphasizes individual-centered care and personal values in daily life settings. This approach is termed *Multidimensional Individualized Stuttering Therapy*, with the acronym MIST. The therapy format in MIST is individual and holistic, and it is grounded in practice-based evidence. Based on personal feedback from people who stutter (PWS), MIST was developed and systematized by Sønsterud (Sønsterud, 2020; Sønsterud, Halvorsen, Feragen, Kirmess, & Ward, 2020).

MIST combines value- and awareness-based elements from *Acceptance and Commitment Therapy* (ACT) with stuttering and speech modification interventions. The value-based focus in the approach is anchored within pluralistic, goal-led therapy (McLeod, 2018), and within the ACT perspective (Harris, 2019; Hayes, Strosahl, & Wilson, 2012). This chapter does not cover all aspects of MIST. However, some philosophical principles and clinical considerations are highlighted, as well as describing in more detail the elements in the therapy. The MIST approach is grounded in the idea that the speech-language therapist (SLT) is merely a guide or a provider of resources, which someone might benefit from at a specific time point during his or her life journey. The approach is experience-based, and the person's experience of exploring therapy elements and/or tasks and finding them helpful, or not, is highlighted in the evaluation process. In many ways, the person who stutters and the SLT should aim to construct something meaningful together, to reflect this collaborative perspective. In MIST, the SLTs are regarded as improvisers, crafters, or designers (McLeod, 2018), who can learn from clients. In MIST, the SLT must work flexibly, and in collaboration with the person him- or herself, to achieve significant changes in daily personal life contexts. The MIST approach is integrated, and combines various therapy elements to form a multidimensional, individual package.

Integrative stuttering therapy considered within a broader perspective of outcome goals

The stuttering literature often divides stuttering treatment into two main traditions, 'Fluency Shaping Therapy' and 'Stuttering Modification Therapy'. At the same time, a number of therapy approaches combine various elements from the two therapy traditions, which some authors have called 'integrated' or 'integrative' therapies (Guitar, 2014; Logan, 2015; Shapiro, 2011; Ward, 2018). These often highlight the principle that stuttering treatment should be tailored to each person's needs and wishes. Integrated or combined therapy approaches are already well established within the field of fluency disorders, and people who stutter often benefit from a mixture of behavioral and emotional- or cognitive-based approaches (Beilby, Byrnes, & Yaruss, 2012; Langevin, Kully, Teshima, Hagler, & Narasimha Prasad, 2010; Menzies et al., 2019). However, to optimise therapy outcomes, the relative weighting given to specific elements in combined approaches needs to vary from individual to individual (Manning, 2010; Shapiro, 2011; Sønsterud et al., 2020; Ward, 2018). Stuttering- and speech-modification elements explored in therapy might therefore be used differently and flexibly, if the aim is to maintain changes to speech, communication and/or social behavior, either permanently, or during a period of importance for the person. Stuttering treatment often requires careful clinical management of both the stuttering itself and its associated psychological consequences, in order to prevent the development of psychological and/or social difficulties (Iverach et al., 2017). In clinical practice, one can often observe that a focus on stuttering and speech modification approaches can contribute to a reduction in the level of fear, an increase in self-esteem, and acceptance of oneself as a person who stutters. Similarly, a reduction in the level of fear and an increase in acceptance and self-esteem can facilitate improved communication skills and ease of participation in daily-life-settings (Jørgensen, Sønsterud, & Reitz, 2008).

Carter et al. (2017) found that self-efficacy emerged as a strong positive predictor of quality of life for adults living with stuttering, while studies by Hayhow, Cray, and Enderby (2002) and Sønsterud, Feragen, Kirmess, Halvorsen, and Ward (2019) found that gaining control over stuttering was highly valued by the majority of participants in their cohorts. Lack of control, as perceived by the speaker, has often been associated with stuttering (Helgadottir, Menzies, Onslow, Packman, & O'Brian, 2014). There is also some evidence suggesting that the subjective experience of speech control can be a significant predictor for a positive therapy outcome (Craig & Andrews, 1985; De Nil & Kroll, 1995). Individual stuttering approaches may also require a substantial amount of self-discipline and home-based practice over time in order to maintain positive changes.

It is assumed that a wide range of factors can influence the treatment process and outcomes for people who stutter. These relate to individual clients, clinicians, support (or lack of) from others, social and environmental aspects, the quality of the therapeutic alliance, etc. (Sønsterud et al., 2019). For many people who stutter, daily life with a speech disorder that potentially affects their social interactions can exact a psychosocial and psychological toll. According to Craig, Blumgart, and Tran (2011), there are three unique contributors to adaptive outcomes: self-efficacy, social support and healthy social functioning. Clinical experience suggests that the individual's general social functioning can be a decisive factor affecting therapy outcomes. Other factors include the degree of awareness, social and communication skills, overall speaking ability, and self-discipline. The intensity of therapy, the types and degree of obstacles experienced in daily life, and the individual's level of motivation and willingness to invest time in independent training are also influential. The structure of the therapy process is also important – for example, some elements may need to be introduced and established within the clinic setting before they can be successfully transferred to other environments.

Ease of participation in everyday communication settings

The individual's experience of their own ability to communicate is an important factor and, according to Karimi et al. (2018), the person's satisfaction with communication in everyday speaking situations is a primary therapy outcome reflecting "a fundamental treatment gain that overarches all stuttering treatments" (p. 82) . To address these issues as part of the treatment, SLTs need to explore speaking situations that matter the most to the person who stutters. If we consider the meaning of the word 'communication', the origin Latin word is 'communicare', and means 'to share'. However, several definitions are needed to cover this concept more broadly. Communication is to exchange information by speaking, writing, or using some other medium (Summers, 2009), and is also conceptually related to the successful conveying or sharing of ideas, thoughts, and feelings. According to Hayes (2005), people use language in both public and private domains: public use includes forms such as talking, gesturing, writing, painting, singing, dancing and acting, while private use includes forms such as thinking, imagining, day-dreaming, visualizing, planning, fantasizing and worrying. I believe it is a common understanding that improving communication skills by sharing thoughts and feelings and actively participating in a value-based and meaningful life, may be the most important goal of therapy, regardless of whether you are working within the stuttering field or not.

Communication is multi-faceted, and much of our communication is achieved through non-verbal means, or expressed through prosodic factors such as tone of voice. According to DeVore and Cookman (2009), only about 7% of our meaning is conveyed through the words we use, while tone of voice conveys 38% of meaning, and body language the remaining 55%. Nevertheless, it seems that the focus for many people who stutter is the level of fluency they experience when speaking words and sentences. It is essential to keep this perspective in mind when working with people who stutter. Finding our most natural or most efficient voice is an important factor in speech and communication settings. Effective speech production requires coordination between three interrelated motor speech subsystems: the respiratory system (lungs), the phonatory system (larynx) and the articulatory system (oral and nasal cavities, tongue, lips, teeth and soft palate) (DeVore & Cookman, 2009).

The aim for many SLTs is to best serve the people who seek help. When people who stutter approach a clinic, they usually want to change something in their lives, and whatever best serves this purpose can be considered as the truth in this helping process (Ramnerö & Törneke, 2008). Bothe and Richardson (2011) use the term *personal significance* to refer to goals, and changes that are of high value to the individual. Ingham and colleagues suggest that therapies may require changes that are designed to deal with what is especially significant for the individual (Bernstein Ratner, 2005; Bothe & Richardson, 2011; Finn, 2003; Ingham, Ingham, & Bothe, 2012), on which the MIST approach is based.

Clients' motivational readiness for change

Psychologists have proposed a variety of theories to explain motivation (Cox & Klinger, 2004). Based on Seo et al.'s 'work motivation model' (Seo, Bartunek, & Barrett, 2010), a person's feelings may play an important role in motivation. This model includes three core components of motivation: generative-defensive orientation, effort, and persistence. *Generative-defensive orientation* is characterized by active engagement to achieve anticipated positive outcomes, or it can indicate the opposite – defensiveness. The generative orientation might be reflected in behaviors such as exploring, innovating or risk-taking. *Effort* refers to how much time and energy a person devotes to complete a given task, and *persistence* refers to maintaining an initially chosen course of action over time (Seo et al., 2010). People who stutter need to be ready for change. In the study of Sønsterud et al., (2019), the person's motivation was strongly correlating with treatment outcomes six months after the end of therapy. In MIST, motivation is regarded as comprising both psychological and socially, and refers to all goal-related components described above.

Multidimensional Individualized Stuttering Therapy (MIST) – some basic principles

The collaboration between the person who stutters and the SLT should be based on an agreed consideration of the individual's hopes and goals. MIST emphasizes the importance of working collaboratively, and regards the client as an active researcher in his/her own condition and everyday life. McLeod (2018) suggests that the client can be active in investigating the therapy process itself, and in developing opinions on what has been helpful or unhelpful in treatment sessions. The feedback from the 'investigator' (client) is incorporated into the MIST process, and it is important that the SLT makes space for the client's feedback, because each person is his/her own control and should be invited to give feedback throughout the whole therapy process. If the expected outcome is not achieved during the therapy sessions, the approach needs to be modified according to the person's own therapy goals and wishes.

Tailoring the right approach to each person's individual needs and goals is one major challenge in the field of fluency disorders, as well as in the MIST approach. With regard to stuttering management, Bloodstein (1997) highlights that the SLT should not disparage a person's goals and choices, as the person him/herself is competent to weigh the costs and benefits when considering therapy (Curlee & Siegel, 1997). However, in creating individually-tailored therapies, a broader definition of what constitutes 'improvement' is required, as well as SLTs needing to acknowledge the validity of a variety of outcomes (Bernstein Ratner, 2005). The World Health Organization's (WHO) (2018) classification system, the International Classification of Functioning, Disability and Health (ICF), is often used as a framework of stuttering (St. Louis & Tellis, 2015). It considers the effect of function, disability and health across a wide range of factors, and different aspects of life, including impairment in body function, activity limitation and participation restriction, and environmental factors (World Health Organization, 2018). The ICF has provided a framework for understanding and assessing stuttering and stuttering therapy in a contextual setting. This includes quality of life, overall well-being, self-stigma, and social aspects which may be regarded as particularly important for people who stutter (Boyle & Fearon, 2017; St. Louis et al., 2017; Sønsterud, Feragen, et al., 2019; Yaruss, 2010).

MIST – an individualized, goal-led approach

Stuttering identity, stuttering acceptance and avoidance-behavior may be regarded as three important concepts in the field of stuttering, and may influence the clients' priorities regarding the goals and desired outcomes of therapy. Indeed, there is a need to be careful in defining what exactly 'improvement' entails for each individual in general (Sønsterud et al., 2020; Ward, 2018). Sønsterud et al. (2019) states that an individualized goal-setting approach in many ways mirrors the client's optimal level of functioning, and this was the main purpose of developing an extended form of the 'Client Preferences for Stuttering Therapy' (CPST-E). The CPST-E is one tool used within the MIST approach (McCauley & Guitar, 2010; Sønsterud, Howells, & Baluyot, 2017).

The original CPST covers a brief overview of therapy goals, the person's own considerations regarding their speech fluency, their ease of participation in different speaking situations, and being in-control. Items are rated on a Likert scale ranging from 1–5 (not at all important – very important). The extended version developed by Sønsterud et al. (2017) also includes two additional sections which measure motivation and expectations for therapy in more detail than the original version. The section 'Motivation and expectations' addresses five questions regarding personal characteristics, including aspects related to the person's motivation based on Seo et al.'s (2010) 'work motivation model'. It comprises questions probing: a) people's level of persistence (the maintenance of an initially chosen course of action over time), b) their degree of motivation to work actively with their stuttering, c) the amount of time they are willing to set aside for independent training, d) how much help and support they expect during the therapy period, and e) their expectations of the outcome. The CPST-E also includes open text units where people who stutter can specify their own goals and desired outcomes of therapy, their needs in order to achieve those goals, and other factors they consider important in their collaboration with the SLT. The form contains the following main question: '*Describe, using your own words, your goals and wishes for the therapy*'. This form is available in English, Norwegian and Swedish, and fits well with the ICF framework regarding personal and environmental factors as discussed by, for example, Yaruss and Quesal (2004), Logan (2015), and McCauley and Guitar (2010). The form is available for anybody who is interested, and can be obtained by contacting the author.

According to Logan (2015), people "function most effectively when their daily activities are aligned with the goals or destinations that they hope to reach" (p. 469). McLeod (2018) claims that a person's goals can be stated, but cannot always be easily evaluated. The goals or tasks may therefore need to be broken down further into specific, meaningful and measurable sub-goals or tasks. This statement is in accordance with the work of Sønsterud et al. (2019, 2020), and is also integrated into the MIST approach. Pre-treatment reflections should take into account both personal goal-setting and decision processes which, in many ways, are integrated into the 'working alliance philosophy' (Horvath & Greenberg, 1989), which reflects the quality of the relationship between clinicians and clients. Thus, the direction of therapy must be taken from the people who stutter, at least when adolescents and adults are concerned.

As a form of behavior therapy which addresses emotions, MIST can involve committed action by the individual in work, educational, or social settings. MIST incorporates exposure-based strategies, and it is assumed that the choice to explore and transfer speech- and/or awareness-based actions into daily life settings may improve a person's speaking ability, confidence in communication, and quality of life. The principles of practice-based evidence are required in all interventions, and I therefore believe that treatment efficacy should be based on multi-factor measures, and should include client perspectives and functional outcomes (Baxter et al., 2015; Bothe & Richardson, 2011). Functional outcomes are of importance in MIST, and some examples of positive outcomes regarded in a broader perspective may be given here: being able to use the telephone, increasing social participation in life, finding a partner, or starting a meaningful education.

The importance of the working-alliance in stuttering therapy

The quality of the working-alliance is one of the causal agents which may influence therapy outcomes. Flückiger and colleagues (2018) describe how the "alliance represents a proactive collaboration of clients and therapists across sessions and in moment-to-moment interactions" (p. 330). The concept of the working alliance has its roots in psychodynamic theory (Wampold, 2015), and can be formally described as a proactive collaboration between clients and therapists across treatment sessions (Flückiger, Del Re, Wampold, & Horvath, 2018). It was Bordin (1979) who first named the relationship between a person seeking support and a clinician as the 'working alliance'. It has been suggested that the working alliance has its foundation in the following three processes: a) the emotional *bond* between the client and clinician, b) the extent to which the client and clinician agree on the *goal* of treatment, and c) the extent to which the client and clinician consider the treatment tasks as relevant (*task*).

According to Flückiger and colleagues (2018, 2019), it has been demonstrated that a client's opinion of treatment as effective or ineffective is influenced by their experience of the collaborative process in clinic (Flückiger et al., 2018; Flückiger et al., 2019). This is in line with the work of Manning (2010) and Plexico, Manning and Dilollo (2005, 2010). According to Zebrowski and Kelly (2002), individual stuttering therapy "allows the SLT and client to develop rapport – a trusting, cooperative, and respectful relationship that facilitates disclosure and change" (p. 41). It is therefore reasonable to believe that the therapeutic alliance also is of importance in stuttering therapy. It is worth questioning what is it that makes this relationship between the person seeking support and the therapist successful or unsuccessful. Process evaluations in stuttering therapy should incorporate consideration of the clinician-client relationship, and perhaps in particular from the perspective of the person who stutters (Sønsterud, Kirmess, et al., 2019). As the study of Sønsterud et al. is documenting, the relationship between people who stutter and SLTs affects the course of therapy and its outcomes. Therefore, the relationship really matters, and this importance is acknowledged within the wider community of people who stutter.

However, although there is already consensus that SLTs should openly and honestly discuss an individual's goals and expectations for therapy in general, there has been little previous investigation of the impact of personal motivation and the working alliance for people who stutter (Sønsterud, Kirmess, et al., 2019). Fortunately, over recent years, there has been an increasing interest in the therapeutic relationship as an evidence-based component of interventions in speech and language therapy. The findings of Sønsterud, Kirmess, et al. (2019) suggest that the working alliance that grows from describing, discussing and agreeing goals and tasks between a person who stutters and a SLT, is a critical element in successful stuttering therapy. Based on this research, it is recommended that evaluation of the working alliance, particularly from the perspective of the individual seeking support, should be incorporated into stuttering therapy. The findings indicate that how you feel about your SLT, and the content of the stuttering therapy, really matters (Sønsterud, Kirmess, et al., 2019). It is important for the person who stutters and the SLT to understand the specific goals, so that the SLT can identify appropriate approaches or activities. If something does not feel 'right' or relevant, it is important for the person to speak out – and the SLT to make room for this, and to listen carefully. The MIST approach highlights the importance of open discussion around not only the person's goals for therapy, but also the tasks or activities to be incorporated in that therapy. It further suggests that incorporating evaluations of the working alliance at an early stage in the therapeutic process may help ensure that relevant goals have been identified and agreed, and that meaningful tasks are in place. Such evaluations can also help therapists and people who stutter to identify, acknowledge and repair challenges more easily if they arise. Tools for evaluating the working alliance are available, for example the Working Alliance Inventory – Short Revised version (WAI-SR) (Hatcher & Gillaspy, 2006). This tool was used in the study by Sønsterud et al. (2019) referred to above. WAI-SR is quick and easy to use, and explores the working alliance across the three domains of *bond*, *goal* and *task*.

The importance of personal and context-sensitive feedback

A prerequisite for change is that people who stutter themselves perceive the stuttering therapy as appropriate, effective and meaningful (Binder, Holgersen, & Nielsen, 2010; Bothe & Richardson, 2011; Collier-Meek, Fallon, & Gould, 2018; Ingham et al., 2012). However, according to Lambert, Whipple, and Kleinstäuber (2018), clinicians tend to hold overly optimistic views of their clients' treatment progress in relation to measured change. In an effort to counter this, they recommended Routine Outcome Monitoring (ROM), whereby client progress is regularly measured with standardized self-report scales throughout therapy, thus providing clinicians with this information *during* the therapy process (Lambert et al., 2018). Contextualized feedback suggests that the value of client feedback through session-by-session assessments is the way in "[...] which the information provided goes beyond what a clinician can observe and understand about client progress without such information." (Lambert et al., 2018, p. 521). Egan (2014) suggests that one way to collect information about how clients perceive therapy, is simply to ask regularly whether the help is really helping. This may also help facilitate and validate clients' awareness of their values, preferences and needs regarding their treatment plans and goals. This also fits well with individual-oriented therapy approaches which emphasize that each person should receive the best therapy related to their own goals, and which further contribute to positive changes in their daily life and communication settings (Baxter et al., 2015; McLeod, 2018). The identification and exploration of therapy elements which may be meaningful and context-sensitive for each person, is regarded as the most important focus in MIST. As McLeod (2018) suggests, the client is also active in investigating the therapy process itself, and developing views on what has been helpful or unhelpful in therapy sessions. This suggestion is incorporated into MIST where each person has the opportunity to give both written and oral feedback throughout the therapy process. For example, the therapy preferences of a person who stutters are supposed to be identified through ongoing dialogue between them and the SLT. A *Therapy Preferences Form* (TPF) is developed to document preferred elements and the effect of the therapy elements or strategies adopted, and this form is a good tool for the SLTs for designing an individualized therapy plan. The use of the TPF can be regarded as 'routine' outcome monitoring, as described by Lambert et al. (2018). In MIST, clients are invited to rate the success of each element across two dimensions, using the Likert scale ratings 1–7: (1) How useful they find the specific element, and (2) How often they use the elements in their home-based practice/training. A range of relevant elements, strategies or tasks – which are regarded by the person as useful and relatively easy to transfer into daily life – may be recorded and summarized in the TPF. If the person finds the exercises helpful, they are then invited to practice these exercises at home, or in social, work or educational settings. Where the expected outcome is not achieved, it is expected that the SLT should modify or withdraw therapy elements, based on the person's feedback.

Overview of the key elements of MIST

MIST is a stuttering therapy approach that combines value- and awareness-based elements from *Acceptance and Commitment Therapy* (ACT), and elements from stuttering and speech modification interventions (Sønsterud et al., 2020). Between 2009 and 2012, a case study was conducted, based on explorative clinical work. It included a male aged 39 who stuttered, and who received individual, multidimensional therapy. He evaluated the following elements as being most valuable: a) 'anchoring' the breath deeper in the body to improve speech control, b) flexible speech rate (including increasing awareness of slowing body movements in general), and c) conscious exhalation ('breathing-out') (Sønsterud & Løvbakk, 2012). According to the participant, the 'breathing-out' maneuver was particularly valuable in helping him improve his ease of speaking. Thanks to external research grants from the Dam Foundation (the Norwegian Extra Foundation for Health and Rehabilitation), the single-case study was further extended, and in 2016 an A-B-A multiple case study was conducted. The therapy format in the treatment study was grounded in practice-based evidence.

Several researchers and clinicians within the field of stuttering consider non-judgemental awareness and self-acceptance as essential components of therapy for stuttering (Beilby et al., 2012; Boyle, 2011; Cheasman, Simpson, & Everard, 2015, Sønsterud et al. 2020). The words 'Multidimensional' and 'Individualized' within MIST emphasize the value of the interaction between personal values, awareness, and physical processes, as shown in Figure 1.

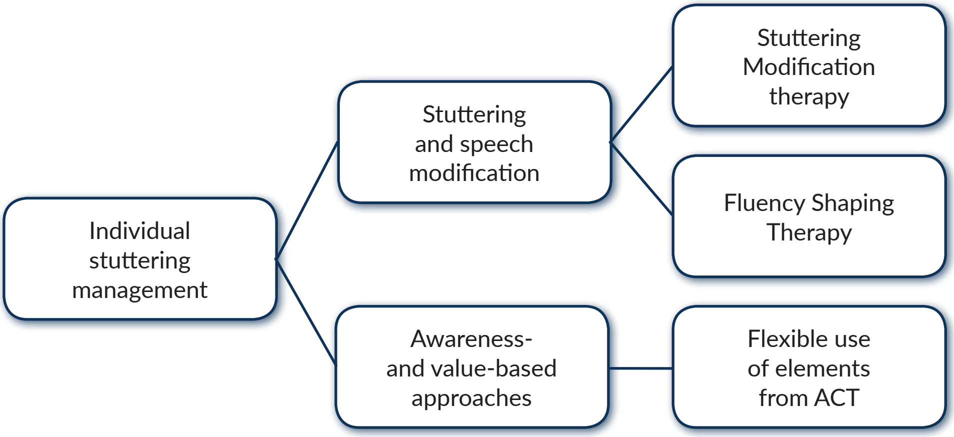


Figure 1. A simplified model of *Multidimensional Individualized Stuttering Therapy* (MIST)

One of the main reasons for incorporating awareness-based elements into MIST, was to facilitate stuttering management at both psycho-social and sensory-motor levels, in order to improve a person's ability to cope with and manage stuttering. The value-based focus in the approach is anchored within pluralistic, goal-led therapy, and within the ACT- perspective, is maintained and enhanced by participants' awareness of personal values (Harris, 2019; Hayes et al., 2012). The concept of awareness is incorporated in different ways, which will be described in more detail below. MIST works through a combination of clinician and client selection from a range of factors across five areas.

The elements in MIST are systematized partly in accordance with the three interrelated motor speech subsystems, termed respiratory, phonatory and articulatory (DeVore & Cookman, 2009), and partly from ACT and general presentation skills used in clinic (see below for more details). A pentagon is used to conceptualize the individualized nature of the approach, with the relative weighting of different sub-components varying from individual to individual. As can be seen in Figure 2, internal pentagons (in blue) can vary in shape and size.

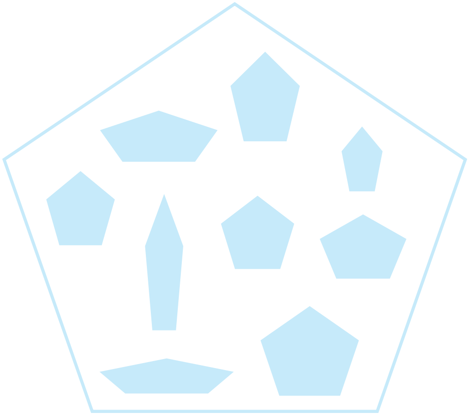


Figure 2. A pentagon with internal, individual pentagons within.

During the therapy period, multiple therapy elements are introduced and explored in collaboration with the people who stutter, and include (although not limited to) awareness, breath support, softer phonation, block release and/or general presentation skills. This approach has five main areas of focus: 1) general breathing patterns and body tension, 2) breathing patterns during speech production, 3) vocal features in speech production, 4) value- and mindfulness-based strategies, and 5) general communication and/or presentation skills. These five areas are described in the Sønsterud et al. (2020), and further listed below.

1) General breathing patterns and body tension

For example, this might involve the introduction of slower body movements, or the practice of paying mindful attention to the breath, with the aim of improving general well-being or proprioceptive awareness, or for general stress management.

2) Breathing patterns during speech production

For example, this might involve monitoring changes in abdominal wall positioning during speech, considering breath support while speaking, or experimenting with calm, smooth breath flow (passive or active) when speaking, with the aim of attaining relatively steady exhalation and general low levels of respiratory effort and tension during speech.

3) Vocal features in speech production

Examples here include experimenting with stretched/prolonged speech, gentle onset, continuous phonation, softer articulatory contacts (including easy or soft onset), awareness of pitch range (high or low pitch range might involve more tension in the vocal folds), changes in voice intensity (varying loudness of voice tone) (Ward, 2018), and other speech modification methods such as a pull-out from a moment of stuttering (Van Riper, 1973). To release stuttering blocks by 'pulling out of' disfluent words, either via a smooth build-up of phonation ('voicing-out') which mirrors the 'pull-out', and/or easing or smoothing out blocks by releasing the airway through consciously exhaling ('breathing-out') could, in this context, be considered as a modified version of Van Riper's pull-out. The main aim of area 3 is to make speech and communication less effortful, so as to expend less energy in speech production.

4) Value- and mindfulness-based strategies

Examples here include: observing or paying attention to inner experiences ('the observing self'); working with 'the choice point' which is a form were you are supposed to choose between values-consistent and values-inconsistent behaviors (described by Harris (2019) among others); developing in-the-moment awareness ('the being mind' as opposed to 'the doing mind'); exploring kindness, self-compassion, and value-focused perspectives; developing greater states of calmness; and accepting thoughts without judgements attached.

5) General communication and/or presentation skills

Examples include individually-tailored use of pauses; variable speech-rate, intonation or prosody; flexible use of stress within sentences to emphasize words; eye contact adapted to contexts; and body posture.

Focus areas may sometimes overlap, particularly areas 1 and 4, and depend on the person's individual response and preferred area(s) of emphasis. For example, one way to develop in-the-moment awareness is to turn one's attention to one's breathing pattern, and simply follow the breathing while exhaling and inhaling. For the specific purpose of practicing mindful attention to breath, this task would be organized within area 4, whereas when the aim is more to improve general well-being or assist general stress management, the task would be organized within area 1. However, the nature of a multi-faceted, individualized approach means that the relative weighting of different sub-components in therapy needs to vary from individual to individual. MIST is, to some extent, reflected in the work of Logan (2015) and Ward (2018), who take a synergistic view, noting that changes or adjustments in one part of the motor speech system are likely to lead to changes in other parts of the system. Furthermore, by making small changes to specific aspects of the motor speech system, people who stutter may be able to effect larger changes in their speech, experiential avoidance, and emotional regulation.

Stuttering management through awareness- and value-based work

Many stress management programs teach body awareness and deep breathing as a primary technique for stress reduction, relaxation, and general well-being. Mindfulness-based approaches have become popular interventions in the stuttering field (Boyle, 2011; Cheasman, Simpson, & Everard, 2013, Sønsterud et al., 2020). Based on Kabat-Zinn's (2003) definition of the term, mindfulness means paying attention in a particular way that is deliberate, in the present moment, and non-judgmental. According to Boyle (2011), mindfulness practice might decrease avoidance behavior and increase emotional regulation.

Mindfulness has been described and defined by many clinicians and researchers (Kabat-Zinn, 2003; Teasdale, Segal, & Williams, 2003). Aiming to further develop and improve the precision and specificity of a definition for clinical research, Bishop et al. (2004) developed an operational definition of mindfulness. Mindfulness begins by bringing awareness to current experiences, and attending and observing thoughts, feelings and bodily sensations from moment to moment by regulating the focus of attention. According to Bishop et al. (2004), the self-regulation of attention also fosters non-elaborative awareness of thoughts, feelings, and sensations as they arise. Rather than getting caught up in ruminative thoughts about one's experiences, implications and associations, mindfulness involves a direct experience of events in the mind and body. Instead of instructing the client to produce a particular state or to change what he or she is feeling, the client is instructed to "make an effort to just take notice of each thought, feeling, and sensation that arises in the stream of consciousness" (p. 231). The authors (ibid.) propose a model of mindfulness that involves adopting an orientation toward one's experiences in the present moment; an orientation that is fostered by curiosity, openness, and acceptance (Hayes et al., 2012). According to Bishop et al. (2004), mindfulness is a process of self-observation, and differs from a mindfulness-meditation technique. The authors (ibid.) further consider that mindfulness is, rather, a mode of awareness that is evoked when attention is regulated. MIST does not include any specific mindfulness-meditation techniques, but is, rather, aiming to improve awareness skills relating to different aspects of the body and/or mind, regardless of whether one intends to speak or not. Examples of awareness-based tasks in MIST may include use of the 'dropping anchor' exercises, observing or paying attention to inner experiences ('the observing self'), and/or working with 'the choice point', where people are invited to define their own '*away*' and/or '*towards*' move, where 'away' moves are 'unworkable', and 'towards' moves are 'workable' behavior, thoughts, and situations. Integrating the choice point into therapy may help clients become more aware of what matters in life, and help them in moving toward a richer and more meaningful life. Awareness skills, both within and between persons who stutter, seem to vary greatly, yet awareness skills should be measured more systematically both in clinical and research settings in the future.

In MIST, as with other mindfulness-based approaches, there is an ongoing invitation to 'just notice', for example, breathing or body sensations. Inviting people to improve awareness skills, to 'be present', 'open up', and 'do what matters' may help them to develop *psychological flexibility*. This can be defined as the ability to 'be present' with full awareness and openness to experiences in life, and to take action guided by one's own values (Harris, 2019). Behavioral awareness in the context of MIST refers to the extent to which a person can feel, and be consciously aware of, what he or she is physically doing when speaking and/or stuttering. Awareness-based approaches may demand a level of familiarity. For example, mindfulness-based approaches focus on awareness of present moment experiences (Hayes et al., 2012), and when awareness-based approaches are used within speech therapy, it may therefore be necessary for the SLT to create an environment where the individual carries out a specific task, action or change whilst simultaneously observing their own thoughts, feelings and physiological experiences in the moment. During the therapy process, rather than providing detailed verbal instructions of changes which people could make or experiment with, the SLT should be encouraging people to observe and feel their own experience, and to continue practicing and developing awareness of self, both in and outside the clinic. However, for an individual to be consciously aware of physical sensations, while at the same time remaining present and responsive within their social environment, requires a high degree of skill.

Collaborative work in this area involves supporting a person in improving their awareness of factors such as breathing patterns, voicing, and/or physical sensations in the body. This process might involve experimenting with, and purposefully adjusting, airflow, tension, and/or voicing, while remembering at all times to acknowledge that people themselves are best placed to decide what they find optimal in their own daily life settings. Modifying particular speech or breathing patterns or consciously regulating vocal production for speech, whilst simultaneously striving to increase in-the-moment awareness may, at first glance, appear to impose an impossibly high cognitive load (Sønsterud et al., 2020). However, reminding clients that skills develop with practice over time, and anchoring the concept of 'good enough for now', may support and encourage continued mindfulness practices. Further research is needed to disentangle potential associations between awareness skills and stuttering therapy outcomes.

Conclusion

MIST is unique in that the overall goal is not to teach fluency-enhancing techniques, but rather to facilitate a greater awareness of tensions in the body, breathing and voice mechanisms, and to reduce acquired tensions by finding alternative and less effortful ways to speak and communicate. MIST is including assessment of the persons level of satisfaction, and the approach has been co-designed with persons who stutter. Tailoring therapy to the unique needs and preferences of each person has become a strategy for many interventions, and is increasingly becoming a feature of health care in general. The rationale underlying MIST is that adherence and effectiveness will be greater if the intervention accommodates personal variability. Within this perspective, SLTs need to be sensitive to clients' motivation, needs, goals, values, and responses to therapy. This in turn accentuates the need for clinicians to be able to work flexibly and to be more open towards therapy elements which seem to work.

Multiple choice questions

1. Communication is multi-faceted, and is expressed through verbal and non-verbal means. According to DeVore and Cookman (2009):
   a) About 38% of our meaning is conveyed through the words we use, tone of voice conveys 7% of meaning, and body language the remaining 55%.
   b) About 7% of our meaning is conveyed through the words we use, tone of voice conveys 38% of meaning, and body language the remaining 55%.
   c) About 55% of our meaning is conveyed through the words we use, tone of voice conveys 38% of meaning, and body language the remaining 7%.
2. Karimi and colleagues (2018) state that the following factor constitutes the primary therapy outcome, reflecting a fundamental treatment gain that overarches all stuttering treatments:
   a) Improved quality of life.
   b) Improved self-confidence.
   c) Satisfaction with communication in everyday speaking situations.
   d) Ease of participation.
3. The term 'working alliance', described as a proactive collaboration between clients and therapists across treatment sessions, was first named by:
   a) Wampold.
   b) Bordin.
   c) Flückiger and colleagues.
   d) Horvath.

4. The number of main focus areas in the *Multidimensional Individualized Stuttering Therapy* (MIST) is:
   a) 4.
   b) 6.
   c) 5.
   d) 3.

Suggested reading

Bloodstein, O., Bernstein Ratner, N., & Brundage, S. (2021). A Handbook on Stuttering (7th ed.). Plural Publishing Inc. Harris, R. (2019). *ACT made simple: An easy-to-read primer on Acceptance and Commitment Therapy* (Second ed.). New Harbinger Publications.

Logan, K. (2022). Fluency Disorders: Stuttering, Cluttering, and Related Fluency Problems (2nd ed.). Plural Publishing, Inc.

Sønsterud, H., Kirmess, M., Howells, K., Ward, D., Feragen, K.B., & Halvorsen, M.S. (2019). The working alliance in stuttering treatment: A neglected variable? *International journal of language & communication disorders*, *54*(4), 606–619.

Sønsterud, H., Halvorsen, M.S., Feragen, K.B., Kirmess, M., & Ward, D. (2020). What works for whom? Multidimensional Individualized Stuttering Therapy (MIST). *Journal of Communication Disorders*.

Ward, D. (2018). *Stuttering and Cluttering: Frameworks for Understanding and Treatment* (Second ed.). New York Routledge.

References

Baxter, S., Johnson, M., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., & Goyder, E. (2015). The state of the art in non-pharmacological interventions for developmental stuttering. Part 1: a systematic review of effectiveness. *International Journal of Language and Communication Disorders*, *50*(5), 676–718.

Beilby, J.M., Byrnes, M.L., & Yaruss, J.S. (2012). Acceptance and Commitment Therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders*, *37*(4), 289–299.

Bernstein Ratner, N. (2005). Evidence-based practice in stuttering: Some questions to consider. *Journal of Fluency Disorders*, *30*(3), 163–188.

Binder, P.-E., Holgersen, H., & Nielsen, G.H. (2010). What is a “good outcome” in psychotherapy? A qualitative exploration of former patients’ point of view. *Psychotherapy Research*, *20*(3), 285–294.

Bishop, S.R., Lau, M., Shapiro, S., Carlson, L., Anderson, N.D., Carmody, J., . . . Devins, G. (2004). Mindfulness: A Proposed Operational Definition. *Clinical Psychology: Science and Practice, 11*(3), 230–241.

Bloodstein, O. (1997). Stuttering as an anticipatory struggle reaction. In: R.F. Curlee & G.M. Siegel (Eds.), *Nature and treatment of stuttering: New directions* (Second ed., pp. 167–181). Allyn and Bacon.

Bordin, E.S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research and Practice, 16*(3), 252–260.

Bothe, A.K., & Richardson, J.D. (2011). Statistical, practical, clinical, and personal significance: definitions and applications in speech-language pathology. *American Journal of Speech-Language Pathology, 20*(3), 233–242.

Boyle, M.P. (2011). Mindfulness training in stuttering therapy: A tutorial for speech-language pathologists. *Journal of Fluency Disorders, 36*(2), 122–129.

Boyle, M.P., & Fearon, A.N. (2017). Self-stigma and its associations with stress, physical health, and health care satisfaction in adults who stutter. *Journal of Fluency Disorders*.

Carter, A., Breen, L., Yaruss, J.S., & Beilby, J. (2017). Self-efficacy and quality of life in adults who stutter. *Journal of Fluency Disorders, 54*, 14–23.

Cheasman, C., Simpson, S., & Everard, R. (2013). *Stammering therapy from the inside : new perspectives on working with young people and adults*. J & R Press.

Cheasman, C., Simpson, S., & Everard, R. (2015). Acceptance and Speech Work: The Challenge. *Procedia – Social and Behavioral Sciences, 193*, 72–81.

Collier-Meek, M.A., Fallon, L.M., & Gould, K. (2018). How Are Treatment Integrity Data Assessed? Reviewing the Performance Feedback Literature. *School Psychology Quarterly, 33*(4), 517–526.

Cox, W.M., & Klinger, E. (2004). *Handbook of Motivational Counseling: Concepts, Approaches, and Assessment*: John Wiley & Sons, Ltd.

Craig, A., & Andrews, G. (1985). The Prediction and Prevention of Relapse in Stuttering: The Value of Self-Control Techniques and Locus of Control Measures. *Behavior Modification, 9*(4), 427–442.

Craig, A., Blumgart, E., & Tran, Y. (2011). Resilience and Stuttering: Factors that Protect People from the Adversity of Chronic Stuttering. *Journal of Speech, Language, and Hearing Research, 54*(6), 1485–1496.

Croft, R.L., & Watson, J. (2019). Student clinicians' and clients' perceptions of the therapeutic alliance and outcomes in stuttering treatment. *Journal of Fluency Disorders, 61*, 105709.

Curlee, R.F., & Siegel, G.M. (1997). *Nature and treatment of stuttering: New directions* (2nd ed. ed.). Allyn and Bacon.

De Nil, L.F., & Kroll, R.M. (1995). The relationship between locus of control and long-term stuttering treatment outcome in adult stutterers. *Journal of Fluency Disorders, 20*(4), 345–364.

DeVore, K., & Cookman, S. (2009). *The Voice Book. Caring for Protecting, and Improving Your Voice* (1st Ed. ed.). Review Press, Incorporated

Egan, G. (2014). *The skilled helper : a client-centred approach* (10th edition. ed.). Cengage Learning.

Finn, P. (2003). Evidence-based treatment of stuttering:: II. Clinical significance of behavioral stuttering treatments. *J Fluency Disord*, *28*(3), 209–218.

Flückiger, C., Del Re, A.C., Wampold, B.E., & Horvath, A.O. (2018). The Alliance in Adult Psychotherapy: A Meta-Analytic Synthesis. *Psychotherapy*, *55*(4), 316–340.

Flückiger, C., Hilpert, P., Goldberg, S., Caspar, F., Wolfer, C., Held, J., & Vîslă, A. (2019). Investigating the Impact of Early Alliance on Predicting Subjective Change at Post-treatment: An Evidence-Based Souvenir of Overlooked Clinical Perspectives. *Journal of Counseling Psychology, Advanced online.*

Guitar, B. (2014). *Stuttering: An integrated approach to its nature and treatment* (4th ed. ed.). Lippincott Williams & Wilkins.

Harris, R. (2019). *ACT made simple: An easy-to-read primer on Acceptance and Commitment Therapy* (Second ed.). New Harbinger Publications.

Hayes, S.C. (2005). *Get out of your mind & into your life: The new acceptance & commitment therapy*. New Harbinger Publications.

Hayes, S.C., Strosahl, K.D., & Wilson, K.G. (2012). *Acceptance and Commitment Therapy: The process and practice of mindful change* (2nd ed. ed.). Guilford Press.

Hayhow, R., Cray, A.M., & Enderby, P. (2002). Stammering and therapy views of people who stammer. *Journal of Fluency Disorders*, *27*(1), 1–17.

Helgadottir, F.D., Menzies, R.G., Onslow, M., Packman, A., & O'Brian, S. (2014). Safety Behaviors and Speech Treatment for Adults Who Stutter. *Journal of Speech, Language, and Hearing Research*, *57*(4), 1308–1313.

Horvath, A., & Greenberg, L. (1989). Development and Validation of the Working Alliance Inventory. *Journal of Counseling Psychology*, *36*(2), 223–230.

Ingham, R.J., Ingham, J.C., & Bothe, A.K. (2012). Integrating functional measures with treatment: A tactic for enhancing personally significant change in the treatment of adults and adolescents who stutter. *American Journal of Speech-Language Pathology*, *21*(3), 264–277.

Iverach, L., Lowe, R., Jones, M., O'brian, S., Menzies, R.G., Packman, A., & Onslow, M. (2017). A speech and psychological profile of treatment-seeking adolescents who stutter. *Journal of Fluency Disorders*, *51*, 24–38.

Jørgensen, M., Sønsterud, H., & Reitz, L. (2008). *Å bygge bro mellom McGuire-programmet og den logopediske stammebehandlingen.* Paper presented at the Nordic Conference on stuttering and cluttering, Nyhavn, Danmark

Kabat-Zinn, J. (2003). Mindfulness-Based Interventions in Context: Past, Present, and Future. *Clinical Psychology: Science and Practice*, *10*(2), 144.

Karimi, H., Onslow, M., Jones, M., O'Brian, S., Packman, A., Menzies, R., . . . Jelčić-Jakšić, S. (2018). The Satisfaction with Communication in Everyday Speaking Situations (SCESS) scale: An overarching outcome measure of treatment effect. *Journal of Fluency Disorders*, *58*, 77–85.

Lambert, M.J., Whipple, J.L., & Kleinstäuber, M. (2018). Collecting and Delivering Progress Feedback: A Meta-Analysis of Routine Outcome Monitoring. *Psychotherapy*, *55*(4), 520–537.

Langevin, M., Kully, D., Teshima, S., Hagler, P., & Narasimha Prasad, N.G. (2010). Five-Year Longitudinal Treatment Outcomes of the ISTAR Comprehensive Stuttering Program. *Journal of Fluency Disorders*, *35*(2), 123–140. 2

Logan, K.J. (2015). *Fluency disorders*. San Diego, CA: Plural Publishing.

Manning, W.H. (2010). Evidence of clinically significant change: the therapeutic alliance and the possibilities of outcomes-informed care. *Seminar Speech and Language*, *31*(4), 207–216.

McCauley, R.J., & Guitar, B. (2010). *Treatment of stuttering: Established and emerging interventions*. Lippincott Williams & Wilkins.

McLeod, J. (2018). *Pluralistic therapy : Distinctive features*. In Psychotherapy & counselling distinctive features series, T.F. Group (Ed.).

Menzies, R.G., O'Brian, S., Packman, A., Jones, M., Helgadóttir, F.D., & Onslow, M. (2019). Supplementing stuttering treatment with online cognitive behavior therapy: An experimental trial. *Journal of Communication Disorders*, *80*, 81–91.

Plexico, L., Manning, W.H., & Dilollo, A. (2005). A phenomenological understanding of successful stuttering management. Journal of Fluency Disorders, 30(1), 1–22.

Plexico, L., Manning, W.H., & Dilollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. Journal of Fluency Disorders, 35(4), 333–354.

Ramnerö, J., & Törneke, N. (2008). *The ABCs of human behavior : behavioral principles for the practicing clinician*. In ebrary, N. Törneke (Ed.).

Seo, M.G., Bartunek, J.M., & Barrett, L.F. (2010). The role of affective experience in work motivation: Test of a conceptual model. *Journal of Organizational Behavior*, *31*(7), 951–968.

Shapiro, D.A. (2011). *Stuttering intervention: A collaborative journey to fluency freedom* (2nd ed. ed.). PRO-ED.

St. Louis, K.O., Irani, F., Gabel, R.M., Hughes, S., Langevin, M., Rodriguez, M., . . . Weidner, M.E. (2017). Evidence-based guidelines for being supportive of people who stutter in North America. *Journal of Fluency Disorders*, *53*, 1–13.

St. Louis, K.O., & Tellis, G. (2015). *Stuttering Meets Sterotype, Stigma, and Discrimination: An Overview of Attitude Research*. West Virginia University Press.

Summers, D. (Ed.) (2009) Longman dictionary of contemporary English (5th ed.). Longman.

Sønsterud, H. (2020). *Stuttering therapy: What works for whom? Minding the body in speech – a multifaceted, individual approach to stuttering therapy.* (PhD), University of Oslo.

Sønsterud, H., Feragen, K.B., Kirmess, M., Halvorsen, M.S., & Ward, D. (2019). What do people search for in stuttering therapy: Personal goal-setting as a gold standard? *Journal of Communication Disorders*, 105944.

Sønsterud, H., Halvorsen, M.S., Feragen, K.B., Kirmess, M., & Ward, D. (2020). What works for whom? Multidimensional Individualized Stuttering Therapy (MIST). *Journal of Communication Disorders*.

Sønsterud, H., Howells, K., & Baluyot, C. (2017). Individuelle ønsker for oppfølging av stamming: Et kartleggingsskjema i det logopediske samarbeidet. *Statped's læringsressurser, Oslo, Norge*.

Sønsterud, H., Kirmess, M., Howells, K., Ward, D., Feragen, K.B., & Halvorsen, M.S. (2019). The working alliance in stuttering treatment: A neglected variable? . *International journal of language & communication disorders*, *54*(4), 606–619.

Sønsterud, H., & Løvbakk, J. (2012). Aktiv talepust – et nyttig verktøy i vår stammelogopediske verktøykasse? [Breathing management – a useful tool in the stuttering toolbox for speech-language therapists]. *Norsk Tidsskrift for Logopedi*, *58*(1), 22–24.

Teasdale, J.D., Segal, Z.V., & Williams, J.M.G. (2003). Mindfulness Training and Problem Formulation. *Clinical Psychology: Science and Practice*, 10(2), 157–160. doi:10.1093/clipsy.bpg017

Van Riper, C. (1973). *The treatment of stuttering*. Prentice-Hall.

Wampold, B.E. (2015). *The Great Psychotherapy Debate : The Evidence for What Makes Psychotherapy Work* (Second ed.). Taylor and Francis.

Ward, D. (2018). *Stuttering and Cluttering: Frameworks for Understanding and Treatment* (Second ed.). New York Routledge.

World Health Organization. (2018). The International Classification of Functioning, Disability and Health (ICF), Geneva: World Health Organization.

Yaruss, J.S. (2010). Assessing quality of life in stuttering treatment outcomes research. *Journal of Fluency Disorders*, *35*(3), 190–202.

Yaruss, J.S., & Quesal, R.W. (2004). Stuttering and the International Classification of Functioning, Disability, and Health (ICF): An update. *Journal of Communication Disorders*, *37*(1), 35–52.

Chapter 10

Stine Brubak

Clinical Reflections on Group Treatment

Purpose of the article

Clinical practice and evidence-based research from multiple academic areas highlights how group treatment may bring new dimensions into traditional client-work. Participants often describe the group process as important in their stuttering treatment, because it provides a unique chance to share new experiences with people in a similar situation. This contributes positively to an increased effect of their stuttering treatment, with better generalization to real-life situations. Despite this clinical experience, group treatment does not seem to be equally integrated in clinical stuttering practise compared to individual treatment. According to Liddle, James, and Hardman (2011), one reason for this, in relation to school-age children, might be lack of consensus on what the main aims of group therapy should be. Further, they highlight that barriers to group-therapy provision can be a perceived lack of clients' interest in it, and insufficient numbers of clients able to travel to group venues.

With this article, the aim is to highlight positive aspects and effects of group treatment, as well as encourage and inspire clinicians to incorporate group treatment into their clinical practice. If relevant, practical examples from clinical practice will be used to show how most existing treatment programs can be used in group settings, and how this might enrich both treatment outcomes and participants' experience of their treatment process. As evidence-based documentation and research on stuttering treatment in groups is not yet easy to come by, most of the reflections in this article are based on clinical experience and practice. The article is thus neither a quantitative or qualitative research study, nor a case study, but is, rather, a clinical perspective on group treatment. Research from other academic areas will be incorporated within the discussion, given its relevance and purpose.

Preventive and diagnostic considerations

How should we define stuttering treatment in groups?

Group treatment within the framework of this article will be understood as being groups of different sizes organised and led by a professional speech therapist, with the purpose of forming either the main or a complementary component of the stuttering treatment given to an individual. It thus has a clear treatment purpose, in contrast to support groups where the main purpose is coming together for a shared sense of community with equals. According to Luterman (1991), one can define both counselling and therapy groups as treatment groups, as they are typically led by a professional who is responsible for choosing specific counselling and/or treatment methods. Therapy is thus understood as healthcare provided by a professional, using treatment methods that require education and/or clinical certification. Counselling is understood as educational help provided by a professional counsellor with the purpose of empowerment, defined as the process of enabling individuals to better help themselves. According to Luterman (1991), there is likely to be a gradual transition between therapy and counselling in a clinical treatment group.

Further, it needs to be pointed out that there are many definitions of a group as such. A critical trait that all such definitions seek to explain is 'group identity', understood as being how individuals come to see themselves as members of the group. Some definitions are grounded in the sense of emotional affiliation and equal dependence provided by the group. Such a definition tends to point out that a necessary trait of a group is social engagement by participants, who all define themselves as members of the group, sharing the same goals, and being engaged in a stable, structured, and equally dependent relationship with one another (Baron & Byrne 1987).

The framework into which such a definition belongs focuses on emotional aspects related to affiliation and community as the most central aspect of developing group identity. In contrast, other definitions highlight that such identity is a result of individuals defining themselves as members of a specific social category (Turner, 1987). In such definitions, emotional affiliation might be a consequence of group participation, but is not necessary for group identity to occur. Both frameworks add something to the understanding of group treatment in work with stuttering, and should be understood both individually and conjointly.

Often, stuttering treatment groups are initiated and organized on the basis of social categorisation. Because stuttering is a necessary criterion for being offered group treatment, all participants are necessarily being grouped into a social category prior to meeting the other members of the group. For some, according to Turner's (1987) definition, this may create a sense of group identity. But what about those who are not comfortable with such categorization? Being offered treatment with equals may increase negative emotions towards a social category they find problematic, even though they somewhat accept the category when seeking help for their stuttering. Many of my clients have revealed that they were sceptical at the idea of group treatment to begin with, but changed their perception along the way. As therapists, we must keep in mind that this may well be due to negative experience of social categorization and further, that a later change in perception may be associated with a gradual growth of emotional affiliation leading to group identity. Participating and eventually identifying with a group, means acceptance of fitting in with certain characteristics applied to its participants (Jones & Corrigan, 2014). Yet, most clients reveal that they dislike being seen as a "stutterer". They distance themselves from this social category because they find it stigmatizing (Craig, Hancock, Train & Craig, 2003). Despite this, as mentioned above, many quickly settle down and come to see the group as a community which they can strongly identify with. If social categorization does not create such identity, what does?

In previous work with group treatment, participants have clearly pointed out that the group provides a safe setting, within which they find it easier to share their experiences. Essential to this sense of safety, is the feeling of belonging to a shared community. So, it may seem that the process of creating group identity is linked to affiliation as much as to social categorization. Even though people distance themselves from the social category of stuttering, they use the same category to explain how they came to experience the group as a safe community. The fact that other participants can relate to their problem on a personal level due to similar and shared experiences is due to the very category they are trying to escape from. In clinical practise, group identity thus seems to be the result of processes accounted for by both approaches. For some, the social category of stuttering may be one they originally identify with. For others, the social category is problematic, but is still a necessary part of experiencing the group as a safe community that creates affiliation. Within a clinical framework, I will therefore suggest the following definition of stuttering treatment groups:

> "…a composition of individuals belonging to a shared, yet not necessarily personally accepted, social category due to their fluency disorder that, either immediately or over time, creates unity, affiliation and a community where it is considered safe to share one's experiences, thoughts and feelings about stuttering with one another."

Therapeutic considerations: Probable benefits of group treatment

There is a strong evidence base for individual treatment approaches being effective in working with stuttering (Herder, Howard, Nye & Vanryckeghem, 2006). The focus of such treatments varies, on a continuum between fluency-shaping and stuttering modification. The former focuses on taking control over stuttering by using certain techniques which involve some form of modified speech, whereas the latter focuses on accepting stuttering. This description of stuttering modification as an *approach* should not be confused with the *model* of stuttering modification by Van Riper (1973), in which one of its steps includes a clear element of speech alteration (the use of techniques to control stuttering), and thus places itself more towards the centre of the continuum. Admittedly, one could say that cancellations as suggested in Van Riper's (1973) model requires voluntary stuttering (easy repetitions following the cancellations), which is normally considered to promote desensitization, but the element of working with speech alteration cannot be overlooked as a fluency-shaping technique. Pull-outs, and reparatory set techniques (in terms of staying in the stutter, or slowly and calmly working through every sound of the word) also require a great deal of exposure, while fluency-shaping approaches focus on using a technique in order to keep stuttering away (the exposure-element here is having to use more technique than one is comfortable with, but no stuttering nor voluntary stuttering).

In a clinical context, most approaches that are used in the individual treatment of stuttering can also be used in group treatment. In fact, receiving the same treatment in a group, may provide several benefits that can be grouped into the following categories:

1. Experiencing affiliation to a community.
2. Reduced anxiety and increased acceptance.
3. Better generalization of treatment outcomes.
4. Socio-economical value.

Experiencing affiliation to a community

A common clinical challenge when treating stuttering is the client's feeling of being alone with their disorder. Many admit that they have never or hardly spoken to anyone about their stuttering, and have never met anyone else who has the same challenge. Thus, they totally lack any sense of affiliation to, and companionship with, equals (Raerdon & Reeves, 2002). According to Luterman (1991), group treatment provides a unique opportunity to engage with people in the same situation as themselves, and creates a context for understanding that they are not alone. In the safe setting of the group, they can open up about emotional, practical or social problems, or simply share general experiences about stuttering with someone who has the same reference frame as themselves. This is of great importance, as stuttering can still be misunderstood by the population in general. As an example, Everard (2007) points out how the complexity and significant impact of stuttering on an individual is highly underestimated. Further, people fail to recognize the influence that such a disorder can come to have on everyday life, for planning ahead and making use of opportunities. Stuttering has the power to undermine a person's self-confidence, even self-esteem, and in turn influence both personal relationships and their participation in social, academic and professional settings (Everard, 2007).

The context of a treatment group gives participants an opportunity to build self-confidence and get new perspectives that might challenge generalized truths. (Reardon & Reeves 2002). One might have to reconsider such fixed truths when meeting others who, despite sharing a similar reference frame, think differently. Further, the community in a group may reinforce individual treatment processes and generate motivation to continue the initiated work on one's own (Luterman, 1991). Individual treatment does not seem to create an equal motivation. On this note, one might claim that group treatment should constitute a natural and even necessary part of a stuttering treatment process. It can inspire increased individual effort and contribute to a positive treatment outcome (Egan, 2007; Manning, 2001). This might include a reduction in %SS, as well as changes in individual negative emotions and reactions to stuttering. In my experience, the affiliation to the community of a group which is experienced will most likely create a more positive identity and attitude towards stuttering. The social category of stuttering might change from something one views as stigmatizing and which one does not want to be associated with, to a community one does wish to identify with. This is in large part supported by a comparative study, where Boyle (2013) found that adults who stutter who have experience of support groups have lower internalized stigma, better self-esteem, and less focus on fluent speech compared to those without such experience. However, it is not quite certain whether the lower internalized stigma is due to group participation, or is the reason for participating in a group in the first place.

Reduced anxiety and increased acceptance

Both clinical experience and research (Egan, 2007) show that people who stutter often have a strongly prejudiced opinion of how other people judge them. They attribute negative attitudes to others about stutterers being stupid, deviated, retarded etc. When confronted, such opinions are often justified by explaining that people react negatively when they stutter. They experience people smiling, laughing, or looking away, as well as becoming too helpful, too nice, or too neutral, etc. Of course, in some instances such reactions might have a negative character, but a smile from the clerk at the local shop might also be just that – a friendly smile which one would give to all customers. Even the most natural facial expressions, and behaviour that has nothing to do with stuttering, can sometimes be interpreted as reactions that 'prove' how other people judge and disvalue them. Most however, are resistant to the idea of such misinterpretations on their part. Their opinions are fixed, and often lead them to start avoiding situations where they need to talk (Shapiro, 2011). Such avoidance may come to compromise large parts of a person's life, and lead to limitations in their quality of life. Recent research has revealed that up to 60% of those who seek help for their stuttering have such a high fear of talking in public, that it can be characterized as social anxiety (Menzies, 2008).

In a treatment group with equals, one might experience getting approval for anxiety related to public speaking. Participants might have similar experiences of situations where they have felt disvalued by others, which they can start discussing with one another. Without confrontation, this might lead to strong validation of already fixed attitudes, and it is necessary to make them reflect on their experiences in a different way. Providing new perspectives in such discussions is thus an important part of the therapy process, and may be done through different activities. One can challenge participants to observe one another in dialogue. Which facial expressions are used within the group? What do they mean? Raising one's eyebrows, for example, is something we do all the time, when confirming something non-verbally. It might also follow the pause we take before answering something. Further, wrinkling one's eyebrows does not necessarily mean something negative. It is often seen in concentrated conversation, or when we disagree with something.

After the exercise of observing and interpreting facial expressions within the group, it is useful to then do the same in real social situations. How does the clerk in a local shop use facial expressions when talking to customers in general? Does anything change if the SLT stutters voluntarily? It might be easier to interpret reactions as being neutral when the stuttering is done by someone else, and group participants often start to discuss reactions in a different and more reflective way. They also become more aware of the absence of expected reactions, especially when the stuttering model uses more severe stuttering. As Manning (2003, p. 433) highlights: "There is probably nothing as effective as a good support group for increasing a person's social involvement".

Through discussions that neutralize presumptions about how people who stutter are judged and perceived, it is easier for group participants to start facing fearful situations. They become more aware of the biased interpretation process that occurs when talking to others, as well as how one will naturally look for evidence to confirm fixed presumptions. With the support of other group participants, the confrontation of avoidance is easier, and when facing situations which one previously avoided, one often discovers that the fear of the expected reactions is a bigger problem than the reactions themselves. Also, it becomes clear that the chance of getting a feared reaction isn´t worth the amount of energy used to worry about such situations.

In short, the problem of avoidance is that one never gets the opportunity to disprove one's own presumptions and fixed attitudes. Safety within a group might lower the threshold for confronting the comfort-zone related to speaking, and such confrontation can lead to discovering new perspectives on received reactions (Menzies, 2008). In turn, this more neutral mind-set might create increased acceptance for stuttering. In my clinical experience, this process takes time, and demands many positive experiences to rule out previous assumptions. With acceptance and support from equals in a group however, it is easier to take the necessary steps. The goal is not to move from negative thoughts about stuttering to positive ones, but to become oriented towards, and start believing in, more neutral thoughts about how stuttering is perceived and viewed in everyday life (Menzies, 2008).

Better generalization of treatment outcomes

A well-known challenge in a clinical context is the generalization or transfer of treatment outcomes to real-life situations. Managing one´s stuttering through techniques and/or acceptance outside the treatment room is a challenging goal to achieve, not least because many clients have an idea of getting rid of their stuttering, so as to no longer be judged as being different. Their first reaction to techniques might often be that this is just another way of talking strangely, which triggers the same experience of being different from others. Such a mind-set can be difficult for an SLT to challenge. One must get past a person's fixed and stereotyped idea about stuttering, as well as how this makes other people judge them (Egan, 2007). Group treatment provides a unique opportunity to challenge and get challenged by equals, help each other to refine techniques, and push one another outside established comfort zones.

For techniques to be useful to an individual, they need to feel manageable end effective in every-day situations (Guitar, 2014). In a treatment group, it is possible to practise techniques within an extended social setting that contributes to erasing the difference between a treatment room and real-life context (Gregory, Capbell, Gregory & Hill, 2003). According to Williams (2006), teenagers – who are especially preoccupied by the approval of peers – can more easily transfer to real life what they learn in therapy when they feel comfortable within a group of equals. Although this phase of the treatment process is very important, many SLTs find it challenging to help clients take small steps towards the real world. Group activities are a very good alternative, because one can train in a small, safe social setting, get feedback from people one trusts, and be supported to move closer to actual social contexts. If needed, the group can be extended, thus providing a larger social setting for training.

Socio-economical value

Finally, it should be mentioned that stuttering treatment in groups can be said to have a socio-economical value related to benefits from treatment effectiveness. Group therapy can ease the workload of SLTs, which will in turn lead to increased capacity and shorter waiting lists. Clients may also be less dependent on repetitive or persistent treatment, because a treatment group can continue as a support group that generates empowerment and a stable maintenance of the treatment effect achieved. Reducing the risk of stuttering relapse is thus a good investment from a socio-economical perspective. Added to the fact that clients report good treatment outcomes of group treatment, it seems advisable to highlight this therapy form.

However, the advantages mentioned above should not be used as an argument against individual treatment. An SLT should always consider what will provide the best treatment effect for each client, independent of treatment effectiveness and socio-economic value. For some, a treatment group can be a supplement to, or an extension of, individual treatment. For others, it can be a primary treatment form.

Effect of stuttering treatment in groups

The measured effect of group treatment for speech problems in general, and fluency problems in particular, is not well documented. Perhaps this is due to the fact that it is hard to document a direct effect of measures implemented, and even harder to document the repercussions of such processes. One needs to ask what should be measured – and how – to get a precise picture of a person's treatment effect. Measuring instruments such as standardized tests may fall short in such documentation, because the effect of treatment is not solely related to quantitative features like %SS. It is equally important to get qualitative information about changes in emotional and/or social functioning and quality of life through personal conversations. Which treatment effect to focus on is dependent on the treatment goals chosen in collaboration with each client.

In recent years, Elman (2007) has contributed relevant research on the effect of speech treatment in groups. His research is based on neurogenic communication problems, and documents that group therapy for aphasia clients results in better generalization to everyday life than individual treatment sessions. Even though his research is based on a different client group than stuttering, and results cannot be generalized outright from the former to the latter, it highlights a positive effect of group treatment in the context of everyday life. This should be an important effect measure because, at the end of the day, clients need to benefit from treatment in real-life situations.

Research conducted by Hearne, Packman, Onslow and Quine (2008) supports Elman's findings. Participants in their study had years of experience with severe stuttering, and had not sought treatment until they felt compelled to do so because of specific circumstances. The study revealed that all group participants were satisfied with the group as a primary treatment alternative, and with the treatment effect achieved. From Norway, a relatively new qualitative Master of Science thesis (Lien & Trønsdal, 2009) shows that group treatment is well received by clients, and that they report a satisfactory treatment outcome. The experience of a positive community was highlighted as decisive for thinking about stuttering in a more positive way, both generally and personally.

The role of an SLT in group therapy

The functioning and positive effect of a group is not a matter of course. It depends on good planning and targeted implementation. As early as 1987, Cole highlights that the SLT plays an important role in this process and needs to be well prepared for the role of group leader. Without good leadership, the effect of group treatment can be of a negative kind, and thus an SLT must be aware of how one can influence the therapy process and treatment outcome.

Planning and implementation of group therapy

As pointed out, an SLT has to spend time on planning a group for stuttering treatment. How big should the group be? Which clients should be invited? How will a participant contribute to the group dynamic? Should participants be at the same stage in the treatment process? As the purpose of a group may vary, it can be relevant to mix participants with complementary treatment experience. If the goal is to implement a treatment program from beginning to end, it might be advantageous if all the participants start from scratch. Still, having someone with knowledge of the program to take the role of mentor, can enrich the group. If the goal is to challenge avoidance, my experience indicates that mixing experienced and fresh clients in a group can be positive. The more experienced clients can share their experiences, and encourage other participants to "hang in there", thus contributing to progression in the program.

In general, I would say that SLTs are too often worried about clients being different when planning group therapy. In most cases, a pitfall when planning treatment groups is to think that participants need to be as similar as possible. Clinical experience indicates that a group dynamic can be balanced and positive even if participants vary in age, personality, gender, %SS, or former experience with stuttering treatment etc. A mix of different ages can lead to fruitful and potentially desensitizing deliberations about stuttering in different phases of life. Different types of stuttering can highlight variations within the disorder, and provide different perspectives on the strategies used to handle or avoid it in everyday life. Different emotional reactions can bring forth a shared understanding that stuttering is not perceived in the same way by all those who stutter. And different personality types can coexist, with the help of an SLT who is aware of the process of making shy and introverted clients step forward, and extrovert client take up a bit less space (Manning, 2001). In general, this leads to the conclusion that SLTs should be more open to the possibilities of different group compositions. With good leadership, one can create the best prerequisites possible for good social interaction, balanced group dynamic and positive treatment outcome.

The SLTs role as a steady and evident leader

To achieve a positive treatment outcome in group therapy, the SLT must create confidence in the treatment process. In turn, this can create the necessary motivation in participants to start or continue an ongoing treatment process, and face the challenges of their fluency problems. How can the SLT create such confidence in the treatment process?

Clinical practise suggests that it is crucial to give participants a clear understanding of all the activities they are expected to do in therapy, especially if the activities in question challenge individual comfort zones related to exposure. The SLT needs to explain the purpose of each activity in a way that makes it clear to each participant that the techniques leant will never gain utility if they are not brought out of the comfort zone of the group and the treatment office. Obviously, the SLT him/herself must have faith in the treatment method (program) for clients to have the same faith. Thus, the SLT needs to appear confident and sure of the content of the methods chosen. Of course, there must be room for adjustments along the way, and the SLT should be honest about the fact that there is seldom a one-off answer to complex treatment options, but one should be in control and appear calm, steady, evident and responsible (Cole, 1998). Without such a leader, the group dynamic can get out of hand, and damage the treatment outcome, no matter the size or composition of the group.

The dynamic of a treatment group will be constantly changing, seeing as different people are in mutual interaction with one another. The SLT needs to monitor this dynamic interaction in a present but not overpowering way. One must see each client's treatment process in a social context, and make use of the possibilities that lie in the intricate group interaction (Conture, 1990). The potential of this interaction is to increase the transfer value of competence, but it can also lead to a negative treatment effect for participants who do not feel cohesion within the group. However, being aware of the client – therapist interaction is equally important in individual treatment.

Case-descriptions

It is not possible to provide a specific recipe for organizing and implementing group therapy. In clinical practice, virtually all individual treatment methods can be used in a group context.

Thus, what characterizes group treatment is not the specific method chosen, but rather the way dynamic interaction adds possibilities to the treatment process that each participant goes through. It can ultimately flip the treatment outcome in a positive direction. How the particular benefits of group treatment may come to light will be highlighted in case studies below. Hopefully, it will serve as inspiration to SLTs who wish to include groups in their therapy options. It should be emphasized that several treatment methods or programs could have been used in all groups, but the purpose here is not to account for or justify any of these in particular. Rather, the goal is to show how the context of the group contributes to reenforce the treatment process.

Case-description 1: Kindergarten group

Participants: 6 children between 4.3 and 5.8 years old.
Gender: 4 boys (4.3, 4.9, 5.4, 5.5) and 2 girls (4.7, 5.8).
Goal: working with desensitizing through playful activities.
Therapy choice: MiniKIDS (a program for pre-school children).

Mini-KIDS was chosen as a therapy program for this group, because it was considered to be suitable to both the treatment goal and age range of the participants. The program proclaims that "children are allowed to stutter", and highlights that soft and easy stuttering (repetitions) should be accepted and even encouraged through playful voluntary stuttering. The goal of the program is to make children meet their stuttering with acceptance and tolerance, and thus prevent the development of severe (blocked) stuttering moments, struggling strategies and a negative attitude or emotions towards stuttering (see other chapters for further descriptions).

In Mini-KIDS, one uses concrete objects to identify and talk about stuttering. It is important to create a harmless and neutral language that the child can relate to, and use to describe what he or she experiences when stuttering appears. Which objects to use as identification figures is optional, but they should be representative of the different types of stuttering that exist. In this case, Winnie the Pooh is used when blocking, Tigger for repetitions and Piglet for prolongations.

During the first group session the children got to know each other. Initial identification and desensitization was conducted by the SLT doing pseudo-stuttering in natural conversation. The language chosen was neutral. All children showed a recognition of stuttering moments, by looking up from their activity the moment such imitated fluency problems occurred. The conversation below clearly identifies the naturalness of the communication:

> ***Girl to SLT***: Did you get stuck on the word?
> ***SLT***: Yes, did you all hear it?
> ***Children***: Yes (some nodding)
> ***Girl***: …just like mine sometimes
> ***Children***: Mine too … mine as well
> ***SLT***: Perhaps all of you get stuck on words sometimes?
> ***Children*** look at one another and nod…
> ***Child***: Then we're kind of alike…
> ***SLT***: Yeah… can words do something besides getting stuck?
> ***Child***: Mine is kind of jumping sometimes
> ***SLT***: They do? Li li like this?

Child: Yes…
Other children: Mine as well…
SLT: So sometimes they get stuck and sometimes they jump…
Children: Mhmm… Yeah (some nodding)
SLT: Perhaps we can give such words a name. Have you heard of Winnie the Pooh?
Child: Yeah, he likes honey
SLT: Yes, and when he eats too much of it, he gets stuck in the jar
Child: Because his stomach gets so big
SLT: Perhaps we can call words that get stuck ‘Pooh-words’?
Children (exited): Yeah
Child: What about jumpy words?
SLT: Should they get a name to?
Children: Yes
SLT: Have you heard about Tigger in Winnie the Pooh?
Children talk excitedly about Tigger
SLT: Tigger tends not to walk on his legs… can anyone remember what he does instead?
Children: He jumps… on his tail … all the time
SLT: Yeah, he jumps… Just like words can do sometimes…
Child: It’s ‘Tigger-words’
SLT: Should we call them Tigger-words? What do you think?
Child: Yeah, when a word Tigger-jumps
Child: Like this (illustrates with a Tigger-doll) – ju ju jump
Child: Can I try – juuu juuu jump
All Children try to jump like Tigger on a word
SLT: Now, everyone has tried to Tigger-jump
Child: Yeah, but like pretending
SLT: Well, doesn’t it sound quite similar when a word ju ju jmps for real?
Child: Yeah, like yours did now…
SLT: It did…? Does it matter?
Children: No … Not at all … That’s OK
SLT: Perhaps we should just let them jump a bit…
Child: we can jump on purpose
SLT: Course you can. Like we did before.
Child: That was fun
SLT: Shall I tell you a secret?
Children (exited): YEAH … tell us (some nodding)
SLT: If a word gets stuck you can jump on it instead

> ***Child***: On Pooh-words?
> ***SLT***: That right. If you get a Pooh-word you can jump on it
> ***Child***: Will it stop being stuck then?
> ***SLT***: Yes, like when Winnie's stomach shrinks and he gets free
> ***Children***: I'll try that… me too… and I
> ***SLT***: We can call it a Tigger-trick.
> ***Child***: I like magic tricks
> ***Child***: Me too

In the example above, the SLT makes use of some words that the children themselves introduce, and creates a language that makes it possible to describe and talk about stuttering on their terms. It creates a safe space with group cohesion, where stuttering is not only tolerated and accepted, but encouraged in the form of easy voluntary repetitions. Children are allowed to feel part a community, instead of isolated (Reardon & Reeves, 2002). They hear other children stutter, and get comfortable with admitting their own stuttering. They identify different types of stuttering together, and confirm to one another that stuttering is not such a big deal. According to Everard (2007), self-esteem and self-confidence is strengthened through this process, and a positive attitude towards stuttering may develop. In such circumstances, the development of fear or shame of stuttering, and the emergence of avoidance and reinforcement of secondary behaviour are both less likely.

A similar approach can certainly be used in individual treatment, but the group creates a companionship that reinforces the process of neutralizing stuttering. Agreeing with peers that stuttering is OK can be many times more effective than hearing it from the SLT. This indicates that one should never underestimate the importance of talking about stuttering to children in a natural and neutral way. A customized language on children's own terms will enable them to express their thoughts, feelings and experiences with others. Participation in a group seems to reinforce the positive process that this initiates, not least because participants sharing the same references can identify with the chosen language. There is yet no evidence to suggest that one should be afraid of making children aware of their stuttering, and that this in turn might worsen the disorder. On the contrary, children appear to react positively when presented with words about stuttering that they can relate to, and according to parents, often show clear signs of relief.

One of the children from the group mentioned above said excitedly to her mother after the first session: "Mum, if my words get stuck at home, I'm going to Tigger-jump right out of them". The mother answered: "What a great idea, and you can explain everything to dad". The child responded: "Yeh, I'm gonna tell him about Winnie… and Tigger… and jump on some of my words, and… can I tell him to jump on a word too?" The mother answered: "Of course you can. You can teach him. How do you think he will feel?" After thinking about it for a few seconds the child answered: "I'm gonna tell him it's ok". For the first time, even though the child had been stuttering for a while, the two of them had a conversation about it with mutual understanding, using a shared language. This was significant, as the child had never before wanted to talk about her stuttering even though she had been showing clear negative signs of awareness.

Several of the parents reported that their children had used Tigger-jumping at home after the first session. All of them reported that the stuttering had become easier during the last week, and that the children seemed more unaffected by it than before. This indicates that the process of transferring was already initiated, and continuing group sessions built on this further. Soft and easy stuttering was encouraged, and volunteer stuttering was used in playful activities. Using Tigger-jumping as a trick to handle Winnie-words was continued whenever more severe stuttering occurred, but all in all it was emphasized that stuttering is allowed. The main goal throughout the group sessions was to strengthen the children's self-esteem and self-confidence related to stuttering. The children developed a strong group-identity that included stuttering as a naturally present feature shared between them.

Case-description 2: Middle school children

Participants: 5 children between 11.2 and 12.7 years old.
Gender: 3 boys (11.2, 12.3, 12.7) and 2 girls (11.7, 12,6).
Goal: Working with fluency techniques through graded activities.
Therapy choice: *Camperdown* (a program for older children and adults).

For this group, the *Camperdown Program* was chosen as for treatment, but it should be emphasized that other fluency shaping approaches could have been chosen as well. The aim of using this example is to show how the context of the group helps to reinforce the treatment process, rather than highlighting a specific treatment method.

In the *Camperdown Program*, the first step of the treatment process is to learn a specific way of speaking by reading a text recorded by a speech model – first along with the model, then alone using similar speech. The speech of the model is characterized by a very low speech-rate, phrasing, soft onsets, slow breathing, prolonged vowels etc. Clients usually find it incomprehensible to begin with, and it is therefore important to explain the purpose of breaking the speech down to such a degree. In my clinical experience, it is not hard to persuade them to try, when they come to understand that this is not the way they are expected to talk after having learned the technique, but is a way of teaching the voice a totally new way of speaking.

An element of competition can be added when working with children, in order to make them forget the awkwardness of the speech in the beginning. Who is able to sound most like the model? Between each exercise, they explain to each other what they did, and give each other advice. The conversations that arise during this process illustrate how the community of the group brings a new dimension to fluency-shaping treatment therapy.

Example 1:

> ***Boy***: "I don't stutter when I imitate the speech model."
> ***Girl***: "Me neither."
> ***Boy***: "I wonder why…"
> ***Girl***: "Because the speech is so slow."
> ***Boy***: "But I don't stutter when I forget and speak faster either…"
> ***Girl***: "Weeel… I wonder how fast one can speak before stuttering again."
> ***Boy***: "Yea, 'cause I don't want to talk like the speech model at school."
> ***Girl***: "No, that would be weird."
> ***Boy***: "Mmmm, but the SLT said it was only when learning it."
> ***Girl***: "Yea, perhaps one can talk a bit slower…"
> ***Boy***: "…or only occasionally."

This conversation illustrates that the children are aware that "model-speech" provides them with control over their stuttering, and they are reflecting on why. Despite this, they are clear about not wanting to talk as exaggeratedly as the model. The group provides a context in which the children can present such concerns to one another and receive recognition. At the same time, they are being challenged to be patient and see where the training will take them next.

The next step after learning the model-speech, is to explore how little the speech needs to be exaggerated in order to provide control of stuttering. Slowly the children try to move down a scale from 10 to 0, where 10 is the model-speech and 0 is the use of no technique at all (which is not really a goal, as one, two or three on the scale represent the limits of normal speech rate). Rather, the goal is no stuttering, and if the children still achieve this at a speech rate of, for example, 6 on the scale, they can choose to stay at that rate. If they later end up at a rate of 3 on the scale with no stuttering, they can stay at that rate, etc.

All children in the group came close to a speech that sounded natural (no stuttering present), but found it hard to believe themselves. When doing something with one's own speech, it is natural to believe that others will notice, and it is difficult to perceive one's speech as normal. Speech recordings might illustrate the speech's naturalness, and feedback from equals can also enforce a positive perception. Combined, they might cause a shift from being sceptical of the technique, to putting faith in it. The next example illustrates this.

Example 2:

Girl 1: "I find it awkward to talk like this…"
Girl 2: "Me too."
Girl 1: "…but you don't sound awkward to me."
Girl 2: "Neither do you."
Girl 1: "Are you saying that to be nice?"
Girl 2: "No."
Girl 1: "But I sound totally different than usual…"
Girl 2: "Not really, listen to the tape."
The girls listen to the recorded conversation using the technique
Girl 1: "I can hardly hear anything different…"
Girl 2: "That's what I told you."
Girl 1: "It sounds so awkward in my head."
Girl 2: "Yeah, I feel the same way, but on the tape it sounds quite normal."
Girl 1: "Perhaps I will try it at school."
Girl 2: "Me too … maybe…"
Girl 1: "I worry that I won't succeed… and stutter, right?"
Girl 2: "If it fails, you can do what you usually do…"
Girl 1: "Mmmm…"

In this conversation, the two girls have clearly developed an initial trust in the technique. They are slowly grasping that an altered speech pattern (talking with the technique) will always feel more exaggerated than it actually sounds to others. They are equally anxious about trying it out in every-day life, but challenge this fear in the conversation. With the useful support of one another, they question the perception that it will sound awkward to speak differently. The two of them play with the idea of using the technique in a real context, but are nervous that this might fail – or that they will make a fool of themselves.

Treatment issues like the ones above are quite common in therapy, and difficult to challenge. In the group however, the girls simultaneously acknowledged and challenged their own fears. As one of them said: "If it (talking with the technique) fails, you can do what you usually do". She's aiming at replacing words, which is a strategy frequently used by the other girl to avoid stuttering. By saying this, she manages to reduce her fear of plunging into real-life situations. She also encourages her partner to give the technique a chance, by adopting the attitude "What do you have to lose?" and "What is the worst that can happen?". The SLT can certainly encourage the same thing in individual treatment, but in the community of the group it develops a dimension which is hard to imitate. The cohesion of the participants due to their shared background makes them able to support each other in a fundamentally different way than the SLT could manage in a treatment relationship.

A cohesion like the one which develops in a group builds self-esteem and self-confidence (Everard, 2007); (Hearne et. al., 2008). The mutual support within it contributes to increase the chance of participants being able to confront their fear and plunge into real-life situations that they have previously avoided. But first, they have to confront the perception of how others will look at them when using a fluency-shaping technique. A common impression was to be perceived as awkward, strange, or weird etc. To challenge this, the group went outside, where the SLT spoke using the technique in different contexts, allowing the group participants to observe reactions from others. They all agreed that the SLT used the same amount of technique (if not more) that they themselves were required to use in order to control their stuttering. Back at the office they discussed different aspects of the exercise.

Boy: "I clearly heard you talking slower."
Girl: "Yeah, she spoke slower that we do when practicing."
SLT: "Did we get any reactions?"
Boy: "No, no one looked awkwardly at you."
Girl: "I thought someone would."
SLT: " …and I spoke more exaggeratedly than you normally need to do?"
Boy: "Yeah, your speech was really slow that one time…"
SLT: "What might that teach us?"
Girl: "That we can actually speak really slow without anyone caring."
Boy: "But we don't need to…"
Girl: "Well, we might … if we suddenly stutter anyway."
All children are looking at the SLT with anticipation…
SLT: Yeah, you might need to exaggerate a bit more sometimes, if you want control."
Boy: "It's so cool though … that we can be in control."
Boy: Yeah, that cool."
Girl: "I'm gonna try it at school tomorrow…"
SLT: "Why don't you all try it out before we meet the next time…"
All the children answer positively and encourage each other…

All the children in the group agree to give the technique a chance before the next session. The conversation reveals that they have become positive about the new way of speaking. They have been presented with evidence that the technique can be used in real life without the risk that others will react to the way they speak. Conversations with group participants have given them new perspectives on fixed perceptions. They have been able to practice the technique in a safe context, in a way that eliminates the gap between the treatment environment and real-life.

Many speech and language therapists admit that they find this process difficult, and it turns out that group treatment can be of great help. In this case, the group was first used to learn and practise a new technique in a small social context that felt safe, and provided feedback from equals. Then, the group entered an arena where they could confront fear and avoidance of stuttering, and adjust their perceptions about how others may react to the technique. Finally, the group also worked as a support to take the plunge into real-life situations.

Conclusion and implications

The aim of this article has been to present clinical examples of how group treatment has the potential to reinforce the effect of stuttering therapy. Consequently, it is neither a quantitative nor qualitative research study, nor a case study. Hopefully, it is still valuable within a context that aims to give a broad picture of stuttering and stuttering treatment. Both clinical practice and evidence-based theory from related disciplines highlight that treatment in a group can add a positive dimension to stuttering therapy – either as a primary / sole treatment option, or as a supplement to individual treatment.

The benefit of a group is, first and foremost, related to the experience of belonging to a safe community with peers, which contributes to an increase in positive self-esteem. Further, it seems evident that the group creates a safe context for confronting anxiety, fear, and avoidance of stuttering. Finally, it can contribute to reducing the gap between the treatment room and a real-life context, and ensure better stabilization and long-term treatment effect – not least in terms of quality of life, which has received increasing attention in recent years. It is by no means a replacement for individual therapy, but should receive the same careful clinical consideration. Sometimes it can be a fully-fledged treatment alternative; at other times a good supplement to, or a continuation of, individual treatment. One cannot rule out that it might be unsuitable in some specific cases, but in my experience, the majority of clients adjust to, benefit from, and thrive in group therapy.

Throughout this article I have tried to share my clinical experience, and show that stuttering treatment in groups does not necessarily require a singular competence. All approaches which are used individually can be transferred to a group treatment. There is no reason why treatment groups should continue to be underused by SLTs – especially when most existing evidence points towards the effectiveness of group therapy. More research is obviously needed for the effect of stuttering treatment in groups to become evidence-based, but feedback from a significant number of clients with experience of group treatment suggests that group treatment should not be overlooked.

Multiple choice questions

1. What kind of competence does stuttering therapy in groups require?
   a) Certified competence in treatment approaches designed for groups
   b) Minimum competence in treatment approaches designed for groups
   c) Required competence in treatment programs adapted to the group sessions
   d) No specific competence whatsoever
2. Which treatment approaches are suitable for stuttering group therapy?
   a) Approaches specifically designed for group therapy
   b) All approaches used in individual treatment
   c) Approaches that focus on fluency shaping
   d) Approaches that focus on stuttering modification
3. For which clients can stuttering therapy in groups be suitable?
   a) For those who benefit from it as a primary treatment option
   b) For those for whom individual therapy fails
   c) For all clients seeking stuttering treatment
   d) For those to whom it is only a supplement to individual therapy
4. What benefits may come out of stuttering treatment in groups?
   a) An experience of affiliation to a community
   b) Reduced anxiety and increased acceptance
   c) Better generalization of treatment outcomes
   d) Socio-economical value
   e) All of the above

Suggested reading

Boyle, M.P. (2013). Psychological characteristics and perceptions of stuttering of adults who stutter with and without support group experience. *Journal of fluency disorders*, *38*(4), 368–381

Williams, D.F. (2006). *Stuttering Recovery: Personal and Empirical Perspectives*. Lawrence Erlbaum Associates.

Hearne, A., Packman, A., Onslow, M., & Quine, S. (2008). Stuttering and its treatment in adolescence: The perceptions of people who stutter. *Journal of fluency disorders*, 33(2), 81–98.

References

Boyle, M.P. (2013). Psychological characteristics and perceptions of stuttering of adults who stutter with and without support group experience. *Journal of fluency disorders*, *38*(4), 368–381

Cole, M.B. (1998). *Group Dynamics in Occupational Therapy: the theoretical basis and practice application of group treatment*. SLACK Incorporated.

Conture, E.G. (1990) *Stuttering*. Prentice Halls.

Craig, A., Hancock, K., Tran, Y., & Craig, M. (2003). Anxiety levels in people who stutter: a randomized population study. *Journal of Speech Language & Hearing Research*, *46*(5), 1197–1206.

Egan, G. (2007). *The skilled helper: a problem management and opportunity- development approach to helping*. USA: Thompson Brooks/Cole Publishing. Elman, R.J. (2007). Group treatment of neurogenic communication disorders: the expert clinician's approach. Plural Publishing Inc.

Everard, R. (2007). «My Stammer Doesn't Have to Define Me». *Adults Learning*, *19*(4), 20–22.

Gregory, H.H., Campbell, J.H., Gregory, C.B., & Hill, D.G. (2003). *Stuttering therapy: Rationale and procedures*. Allyn & Bacon.

Hearne, A., Packman, A., Onslow, M., & Quine, S. (2008). Stuttering and its treatment in adolescence: The perceptions of people who stutter. *Journal of fluency disorders*, 33(2), 81–98.

Herder, C., Howard, C., Nye, C., & Vanryckeghem, M. (2006). Effectiveness of behavioral stuttering treatment: A systematic review and meta-analysis. *Contemporary Issues in Communication Science and Disorders*, *33*, 61–73.

Ingebrigtsen, A., Olsen, T., Melle, A.H. & Hoff (2019). Flytskapende og stammemodifiserende tilnærminger. *Stamming i praksisrettet perspektiv*. Artikkelsamling. Statpeds læringsressurser. NorMedia AS

Jones, N., & Corrigan, P.W. (2014). Understanding stigma. In: P.W. Corrigan (Ed.), *The stigma of disease and disability: Understanding causes and overcoming injustices* (pp. 9–34). American Psychological Association.

Liddle, H., James, S. & Hardman, M. (2011). Group therapy for school-aged children who stutter: A survey of current practices. *Journal of Fluancy Disorders*, 36, (4), 274–279.

Lien, S.E. & Trønsdal, I. (2009). *I samme båt. En kvalitativ intervjuundersøkelse om hvordan voksne stammere opplever logopedisk behandling i gruppe*. Masteroppgave ved Institutt for Spesialpedagogikk, Universitetet i Oslo

Luterman, D.M. (1991). *Counselling the communicatively disordered and their families.* Pro-Ed.

Manning, W.H. (2001). Clinical decision making in fluency disorders. Singular Thomson Learning.

Melle, A.H., Guttormsen, L.S., Brubak, S. & Ingebrigtsen, A. (2019). Oppfølging av stamming i barnehagealder og tidlig skolealder. *Stamming i praksisrettet perspektiv*. Artikkelsamling. Statpeds læringsressurser. NorMedia AS

Menzies, R.G., O'Brian, S., Onslow, M., Packman, A., St Clare, T., & Block, S. (2008). An experimental clinical trial of a cognitive behavior therapy package for chronic stuttering. *Journal of Speech, Language, and Hearing Research. 51*(6), 1451–1464.

Reardon, N.A., & Reeves, L. (2002). Stuttering therapy in partnership with support groups: The best of both worlds. In *Seminars in speech and language*, Volume 23, No. 03, pp. 213–218).

Shapiro, D.A. (2011). Stuttering Intervention: A Collaborative Journey to Fluency Freedom. PRO-ED.

Stensaasen, S., & Sletta, O. (1995). *Gruppeprosesser: læring og samarbeid i grupper*. Universitetsforlaget.

Turner, J.C. (1987). Rediscovering the social group. Basil Blakwell.

Van Riper, C. (1973). *The treatment of stuttering*. Englewood Cliffs, N.J: Prentice-Hall.

Williams, D.F. (2006). *Stuttering Recovery: Personal and Empirical Perspectives.* Lawrence Erlbaum Associates.

Chapter 11

Marta Wesierska, Marilyn Langevin & Katarzyna Węsierska

Bullying Experienced by Children Who Stutter: Coping Responses and Preventive Work

Introduction

The purpose of this chapter is to familiarize the reader with the phenomenon of school bullying. The first section defines bullying and outlines the consequences experienced by children who stutter when they are bullied by peers. Additionally, the authors report results of research conducted in different countries worldwide regarding teasing and bullying of children who stutter. Later in this chapter, various forms of interventions to counteract bullying associated with stuttering are also presented. Selected programs are described in more detail, along with examples of activities which can be applied.

What is bullying

Bullying has been identified as a significant problem in the school setting and is now considered a serious physical and mental health problem (Moore et al., 2017). Since the now well-known groundbreaking work of Olweus (1993; 1997) and colleagues (Olweus et al., 2007), there appears to be consensus that bullying is defined by the following three core elements: an intention to cause harm, the repetitive nature of the aggression, and a power imbalance between the victim and the perpetrator(s) (Gaffney, Ttofi, & Farrington, 2019; Centers for Disease Control and Prevention, 2014; PrevNet, 2020). Typically, the victims of bullying are less powerful than the perpetrator(s) and feel that they cannot easily defend themselves (Gafney et al., 2019). Despite the "repetitive nature", research suggests that even one bullying event that causes deep social pain can have long-term harmful consequences when it is re-lived by the victim (Chen, Williams, Fitness, & Newton, 2008).

Bullying can be categorised as both direct and indirect (Rigby, 1999). Physical and verbal bullying are considered direct forms, whereas social- and cyber-bullying are considered indirect forms (Wang, Iannotti, & Nansel, 2009). Bullying behaviors can occur in many contexts, for example in schools, in the workplace, between siblings, and, as previously mentioned, online (Gafney et al., 2019). Girls have been identified as more likely to be involved in the indirect forms, while boys are more likely to engage in (and experience) direct forms of bullying (Björkqvist, 1994). In the school context, bullying is a complex social phenomenon, that often does not happen between the bully and victim in isolation (Salmivalli, 2010). For example, individuals can be involved in bullying, not only as bullies, victims, or bully-victims, but also as bystanders, defenders, or reinforcers (Zych, Farrington, Llorent, & Ttofi, 2017).

A level of variability can be observed in prevalence estimates of bullying across studies, likely due to differences in measurement strategies or the definitions of bullying used (Menesini & Salmivalli, 2017). A meta-analysis of eighty international studies carried out by Modecki et al. (2014) cites prevalence rates of 34.5% of children engaging in bullying perpetration and 36% being victims of bullying. Earlier, Wang, Iannotti, and Nansel (2009) provided a breakdown of types of bullying experienced by students. According to their study, while 20.8% of school-age students reported being physically bullied, 53.6% were bullied verbally, 51.4% were victims of relational bullying, and 13.6% were cyber-bullied.

Despite these numbers, bullying can often “fly under the radar”, with many cases going unnoticed and the prevalence of bullying often being underestimated. This can be caused by the victims of bullying not disclosing it due to shame, fear of repercussions or limited language proficiency (Novick & Isaacs, 2010). It could also be due to the lack of teacher training, and teachers’ inability to identify bullying behaviors in their classrooms (Oldenburg, Bosman, & Veenstra, 2016).

Consequences of Bullying

Far from being just a social issue, it is now clear that bullying deleteriously affects physical and mental health. A recent systematic review of 165 articles conducted by Moore et al. (2017) identified statistically significant relationships between being bullied and adverse psychosocial and physical health outcomes. The strongest links identified were between bullying and the mental health problems of depression, anxiety, and suicidal ideation. The authors concluded that there is a causal relationship between being a victim of bullying and mental health problems and substance abuse. Bullying can also lead to increased absenteeism from school, school-related anxiety (Rothon, Head, Klineberg, & Stansfeld, 2011), poorer memory (e.g. Vaillancourt et al., 2011), and cognitive function (e.g., Lupien et al., 2007). These findings highlight the need for schools to implement effective bullying interventions.

Frequency and Nature of Bullying Related to Stuttering

Canada and the United States

In general, research suggests that pupils with disabilities or special education needs are at a higher risk of being bullied. Readers are referred to a review of 32 studies of students with a range of disabilities who come from a multitude of countries in which English is the primary language (Rose, Monda-Amaya, & Espelage, 2011). Evidence suggests that this is the same for children who stutter.

Focused research into bullying experienced by children who stutter began in 1998. Using the *Teasing and Bullying Questionnaire* (TBQ), Langevin, Bortnick, Hammer, and Weibe (Langevin et al., 1998; Langevin, 2002) investigated the frequency and nature of bullying experienced by children who stutter (CWS). The questionnaire asked about being bullied about stuttering as well as other things (e.g., hair colour, weight). In 2013, author Langevin updated the 1998 study using a retrospective file audit of 44 CWS who ranged in age from 6 to 13 years (41 males; mean age = 9.34 years, SD = 1.58). These unpublished findings showed that 65% of the sampled children were bullied about their stuttering, with 52% being bullied once a week or more. This is in comparison to 59% and 56%, respectively, in the 1998 sample. Ninety-seven percent were upset when they were bullied about their stuttering with 35% being upset all of the time. This is in comparison to 81% and 35%, respectively, in the 1998 sample. The greater percentage of bullying associated with stuttering and its impact in the 2013 sample as compared to the 1998 sample may be due to more CWS being willing to disclose their experiences of being bullied.

In both studies the most frequently experienced types of bullying were, in order, having one's stutter imitated or made fun of and being called names. It was also found that CWS were most frequently bullied about their stuttering on the playground followed by in the classroom. These latter findings have implications for developing prevention programs/strategies for CWS. For example, it is important to note that playground bullying most often occurs out of sight of playground supervisors. Finally, in both studies it was found that CWS were also bullied about other things. In total, 77% of participants were teased/bullied about stuttering and/or other things.

Blood and Blood have consistently found that adolescents who stutter are at higher risk of being bullied than their non-stuttering peers (2004; Blood et al., 2011). The highest estimates occurred in the 2007 study in which CWS were at significantly higher risk of experiencing bullying (61%) compared to their peers who did not stutter (22%). The CWS also showed higher levels of reported anxiety, likely related to communication fears or negative communication feedback from peers. This heightened anxiety was again present in the Blood and Blood (2016) study, in which people who stutter obtained higher scores on social interaction anxiety and *Fear of Negative Evaluation Scales* compared to non-stuttering controls. Further, in Blood et al. (2011) stuttering students also reported lower self-esteem and a less optimistic life orientation compared to their peers. Further still, a negative correlation was found between high victimization and high self-esteem or high life satisfaction. In addition to being bullied, CWS have been assigned negative labels such as being more insecure, shy, anxious, fearful or less likely to communicate compared to their fluent peers (Blood et al., 2001; Blood et al., 2008); labels which have also been used when describing children who are likely to experience bullying (Espelage & Holt, 2001; Garrett, 2003).

Japan

A 2019 study by Kikuchi et al. also showed that CWS were at a high risk of being bullied and tended to remember the unfriendly exchanges with their peers. Kikuchi asked a group of CWS (aged 3 to 12 years) whether peers had asked why they spoke the way they did, whether their speech was imitated and/or laughed at, and finally whether they felt unhappy about their experiences. Findings show that over two thirds of the children had at some point experienced being questioned, imitated, or laughed at. Being questioned was a more frequent occurrence compared to being laughed at or imitated. Consistent with the Langevin Canadian data described above, most of the children reported feeling unhappy following these events.

Poland

A study of bullying experienced by Polish children who stutter (P-CWS) compared to their typically developing peers (TDC), and to a group of children with other speech and language disorders (Other SLD) was undertaken in 2013 (Langevin et al., 2016). In total, 245 children (157 male, 88 female) participated in this study. Participants (aged 7 to 13 years; mean = 10.24 years, SD = 1.57) were sampled from 7 out of the 16 provinces of Poland. Of the 245 children, there were 75 CWS (55 males), 73 Other SLD (52 males), and 97 TDC (50 males). Of the Other SLD children, 15% had specific language impairment; the remainder had phonological disorders. A Polish version of the *Teasing and Bullying Questionnaire –TBQ* developed by Langevin et al. (1998) was used. The *TBQ-CS* (Revised version, Langevin, 2002) was translated into Polish by Węsierska and Wesierska in 2013.[1] This process in-

---

[1] A Polish version of the *Teasing and Bullying Questionnaire –TBQ* is available on the Fundacja Centrum Logopedyczne website: www.fcl.org.pl

cluded a back translation by a fluent Polish-English speaker. To make the questionnaires for the Other SLD and TDC groups relevant, the word "stuttering" was replaced with the word "talking".

Results showed that 73% of the CWS reported having been teased about their stuttering. In comparison, only 6% of TDC and 18% of Other SLD children reported being teased about their talking. In addition, 51% of CWS reported being bullied about other things, compared to 46% of the TDC and 38% of Other SLD children, indicating that, in general, children who stutter tend to be more exposed to bullying. In terms of occurrence of bullying within the week, most CWS children reported less than two occurrences per week with 9% reporting being bullied most days, with no children reporting being bullied every day. This pattern was similar for the TDC and Other SLD groups. CWS were clearly upset with being bullied about their stuttering, with only 9% responding that bullying didn't upset them at all; the majority (44%) indicated that they were upset some of the time, 25% indicated they were upset most of the time, and 22% were upset all of the time. Children were also asked where bullying occurred most frequently. The options provided were: in the classroom, in school hallways, on the school playground, and on their way to and from school. In this study, the children reported being most frequently teased about their stuttering in the hallways, followed equally by in the classroom and on the school playground. Teasing least occurred going to or from school.

Precursors to Bullying Experienced by Children Who Stutter

Research into the social environment of preschoolers who stutter suggests that the predilection for peers to treat children who stutter differently begins early. Ezrati-Vinacour et al. (2001) showed that by age 4, children were aware of a difference between stuttered and fluent speech, and preferred fluent speech. Research by Langevin et al. (2009; 2010) found that typically fluent preschool peers teased, mocked, or ignored preschoolers who stutter. In reaction to these negative experiences, the preschoolers who stuttered talked less; they also withdrew from, and, avoided communication situations. Negative perceptions towards children who stutter can also continue into later school years and adolescence. A report by Evans et al. (2008) showed that, when middle-school pupils were shown a video recording of a student who stutters, they agreed that the recorded pupil would be teased for his speech. In their investigation of stuttering directed at children, Logan et al. (2008) found that characters who stuttered were exposed to teasing, name calling and bullying by other, most likely, fluent characters.

Need for Intervention

The consistency of findings across studies conducted with children and adolescents who stutter is notable: 61% of CWS in the United States reported being bullied in Blood and Blood (2007), compared to 65% of Canadian children (reported above), 66.6% of Japanese children (Kikuchi et al., 2019) and 73% of Polish children (Langevin et al., 2016). These findings support earlier conclusions that children who stutter appear to be bullied more often than their typically developing peers, both about their speech and also about other factors unrelated to their way of speaking. Additionally, the Polish findings indicate that CWS can be more likely to experience bullying compared to children with other speech and language difficulties. Findings clearly show that bullying intervention programs and stuttering education programs are needed in the school settings in Poland. Furthermore, these findings also highlight the need to create a supportive school environment for children who stutter, in order to ensure they can develop to their full potential in physical and mental health, social interaction, and academic achievement.

Bully Interventions

Bradshaw (2015) recommended that a 3-tiered public health approach be used in bullying prevention programs in schools. Tier 1 involves using a universal approach that targets all children within a specific setting. Universal classroom or school-wide programs are widely used in bullying prevention across Europe, the United Kingdom and North America (Bradshaw, 2015). Tier 1 programs include those that focus on improving the school climate, improving attitudes about bullying, and in particular, changing the behaviors of bystanders. Tier 2 involves a selective intervention for specific children, for example, children who bully, children who are victimized, or children who have not responded well to the Tier 1 universal intervention. Bradshaw cites social skills or emotion-regulation training as examples of Tier 2 selective intervention. Tier 3 involves an indicated/targeted intervention with individual or small groups of students. Bradshaw suggests that this level often addresses mental and behavioral health concerns, and may include family members to support the children. Bradshaw further indicates that the needs of 80% of students can be met with universal programs, with selective and indicated interventions meeting the needs of 10–15% and 5% of students, respectively.

Today, there exists a plethora of school-based bullying intervention programs. Many are based on the pioneering work of Olweus (1993; 1997; Olweus et al., 2007). In a meta-analysis of 100 school-based bullying prevention programs, Gaffney et al. (2019) found them to be effective in reducing bullying perpetration and victimization by 19–20% and 15–16%, respectively. In contrast, however, much less attention has been paid to bullying interventions for students with disabilities or other exceptionalities such as speech and language disorders that may not be characterized as a "disability". Stuttering is one such exceptionality, which is described or categorized as a disability by some, but not by others.

A 2015 special issue of *Remedial and Special Education* focused on the involvement of students with disabilities in bullying. The goal of the issue was to do so from "a social dynamics perspective that situated risks for being a victim and/or perpetrator, within a person-in-context framework" (Farmer et al., 2015, p. 263). In the person-in-context framework, students with disabilities are considered in terms of the social system in which they function, and how their characteristics fit within that system. In addition to calling for a national research program into disability and peer victimization, Farmer et al. (2015) build on the 3 tier system described above, suggesting that each of these tiers can involve individual, classroom, and whole-school interventions. They also give further examples of interventions that could be used in each of the tiers. There is much to be learned from this body of research, and others reported on in that special issue.

Bullying Intervention Associated with Stuttering

With regard to stuttering, the majority of work has focused on improving attitudes toward children who stutter. As Langevin (2000) stated, "to the extent that attitude influences how one thinks, feels, and what one does, attitude change is fundamental to behaviour change" (p. 6). Together, positive attitude and behavior changes have the possibility to create a more inclusive, safe, and socially nurturing school environment for children who stutter. Work has involved Tier 3 and Tier 1 approaches. What follows are examples of work done in Canada, the United States, Africa and Poland. This is not an exhaustive review of work underway in many countries; rather it is a snapshot of activity in selected environments. Perhaps a database that simply registers in-process attitude change and bullying prevention work from around the world would create opportunities for more discussion, learning, and potential collaborations.

Tier 1 Universal Programs

Weidner et al. (2018) investigated the effectiveness of the *Attitude Change and Tolerance (InterACT)* program (Weidner, 2015). *InterACT* aims to improve attitudes by increasing children's knowledge of stuttering and tolerances of observable differences. It also addresses other conditions, for example wheelchair use. *InterACT* is composed of two 30-minute lessons. In each lesson children view a puppet video, participate in a guided discussion, and complete a colouring activity. *InterACT* was administered in six different preschool classrooms over a three-week period. The *Public Opinion Survey of Human Attributes – Stuttering/Child (POSHA–S/Child)* (Weidner & St. Louis, 2014) was administered before and after the intervention. Weidner et al. reported statistically significant improvements in stuttering attitudes. More specifically, they noted improvement in children's perceptions of, and reactions to, children who stutter. The program was also implemented in Bosnia and Herzegovina, and in Poland. Positive findings in these countries were also reported (Weidner et al., 2020; Węsierska & Weidner, 2022).

In an earlier feasibility study, Langevin and Prasad (2012) investigated the effectiveness of *Teasing and Bullying: Unacceptable Behaviour* (TAB) (Langevin, 2000). TAB is a universal bullying intervention program that addresses attitudes toward bullying in general and attitudes toward children who stutter. Drawing from the work of Olweus (1993) and others, Langevin included components to be completed by children in their schools, as well as take-home activities in which the children teach their parents about what they learned in each unit. TAB consists of 6 units. Five units address bullying in general, and one unit is devoted to education about stuttering. TAB used a video to stimulate discussion about bullying and its impact, and conflict resolution. A girl who stutters and a boy who does not stutter co-narrated the video. Unfortunately, the video is no longer available; however, in its place Langevin has made available the script for the video (see Langevin, 2000). The script contains the dialogue for the narrators and a classroom scene in which a boy who stutters is being teased about his stuttering and a girl is being teased about her weight. This is followed by a conflict resolution session between the perpetrator and the victims, and, finally, a class discussion in which the students discuss rules and consequences for classroom management and reduction of bullying. Other units in TAB address how it feels to be bullied; they also address strategies for dealing with teasing and other kinds of bullying, and strategies for building positive relationships and self-esteem.

Langevin and Prasad (2012) used the *Peer Attitudes Toward Children who Stutter Scale* (*PATCS*) (Langevin, 2009; Langevin & Hagler, 2004; Langevin et al., 2009) and the *Pro-victim Scale* (Rigby & Slee, 1991; Slee & Rigby, 1993) to measure changes in attitudes toward children who stutter and bullying. In total, 608 children in grades 3 to 6 (mean age 9.7 years) participated. Statistically and practically significant change in pre- and post-test scores indicated that TAB has the potential to be effective in improving attitudes toward children who stutter – both for students in general, and in particular, in children who do not know someone who stutters. More specifically, results suggest that after being involved in the TAB intervention, children who do not know someone who stutters may be more inclined to associate with children who stutter, resist social pressure that intends to limit social interactions with, or ostracize, children who stutter, and experience less frustration due to interruptions in communication caused by stuttering. Historically, children who do not know someone who stutters are inclined to have more negative attitudes toward those who stutter than children who do know someone who stutters (Langevin & Prasad, 2012).

With regard to attitudes toward bullying, findings indicated that TAB has the potential to reduce approval of bullying in the whole group; however, more powerfully in the group of children who had no involvement in bullying. The latter group of children, which comprises the majority of children in the student body, also had statistically significant improvements in support for victims. Students were also asked whether or not they liked TAB and what they liked about it. Langevin (2015) reported that the majority of participants liked the TAB program, with, as expected, children who bullied providing the fewest number of positive responses.

Tier 1 work is also underway in South Africa (Mallick et al., 2018). Mallick and colleagues describe methodology for a randomized control trial using the South African specific *Classroom Communication Resource* (CCR). The CCR aims to change peer attitudes of grade 7 students toward CWS. *The Stuttering Resource Outcomes Measure* (SROM), a modification of the *Peer Attitude Towards Children Who Stutter* (PATCS) will be used to measure outcomes. The CCR is comprised of a social story, role-play, and a semi-structured teacher-led discussion (Mallick et al., 2018).

Tier 3 work in General and in *LOGOLab* workshops in Poland

Tier 3 work is the most common work done to change class climate, peer attitudes and responses to children who stutter. This most often involves a classroom presentation on stuttering, given by the CWS with support from the SLT. In some cases, the CWS may elect to have the presentation given solely by the SLT. Extensive Tier 3 work has been done in Poland through the *LOGOLab* workshops at the University of Silesia. In developing these workshops, we drew from the work of Bennett (2006), Chmela (2006), Langevin (2000), Murphy (1998), Murphy et al. (2013) Murphy and Quesal (2002), Węsierska and Krawczyk (2017), Yaruss et al. (2004), and Yarus et al. (2018).

LOGOLab workshops

The main purpose of the *LOGOLab* workshops is to build a supportive environment around a child who stutters (Bauszek et al., 2020; Fatyga et al., 2019; Hutnik et al., 2020; Jagieła et al., 2020; Jasek et al., 2020; Węsierska et al., 2019). This is done through activities with the parents/guardians of children who stutter, the children themselves, peers, siblings, cousins close to the child (from home, school and other environments in which the child who stutters participates), and significant adults – teachers and speech-language therapists as selected by the children and their parents/guardians. We next present brief descriptions of each type of workshop along with its key aims, as well as conclusions or outcomes from participants collected at the end of the cycle of workshops.

Anti-bullying workshops for parents or caregivers of children who stutter

Discussion Topics. Discussion in workshops for parents/caregivers focuses on three broad areas: (a) bullying, (b) supporting growth in foundational skills and capacities, and (c) stuttering.

a) ***Bullying***: The goal of the discussions about bullying is to facilitate parents' readiness to establish a cooperative and supportive environment for the child. Discussions also intend to empower parents, so that they will feel effective in helping their child to deal with existing or future bullying issues.

Topics addressed include the following:

- bullying, its determinants and relevant participants;
- risk factors of being the target of teasing and/or bullying and possible signs that determine if the child is already experiencing bullying;
- ways of communicating with the child so that they will be ready to share their own experiences;
- ways of supporting the child to cope with difficult situations and difficult people in and out of school; and
- collaborating with others – a speech-language therapist, teacher, school staff, etc.

b) ***Foundational skills and capacities***. The underlying goal of these parent/caregiver discussions is to facilitate parents' understanding that a child's social adjustment is a process with changes taking place over time as the child ages and becomes involved with new people in different situations and endeavors.

Topics discussed include:

- how to stabilize self-esteem, openness and acceptance of self (including stuttering), and how to help children know their own strengths and weaknesses; and
- allowing children to take the initiative in various activities, enabling them to take responsibility for their own behavior, for example, by deciding with whom, and on what terms, the child wants to talk about personal issues, including bullying.

Parents carefully analyze how these factors could support their child in coping with bullying.

c) ***Stuttering***

Two main issues are addressed:

- discussing with their child the goals that the child wants to address in stuttering therapy; and
- people (i.e., peers, family, adults) with whom the child wants to discuss stuttering.

Conclusions from Previous Workshops

Parents who participated in the workshops indicated that they gained an understanding of the following:

- the need to openly communicate with their child about stuttering (eliminating the conspiracy of silence and avoiding taboo topics);
- the importance of using non-judgmental, empathetic listening;
- the need to act as the child's facilitator, and as an advocate in contact with other adults (but without unnecessary assistance or an overprotective attitude); and
- manifesting proactive attitudes and behavior towards other people in the child's environment through sharing the acquired knowledge and any information about potential bullying.

Workshops for a group of children who stutter

Discussion Topics. The workshops for children, on the other hand, primarily aim to cover the following two broad areas: (a) basic knowledge of bullying, and (b) practical strategies that children can use to deal with bullying at school.

a) ***Knowledge about bullying***. The goal of these discussions and activities are twofold: firstly, to explore the extent of children's knowledge about teasing and bullying, and, secondly, to improve their understanding of these phenomena.

Topics for discussion address the following:

- the explanation of what bullying is, including cyberbullying;
- how extensive bullying is – who is involved, and the meaning behind the concepts of 'a bully', 'a victim' and 'by-standers';
- how peers react; and
- why children don't tell adults about bullying.

b) ***Practical strategies to deal with bullying***

The main issues include the following:

- readiness to share personal experiences of bullying;
- children's readiness to ask for help;
- detecting any signs of potential harassment in their peer environment; and
- improving children's competencies to use strategies to deal with bullying in real-life situations.

Conclusions from Previous Workshops

Children who participated in these workshops reported that they understood:

- that being a victim of bullying is not their fault and that they are not the only ones experiencing it;
- that building appropriate vocabulary to describe this phenomenon is important in asking for support;
- the dynamics of the bullying processes, so that they can read the possible intentions of the bully and the role of by-standers, and not be inhibited if they needed to ask for help or leave when the situation became threatening to them; and
- that talking about bullying and educating oneself and others about it are vital to changing attitudes toward bullying and stuttering, as well as taking responsible action.

Workshops for friends, school mates and/or siblings of CWS

Peer education is an extremely important aspect of creating a supportive environment for the CWS. The ideal option would be to conduct workshops for the entire class or school (i.e., Tier 1 work). However, this may not always be feasible, depending on the individual child and his/her classroom/school environment or the extent of support or resources available to the child. A helpful strategy is to create a small circle of trusted peers who will be the support group for the stuttering child. The CWS themselves should decide who they will invite to the sessions. The stuttering children's guests should be specially selected from their group of peers in school and in extracurricular activities. Siblings, cousins, and other friends should also be considered for inclusion.

Discussion Topics. During the workshop activities, CWS and their peers discuss (a) attitudes toward stuttering and other differences, and (b) bullying and building a chain of support in the environment of the CWS.

a) ***Attitudes toward stuttering and other differences***

Topics discussed include the following:

- the phenomenon of being different and why it causes negative reactions. Discussions address the fact that being different doesn't mean being worse or less than other people, the advantages of being different, and being unique as a valued characteristic; and
- basic facts about stuttering.

b) ***Understanding bullying and building a chain of support in the environment***

The following main issues are addressed:

- teasing and bullying – its features, people involved, types, forms of reaction;
- how it feels to be bullied;
- adequate behavior patterns in response to bullying (e.g., among potential by-standers); and
- encouraging anti-bullying attitudes among children.

Conclusions from Previous Workshops

In these workshops for friends, siblings etc., the CWS were perceived as experts by their peers given that they have previously participated in the workshops for CWS. They were given the vocabulary necessary to describe the concepts and phenomena discussed, and through practice they became more readily able to talk openly about their stuttering. This gave them the opportunity to be actively engaged in promoting acceptance and understanding of stuttering and in desensitizing their peers to the phenomenon of stuttering. These workshops also provide the opportunity for peers to become more sympathetic, empathetic and supportive of CWS, as well as to be desensitized to the disruption in communication caused by stuttered speech. Their active participation also enables peers to feel more ready to become part of the CWS support system.

Webinar for teachers and school speech-language therapists of children who stutter

Discussion Topics. Discussions in the webinar for teachers and SLTs of CWS focus on three broad areas: (a) stuttering, (b) the experience of children who stutter at school, and (c) effective support for helping a student who stutters to deal with teasing and bullying.

a) ***Stuttering***

The purpose of this part of the webinar is to establish a common foundation of knowledge and address popular myths about stuttering.

The topics addressed include the following basic facts about stuttering:

- multifactorial cause of stuttering – basic facts about the etiology of stuttering;
- incidence and prevalence – who and how many people stutter;
- natural recovery and potential risks for persistency in stuttering;
- therapy goals in advanced stuttering, and the main types of stuttering intervention for school-age children; and
- potential negative impacts of stuttering on the child's quality of life.

b) ***Children who stutter at school***

The next two parts of the webinar are discussion panels with the participation of the so-called 'double experts' (specialists: SLTs, psychologists and/or leaders of the self-help movement for PWS, who are at the same time individuals with personal experience of stuttering). The main goal of the second part of the webinar is to increase the attendees' awareness of the real school experiences of children who stutter.

The topics discussed include:

- various psychological/emotional challenges faced by CWS in schools (such as anxiety, frustration, avoidance);
- disruptive or limited interpersonal contacts;
- negative reactions from peers and school staff to stuttering and experiences of school bullying;
- decreased academic performance and increased negative attitudes towards learning and school; and
- lowered self-esteem and self-confidence, and the deterioration of physical and mental health as potential long-term negative consequences.

Engaging double-experts in the discussion panel allows for webinar participants to learn about stuttering and bullying from personal stories as well as from rich professional experiences provided by these double-experts.

c) ***Supporting students who stutter at school***

The last part of the panel discussion aims to develop practical solutions and to propose effective strategies in the support of children who stutter in educational settings.

Two main strategies for supporting students are presented:

- *Education:* to promote (a) an atmosphere of acceptance for differences, (b) an understanding of the principles of good communication, (c) the dissemination of information on school bullying and ways to deal with it, and (d) desensitization to stuttering;

- *Building a therapeutic team:* to establish collaboration with parents and professionals, with the main goal of building an environment of acceptance and support.

To strengthen the key messages of the webinar, children who stutter were asked to make video recordings with the most important information they would like to pass on to their teachers and speech-language therapists.

Conclusions from Previous Workshops

LOGOLab webinar participants also received special handouts with basic information such as facts about stuttering and bullying, suggested forms of support, and recommended sources of evidence-based materials. A preventive poster (*Your student stutters: this is a challenge but you have the potential to support him!*) and a leaflet (*Bullying!*) were prepared for this occasion. A video-recording of this webinar with a poster and a flyer is available in the open access online system: (www.logolab.edu.pl).

Discussion and conclusions

The aim of this chapter was to discuss bullying experienced by children who stutter, within the context of research into bullying of non-stuttering children. The chapter first outlined the definition of bullying, along with its different types and the different roles of the participants involved. Discussion of the frequency and nature of bullying experienced by CWS followed. New data from Poland and Canada were included. A review of intervention work followed, with a focus on the work done to change attitudes and create supportive environments for CWS, presented within the context of a tier system of intervention recommended by Bradshaw (2015). Practical information was also provided in the form of examples of workshops and webinars. In a series of practical scenarios found in the appendices, the authors suggest ways of approaching the topic of bullying and stuttering with a variety of groups in the environment of the child who stutters: starting with the child themselves, discussing the subject with his or her parents, friends (both close friends and the classroom) as well as the child's teachers and school SLTs.

Key take-home messages from this chapter

About bullying itself:

- Bullying has been identified as a serious problem in the school setting. It can be categorised as both direct and indirect and may be carried out physically, verbally, socially, and online.
- Bullying can often go unnoticed and the prevalence of bullying has often been underestimated.
- Bullying can have consequences on the victim's physical and mental health outcomes.

About bullying in children who stutter:

- Pupils with disabilities or special education needs are at a higher risk of being bullied – children who stutter can be one such group.
- Bullying of children who stutter may begin very early in their school career and continue into later school and adolescence.

About interventions in bullying of children who stutter:

- The majority of work in interventions has focused on improving attitudes and creating a more inclusive, safe, and socially nurturing school environment.
- Speech-language therapists have an important role to play in stuttering intervention with school-age children (e.g., by helping them implement strategies to deal effectively with inappropriate emotions and thoughts related to stuttering).

About targeting different people in the CWS environment with bullying interventions:

- With regards to CWS, intervention involves two steps: (1) providing basic knowledge of bullying, and (2) practical strategies that can be applied by children to deal with bullying at school.
- The effectiveness of intervention activities is highly dependent on the extent of cooperation from the child's environment, especially the closest family members. The involvement of parents in the therapy process is crucial. Interventions should aim to facilitate the parents' readiness to establish a cooperative and supportive environment for the child.
- It is important to educate the peers of the child who stutters. Here, the interventions also have two goals: (1) changing attitudes toward stuttering and other differences, (2) understanding bullying and building a chain of support in the environment of the CWS.
- Teachers are yet another group in the child's environment who may need help in understanding stuttering and bullying. Interventions, in addition to providing facts

about stuttering and ways of supporting children who stutter at school, should raise awareness about the real school experiences of children who stutter.

Test yourself

1. Why do you think it is important to work on the self-perception and beliefs of a child who stutters, in the context of that child being bullied?
2. Who are the people in the stuttering child's environment who need to be included in bullying interventions? How can they be included in dealing with bullying?
3. A child who stutters is ready to share information about stuttering with his/her class. How would you prepare with this child to open up to his or her peers?
4. Can you propose different forms of activities which can be used by children who stutter, their peers, parents, and teachers to address the topic of bullying in stuttering. How would you structure these activities, what would you talk about with the different groups, how would you approach each group differently?

Multiple-choice questions

1. Physical and verbal bullying are considered as:
   a) hybrid forms of bullying
   b) indirect forms of bullying
   c) direct forms of bullying
2. Girls have been identified as more likely to be involved in:
   a) verbal bullying
   b) social and cyberbullying
   c) physical bullying
3. In Bradshaw's (2015) 3-tiered public health approach used in bullying prevention programs in schools, Tier 1 targets:
   a) an individual child who needs support
   b) a small group of children
   c) all children within a specific setting
4. The *Attitude Change and Tolerance (InterACT)* program (Weidner, 2015) is an example of:
   a) Tier 1 intervention
   b) Tier 2 intervention
   c) Tier 3 intervention

Suggested reading

Langevin, M. (2000). *Teasing and Bullying: Unacceptable Behaviour. the TAB program*. Institute for Stuttering Treatment & Research. https://marketplace.ualberta.ca/home/istar-teasing-and-bullying-prevention-program.html.

Langevin, M. (2015). Bullying Experienced by Youth Who Stutter. The Problem and Potential Intervention Strategies. In: K.O.St. Louis (Ed.), *Stuttering Meets Stereotype, Stigma, and Discrimination. An Overview of Attitude Research* (pp. 71–90). West Virginia University Press.

Murphy, W.P., & Quesal, R.W. (2002), Strategies for addressing bullying with the school-age child who stutters. *Seminars in Speech and Language*, *23*, 205–211.

Murphy, W.P., Quesal, R.W., Reardon-Reeves, N., & Yaruss, J.S. (2013). *Minimizing Bullying for Children Who Stutter: A Practical Guide for SLPs*. Stuttering Therapy Resources, Inc.

Yaruss, J.S., Murphy, W.P., Quesal, R.W., & Reardon, N.A. (2004), *Bullying and teasing: Helping children who stutter*. National Stuttering Association.

Yaruss, S.J., Reeves, N., & Herring, C. (2018). How Speech-Language Pathologists Can Minimize Bullying of Children Who Stutter. *Seminars in Speech and Language*, *39*, 342–355.

References

Bauszek, N., Demkowicz, K., & Kawa, P. (2020, June). *„Bądź dobrym kumplem, nie dokuczaj!" – studenckie warsztaty dla rówieśników dzieci jąkających się*. Paper presented at the Second Student Logopedic Conference at the University of Silesia in Katowice, Poland.

Bennett, E. (2006). *Working with People Who Stutter. A lifespan Approach*. Pearson Education, Inc.

Betz, I.R., Blood, G.W., & Blood, I.M. (2008). University students' perceptions of pre-school and kindergarten children who stutter. *Journal of Communication Disorders*, *41*(3), 259–273.

Björkqvist, K. (1994). Sex differences in physical, verbal, and indirect aggression: A review of recent research. *Sex Roles*, *30*, 177–188.

Blood, G.W., & Blood, I.M. (2004). Bullying in adolescents who stutter: Communicative competence and self-esteem. *Contemporary Issues in Communication Science and Disorders*, *31*, 69–79.

Blood, G.W., & Blood, I.M. (2007). Preliminary study of self-reported experience of physical aggression and bullying of boys who stutter: Relation to increased anxiety. *Perceptual and Motor Skills*, *104*(3, 2), 1060–1066.

Blood, G.W., & Blood, I.M. (2016). Long-term consequences of childhood bullying in adults who stutter: social anxiety, fear of negative evaluation, self-esteem, and satisfaction with life. *Journal of Fluency Disorders*, *50*, 72–84.

Blood, G.W., Blood, I.M., Tramontana, G.M., Sylvia, A.J., Boyle, M.P., & Motzko, G.R. (2011). Self-reported experience of bullying of students who stutter: relations with life satisfaction, life orientation, and self-esteem. *Perceptual and Motor Skills, 113(02)*, 353–364.

Blood, G.W., Blood, I.M., Tellis, G.M., & Gabel, R.M. (2001). Communication apprehension and self-perceived communication competence in adolescents who stutter. *Journal of Fluency Disorders*, *26*, 161–178.

Bradshaw, C.P. (2015). Translating research to practice in bullying prevention. *American Psychologist*, *70*(4), 322.

Centers for Disease Control and Prevention (2014). *Bullying surveillance among school-aged children: Uniform Definitions and recommended data elements*. Centers for Disease Control and Prevention (CDC).

Chen, Z., Williams, K.D., Fitness, J., Newton, N.C. (2008). When hurt will not heal: exploring the capacity to relive social and physical pain. *Psychological Science, 19(8)*, 789–95.

Chmela, K. (2006). *Focus on Fluency. A Tool Kit for Creative Therapy*. Super Duper Publications.

Espelage, D.L., & Holt, M.K. (2001). Bullying and victimization during early adolescence: peer influences and psychosocial correlates. In: R. Geffner, M. Loring, & C. Young (Eds.), *Bullying behavior: current issues, research, and interventions* (pp. 123–142). Haworth Press.

Evans, D., Healey, E.C., Kawai, N., & Rowland, S. (2008). Middle school students' perceptions of a peer who stutters. *Journal of Fluency Disorders*, *33*(3), 203–219.

Ezrati-Vinacour, R., Platzky, R., & Yairi, E. (2001). The young child's awareness of stuttering-like disfluency. *Journal of Speech, Language, and Hearing Research*, *44*, 368–380.

Farmer, T.W., Irvin, M.J., Motoca, L.M., Leung, M.C., Hutchins, B.C., Brooks, D.S., & Hall, C.M. (2015). Externalizing and internalizing behavior problems, peer affiliations, and bullying involvement across the transition to middle school. *Journal of Emotional and Behavioral Disorders*, *23*(1), 3–16.

Fatyga, A., Kilian, K., & Węsierska, K. (2019). Mobbing szkolny wśród uczniów z zaburzeniami w komunikowaniu się – percepcja zjawiska i potencjalne kierunki działań. *Logopaedica Lodziensia*, *3*, 63–78.

Gaffney, H., Ttofi, M.M., & Farrington, D.P. (2019). Evaluating the effectiveness of school-bullying prevention programs: An updated meta-analytical review. *Aggression and Violent Behavior*, *45*, 111–133.

Garrett, A. (2003). *Bullying in American schools: causes, preventions, interventions*. McFarland.

Hutnik, A., Konieczna, K., & Śmierzchalska, A. (2020, June). *„Różne oblicza mobbingu – jak rodzic może pomóc swojemu jąkającemu się dziecku?" Studenckie warsztaty dla rodziców dzieci jąkających się*. Paper presented at the Second Student Logopedic Conference at the University of Silesia in Katowice, Poland.

Jagieła, W., Kajc, M., & Maga, P. (2020, June). *„Twój uczeń się jąka – to wyzwanie, ale masz potencjał, by go wesprzeć!" – studenckie warsztaty dla nauczycieli*. Paper presented at the Second Student Logopedic Conference at the University of Silesia in Katowice, Poland.

Jasek, M., Podstawska, A., Tkocz, W. (2020, June). *„Potworny mobbing – nie musisz być bezradny! Możesz się z nim rozprawić!" – warsztaty dla dzieci jąkających się*. Paper presented at the Second Student Logopedic Conference at the University of Silesia in Katowice, Poland.

Kikuchi Y., Umezaki T., Sawatsubashi M., Taura M., Yamaguchi Y., et al. (2019). Experiences of Teasing and Bullying in Children Who Stutter. *International Archives of Communication Disorder*, *2*, 013. doi.org/10.23937/2643-4148/1710013.

Langevin, M. (2000). *Teasing and Bullying: Unacceptable Behaviour: the TAB program*. Institute for Stuttering Treatment & Research. https://marketplace.ualberta.ca/home/istar-teasing-and-bullying-prevention-program.html

Langevin, M., (2002). *Teasing and Bullying Questionnaire for Children Who Stutter – Revised (TBQ-CS)*. Institute of Stuttering Treatment and Research, University of Alberta.

Langevin, M. (2009). The Peer Attitudes Toward Children Who Stutter Scale: reliability, known groups validity, and negativity of elementary school-age children's attitudes. *Journal of Fluency Disorders*, *34*, 72–86.

Langevin, M. (2015). Bullying Experienced by Youth Who Stutter. The Problem and Potential Intervention Strategies. In: K.O. St. Louis (Ed.), Stuttering Meets Stereotype, Stigma, and Discrimination. An Overview of Attitude Research (pp. 71–90). West Virginia University Press.

Langevin, M., Bortnick, K., Hammer, T., & Weibe, E. (1998). Teasing/bullying experienced by children who stutter: Toward development of a questionnaire. *Contemporary Issues in Communication Science and Disorders*, *25*, 12–24.

Langevin, M., & Hagler, P. (2004). Development of a scale to measure Peer Attitudes Toward Children Who Stutter. *Evidence-based treatment of stuttering: Empirical bases and clinical applications*. In: A.K. Bother (ed.), Evidence-Based Treatment of Stuttering. Empirical Bases and Clinical Applications (pp. 139–171). Psychology Press.

Langevin, M., Packman, A., & Onslow, M. (2009). Peer Responses to Stuttering in the Preschool Setting. *American Journal of Speech Lang Pathology*, *18*(3), 264–276.

Langevin, M., Packman, A., & Onslow, M. (2010). Parent perceptions of the impact of stuttering on their preschoolers and themselves. *Journal of Communication Disorders*, *43*, 407–423.

Langevin, M., & Prasad, N.G.N. (2012). A stuttering education and bullying awareness and prevention resource: A feasibility study. *Language, Speech & Hearing Services in Schools*, *43*, 344–358.

Langevin, M., Węsierska, K., Wesierska, M., & Gacka, E. (2016). *Bullying experienced by Polish children who stutter and their peers* (chapter VII). Proceedings of the 2015 International Fluency Congress – Lisbon, Portugal.

Logan, K.J., Mullins, M.S. and Jones, K.M. (2008), The depiction of stuttering in contemporary juvenile fiction: Implications for clinical practice. *Psychology in the Schools*, *45*, 609–626. https://doi.org/10.1002/pits.20313

Lupien, S.J., Maheu, F., Tu, M., Fiocco, A., & Schramek, T.T. (2007). The effects of stress and stress hormones on human cognition: Implications for the field of brain and cognition. *Brain and Cognition*, *65*, 209–237.

Mallick, R., Kathard, H., Thabane, L., & Pillay, M. (2018). The Classroom Communication Resource (CCR) intervention to change peer's attitudes towards children who stutter (CWS): study protocol for a randomised controlled trial. *Trials*, *19*(1), 1–8.

Menesini, E., & Salmivalli, C. (2017). Bullying in schools: the state of knowledge and effective interventions. *Psychology, Health & Medicine*, *22*, 240–253.

Modecki, K.L., Minchin, J., Harbaugh, A.G., Guerra, N.G., & Runions, K.C. (2014). Bullying Prevalence Across Contexts: A Meta-analysis Measuring Cyber and Traditional Bullying. *Journal of Adolescent Health*, *55*(5), 602–6011.

Moore, S.E., Norman, R.E., Suetani, S., Thomas, H.J., Sly, P.D., & Scott, J.G. (2017). Consequences of bullying victimization in childhood and adolescence: A systematic review and meta-analysis. *World Journal of Psychiatry*, *7*(1), 60–76. https://doi.org/10.5498/wjp.v7.i1.60

Murphy, W.P. (1998). *The school-age child who stutters: Dealing effectively with shame and guilt*. Videotape No. 86. Speech Foundation of America.

Murphy, W.P., Quesal, R.W., Reardon-Reeves, N., & Yaruss, S. (2013). *Minimizing Bullying for Children Who Stutter: A Practical Guide for SLPs*. Stuttering Therapy Resources, Inc.

Novick, R.M., & Isaacs, J. (2010). Telling is compelling: The impact of student reports of bullying on teacher interventions. *Educational Psychology*, 30(3), 283–296.

Oldenburg, B., Bosman, R., & Veenstra, R. (2016). Are elementary school teachers prepared to tackle bullying? A pilot study. *School Psychology International*, *37*(1), 64–72.

Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Blackwell.

Olweus, D. (1997). Bully/victim problems in school: Facts and intervention. *European Journal of Psychology of Education*, 12(4), 495–510.

Olweus, D., Limber, S.P., Flerx, V.C., Mullin, N., Riese, J., & Snyder, M. (2007). *Olweus Bullying Prevention Program: Schoolwide guide*. Hazelden.

PrevNet Promoting Relationships & Eliminating Violence Network: https://www.prevnet.ca/

Rigby, K. (1999, June). What harm does bullying do. In *Children and Crime: Victims and Offenders Conference convened by the Australian Institute of Criminology and held is Brisbane* (pp. 17–18).

Rigby, K., & Slee, P.T. (1991). Bullying among Australian school children: Reported behavior and attitudes toward victims. *The journal of social psychology*, *131*(5), 615–627.

Rose, C.A., Monda-Amaya, L.E., & Espelage, D.L. (2011). Bullying Perpetration and Victimization in Special Education: A Review of the Literature. *Remedial and Special Education*, *32*(2), 114–130.

Rothon, C., Head, J., Klineberg, E., & Stansfeld, S. (2011). Can social support protect bullied adolescents from adverse outcomes? A prospective study on the effects of bullying on the educational achievement and mental health of adolescents at secondary schools in East London. *Journal of Adolescence*, *34*(3), 579–588.

Salmivalli, C. (2010). Bullying and the peer group: A review. *Aggression and Violent Behavior*, *15*(2), 112–120.

Slee, P.T., & Rigby, K. (1993). Australian school children's self appraisal of interpersonal relations: The bullying experience. *Child psychiatry and human development*, *23*(4), 273–282.

Vaillancourt, T., Duku, E., Becker, S., Schmidt, L.A., Nicol, J., Muir, C., & MacMillan, H. (2011). Peer victimization, depressive symptoms, and high salivary cortisol predict poorer memory in children. *Brain and Cognition*, *77*, 191–199.

Wang, J., Iannotti, R.J., & Nansel, T.R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health*, *45*, 1–8.

Weidner, M.E. (2015). The Attitude Change and Tolerance Program. MC Speech Books.

Weidner, M.E. & St. Louis, K.O. (2014). *The Public Opinion Survey of Human Attributes – Stuttering/Child (POSHA–S/Child)*. Populore.

Weidner, M.E., St Louis, K.O., & Glover, H.L. (2018). Changing nonstuttering preschool children's stuttering attitudes. *American Journal of Speech-Language Pathology*, *27*(4), 1445–1457. doi:10.1044/2018_AJSLP-18-0019

Weidner, M.E., Junuzović-Žunić, L. & St. Louis, K.O. (2020). A comparison of stuttering attitudes among nonstuttering children and parents in Bosnia & Herzegovina. *Clinical Archives of Communication Disorders*, *5*, 42–53.

Węsierska, K., Boroń, A., Michta, I., & Sakwerda, A. (2019, June). *Group therapy meetings for children who stutter and their families as a source of empowerment for all attendees*. Paper presented at the 13th International Stuttering Association World Congress, Hveragerdi, Iceland.

Węsierska, K., & Krawczyk, A. (2017). Wsparcie dziecka jąkającego się w środowisku edukacyjnym. In: K.I. Bieńkowska, I. Marczykowska, & A. Myszka (Eds.), *Głos – Język – Komunikacja 4. Funkcjonowanie społeczne dzieci z problemami komunikacyjnymi* (pp. 13–30). University of Rzeszów Press.

Węsierska, K., & Weidner, M.E. (2022). Improving young children's stuttering attitudes in Poland: Evidence for a cross-cultural stuttering inclusion program. *Journal of Communication Disorders*. *96*, 1–10.

Yaruss, S.J., Reeves, N., & Herring, C. (2018). How Speech-Language Pathologists Can Minimize Bullying of Children Who Stutter. *Seminars in Speech and Language*, *39*, 342–355.

Zych, I., Farrington, D.P., Llorent, V.J., & Ttofi, M.M. (2017). *Protecting Children Against Bullying and Its Consequences.* Springer.

Appendix A
Scenario of a class presentation on stuttering

Everything that smart-kids should know about stuttering –
a scenario of a presentation for classmates on stuttering,
prepared and delivered by a student who stutters and his SLT

1. A presentation for classmates can be based on questions from a survey developed by the student who stutters, with support from their SLT. Examples of questions are:
    - *What is stuttering?*
    - *Do you know any famous people who stutter?*
    - *Why do people stutter – what causes stuttering?*
    - *What are the symptoms of stuttering, what do people do when they stutter?*
    - *How does stuttering make people feel?*
    - *How can people who stutter make their talking easier; what happens in stuttering therapy?*
    - *How should other people respond, to make it easier for a person who stutters to speak?*
2. Questionnaires could be completed in advance by students and others in the student's environment (e.g., individuals of different ages and backgrounds, with different socioeconomic status, who were chosen by the child). Alternatively, a classroom discussion based on these questions could be carried out with no prior data collection.
3. After presenting the results from the last question (how others can respond to make communicating easier for a PWS) or during the brainstorming of responses to this question, students' answers should be noted and commented on by the SLT.
4. As a summary of the presentation, all students would be invited to take a quiz: *Stuttering facts and myths.*

Appendix B
Scenario based on TAB

Elements of the TAB program to be used in a classroom-based anti-bullying program

The aim of this intervention is to help children develop a problem-solving approach to teasing and bullying. It consists of the following elements.

1. Introduction and “Meet Olivier: TAB’s mascot”
2. Brainstorm and work on Bullying/Differences/Teasing webs – discussion on similarities between teasing and bullying.
3. Classroom activities in six groups – each group is assigned a question (within each group one person is chosen to record and report the outcomes of the discussion):
    - What is bullying, and what kind of teasing might upset students?
    - Why do you think a person teases and bullies?
    - How does it feel to be teased and bullied?
    - How can you help a student to stop bullying?
    - What could you do if you were being teased and bullied? What would be the best and the worst things to do?
    - What could you do if you or a classmate were being teased or bullied?
4. Discussion on gathered ideas.
5. “Why students don’t talk about bullying” – working in pairs with a websheet followed by a whole group discussion on collected ideas.
6. “Tattling or telling to get help?” Activity sheet – working in pairs and whole class discussion.
7. Introducing “Rules for working it out” – an introduction to different ways of responding to teasing and other kinds of bullying:
    - Students role play each segment of the “Rules for working it out” activity sheet;
    - Class discusses the fouls (inappropriate/unhelpful/unsupportive behaviors) used and rules broken;
8. Working on strategies for resolving conflicts:
    - Review of the “Strategies for resolving conflicts” poster
    - “Choosing strategies to resolve conflicts” – working in small groups with an activity sheet;
    - “Is this strategy suitable?” working in pairs with an activity sheet

9. Learning the Three-finger "I can speak up" strategy (note: this replaces the 5 finger strategy originally discussed in TAB):
    - Discussing the content of the Three-finger strategy:
        a) Say the person's name...*Steven*
        b) In an assertive voice say...*Stop*
        c) Tell the person/group what you want them to stop doing...*Grabbing my backpack!*
10. Working in pairs with a three-finger strategy activity sheet followed by whole class discussion.
11. Putting the strategies to work – building the mountains of self-confidence:
    - Whole class discussion on self-confidence
    - Working with the "Building mountains of self-confidence" activity sheet;
    - Building mountains of self-confidence through a role-playing activity in small groups.

Appendix C
Scenario of a webinar for teachers and/or SLTs of CWS

Your student stutters: this is a challenge, but you have the potential to support him!

1. Welcoming the webinar participants, and presenting technical information (the program and content of the webinar, how to ask questions, information on webinar handouts and materials provided for participants).
2. Introduction of webinar special guests: 'double experts' (a group of individuals who stutter and who represent the environment of professionals: speech-language therapists, psychologists, researchers, and/or leaders of self-help support movements or groups for PWS).
3. The first module of the webinar is presented by the organizers (theoretical introduction to the subject): *Stuttering – facts and myths.*
4. Discussion panel – part one: with the participation of 'double experts': discussion of the most important facts and myths related to stuttering.
5. The second module of the webinar (theoretical introduction): *Children who stutter at school – challenges and difficulties faced by these students.*
6. Discussion panel – part two: *The situation of children who stutter at school – comments made on the basis of the webinar guests' personal and professional experiences.*
7. The third module of the webinar (theoretical introduction): *Basic facts about teasing and bullying at schools with regards to stuttering.*

8. Discussion panel – part three: *How to support a student who stutters in dealing with school bullying, and how to build a supportive community in the school setting – practical tips for teachers and school SLTs.*
9. Question and answer session – addressing questions that have not been answered earlier during the preceding parts of the discussion panel.
10. Summary of the topics discussed during the webinar: collecting the discussed guidelines and supplementing them with recommendations of useful sources (handouts, films, websites containing reliable materials).
11. A special bonus from stuttering children – short video-recordings made by children who stutter with messages about what they expect from their teachers and SLTs, as well as what they want to convey to them.

[A video of the Polish version of the webinar which was implemented using this scenario is available on the website: www.logolab.edu.pl]

Chapter 12

Hilda Sønsterud

The Role of the SLT in the Application of ACT in Stuttering Therapy

Purpose and outline of the chapter

The main aim for speech-language therapists working in the field of stuttering, is to best serve the people who seek help. When people who stutter approach a speech and language therapist (SLT), they usually want to change something in their lives, and whatever best serves this purpose can be considered as central to this helping process (Egan, 2014; Ramnerö & Törneke, 2008). This aspect is also highly relevant in clinical work within the field of stuttering. One important aim for speech-language therapists is to focus their stuttering therapy on joint considerations and decision-making principles at an individual level. Several stuttering approaches have been shown to be successful in the short term, but the true test of any therapy lies in the extent to which the changes can be integrated across a range of speaking situations over a longer-term period, or preferably throughout life. In many ways, the use of clinical skills based on, and inspired by, *Acceptance and Commitment Therapy* (ACT), may enable SLTs to achieve an outcome which serves the person on a long-term basis. Some suggestions are shared in this chapter.

The therapists' role considered within the perspective of pluralism

In this chapter, the term 'pluralistic' is used to recognize that there exist many different ingredients (in nature and in society) that together constitute a reality. Within pluralism, an absolute or fundamental truth does not exist. Instead, there are different sources of knowledge which have value, and all sources may have validity (McLeod, 2018). According to McLeod (2018), a pluralistic approach can be regarded as an integrative approach, seeking to combine ideas and methods drawn from several approaches. Pluralism includes a wide set of intellectual resources and covers different fields within ethics, philosophy, sociology, politics, theology, and psychology. I am hereby adding speech-language therapy into this list. McLeod (2018) argues that what is true (i.e., valid) is what works for each person in therapy, and what is best for people will vary, depending on personal, inter-relational and contextual factors. Pluralism within a philosophical context refers to the idea that "there is no single correct answer to central questions of human existence" (McLeod, 2018, p. 13). The basic principles within pluralism, as well as the *Multidimensional Individual Stuttering Therapy* (MIST) described in chapter 9, are grounded in the concept that people who stutter are the real heroes and heroines, and that the SLT is just a 'guide' or a 'provider' of some resources (McLeod, 2018), which a person might benefit from at a specific time during his or her life journey.

This stuttering therapy is based on a fundamental aim to find strategies, tasks or therapy elements that work best for a client at a particular time-point in his or her everyday life. Goal-led therapy might only reach a gold standard if the client and the clinician are constructing something meaningful together. This builds on shared decision-making around tasks and personal goals, and that the clinician and clients are together exploring the available possibilities, and combining elements in a way that best fits the clients' goals and preferences. Different stuttering approaches may involve a "direct linkage between goal identification, and what happens on a moment-by-moment basis in therapy" (McLeod, 2018, p. 95), which is in line with the pluralistic approach. It may be that stuttering approaches should be experience-based more than educationally- or theoretically-based. In a wider sense, this can emphasize a person's own experiences of exploring therapy elements, tasks, and options, and evaluating which of these elements are helpful in their everyday life. In this way, clients may become active individuals and researchers in their own communicative contexts. The person who stutters and the SLT are constructing something meaningful together, reflecting the collaborative perspective in the pluralistic approach. Within the pluralistic perspective, therapists are regarded as improvisers, crafters, artists or designers, who can learn from clients and improvise. In a collaborative manner, the client and therapist observe communication and/or life to gain a sense of the possibilities that exist, using this collaborative space to improve, for example, overall speaking ability, confidence in communication, or general well-being in life. The therapist must work flexibly, and therapy is considered successful if clients have achieved their goals or are satisfied with what they have achieved. The idea that clients decide what constitutes successful therapy is highlighted in the 'alliance theory' (Flückiger, Del Re, Wampold, & Horvath, 2018; Nissen-Lie et al., 2013; Nissen-Lie, Monsen, & Rønnestad, 2010; Nissen-Lie, Havik, Høglend, Rønnestad, & Monsen, 2015; Oddli, Nissen-Lie, & Halvorsen, 2016; Wampold, 2015). The importance of a strong working alliance between clinicians and clients, and how the quality of this alliance may influence therapy outcomes is described in more detail in chapter 9.

A pluralistic approach within stuttering therapy is value-based in terms of maintaining and enhancing clients' awareness of personal values. Participants can work toward increasing their awareness, and participation in daily life, rather than being preoccupied with trying to be 'stutter free' or to hide their stuttering from the world (Beilby, Byrnes, & Yaruss, 2012). It may therefore be necessary for the SLT to create an environment where the person who stutters can perform a specific task, action, or change, whilst simultaneously observing their own thoughts, feelings, and physiological experiences in the moment. During the collaborative work in clinic, rather than providing detailed verbal instructions for changes people could make or experiment with, SLTs can encourage people who stutter to observe and feel their own experience, and to continue practicing and developing awareness of self, both in and beyond clinic. However, for an individual to be consciously aware of physical sensations, while remaining present and responsive within their social environment, requires a high degree of skill. This reflects the work of Gilman (2014), who identified a difference between 'outside in' and 'inside out' learning, regarding both processes as important contributors. The way people train to do a new task with active attention to it, or awareness of what and how they are performing the action is, according to Gilman, the body's way of learning. These are sensations that people must learn to notice if they are going to make changes that matter. The pluralistic approach builds on shared decision making around tasks and personal goals. Further, it emphasizes the need for clinician and client to explore the available possibilities together, and combine elements in a way that best fits the client's goals and preferences. The focus of values is also highlighted in *Acceptance and Commitment Therapy* (ACT), which is described below.

Clinical work within the perspective of *Acceptance and Commitment Therapy*

One approach which seems to be increasing in popularity within the field of stuttering is *Acceptance and Commitment Therapy* (ACT). ACT is built upon functional contextualism and is part of the 'third wave' of behavioral therapies, along with dialectical behavior therapy (DBT), mindfulness-based cognitive therapy (MBCT), compassion focused therapy (CFT), and functional analytic psychotherapy (FAP) among others (Harris, 2019). ACT places a major emphasis on acceptance, mindfulness, and compassion interventions in addition to traditional behavioral interventions (Harris, 2019; Hayes, Barnes-Holmes, & Wilson, 2012). ACT combines acceptance and mindfulness processes with behavior change processes. Luoma, Hayes, and Walser (2017) define ACT thus: "ACT is a psychological intervention based on modern behavioral and evolutionary principles, including RFT [Relational Frame Therapy], that applies mindfulness and acceptance processes, and commitment and behavior-change processes, to the creation of psychological flexibility." (p. 35).

Humans use language in both public and private domains, and within ACT, the public use of language includes forms such as talking, gesturing, writing, painting, singing, dancing and acting, while private use of language includes forms such as thinking, imagining, daydreaming, visualizing, planning, fantasizing and worrying (Harris, 2019; Hayes, 2005). In ACT the workings of the mind are regarded as human language, and this is neither friend nor enemy. The aim of ACT is to create a rich and meaningful life where, even in periods with tremendous pain and suffering, there is an opportunity to find meaning, purpose and vitality (Harris, 2019). ACT is founded on Functional Contextualism (Hayes, Barnes-Holmes, et al., 2012; Ramnerö & Törneke, 2008). Functional Contextualism emerges from contextualism (Ramnerö & Törneke, 2008) and highlights the 'act in context', where any event or ongoing act must be seen and analyzed in its current environmental or historical context. Contextualism emphasizes the practical application of ideas by acting on them, so as to be able to test the nature of knowledge, concepts, meaning and science, as found in human experiences in real world settings (Benton, 2011; Ramnerö & Törneke, 2008). Contextualism claims that the truth cannot be understood outside of its environmental context, and analyses based on functional contextualism are stated to be true or valid insofar as they lead to effective action, or achievement of some goal, in the relevant context. Functional contextualism is intended to be a holistic approach, where *the whole* is understood in relation to context rather than assembled from elements (Hayes, Strosahl, & Wilson, 2012). In functional contextualism, the truth is regarded as local and pragmatic, and the truth for one person does not need to be the truth for another person.

Within the framework of ACT, different ways of thinking or speaking have different consequences, and cognitive flexibility is guided by workability, not by the demand for consistency. According to its founders, ACT focuses on the process of thinking, and both clinicians and clients are advised to examine thoughts as they unfold, and then consider the "practical workability in any given situation" (Hayes, Strosahl, et al., 2012, p. 36). ACT has an empirical base (Davies, Niles, Pittig, Arch, & Craske, 2015; Eustis, Hayes-Skelton, Roemer, & Orsillo, 2016; Wetherell et al., 2011; Østergaard et al., 2019) that addresses individual and life values, and has the ability to contact the present moment more fully as a conscious person. The main goal of ACT is to foster psychological flexibility, which is regarded as the ability to be present with full awareness and openness to experiences in life, and to take action guided by the person's own values (Harris, 2019). Psychological flexibility can be fostered through the following six core therapeutic processes (Harris, 2019; Hayes, 2016):

- A focus on the present moment (to be here and now)
- Self as context (perspective-taking sense of oneself)
- Defusion (to step back and watch your thinking)
- Acceptance (to open up)
- Live your values (to know what matters)
- Committed action (to do what it takes)

These six core processes can be seen in the following figure below which is known as the '*ACT hexaflex*' (Hayes, Strosahl, et al., 2012):

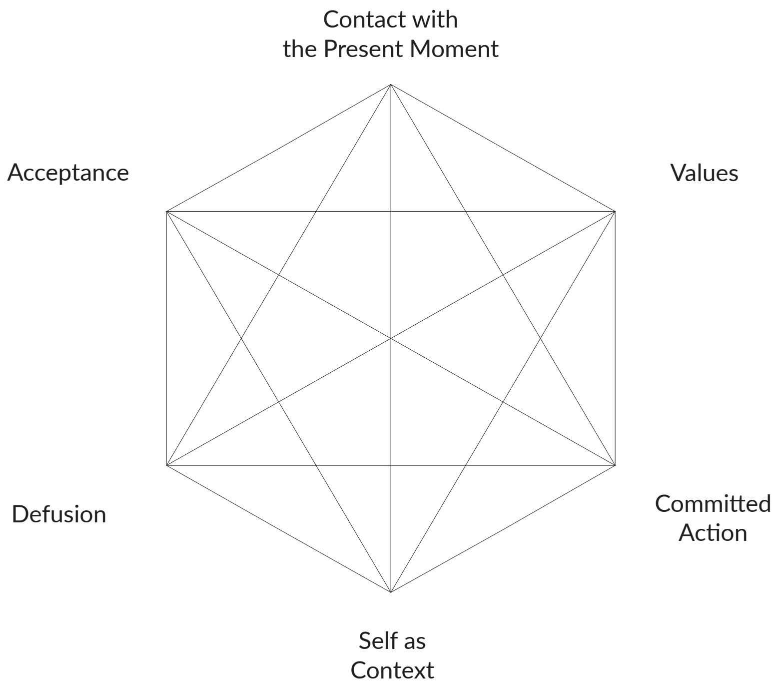


Figure 1: The ACT Hexaflex

According to Harris (2019, p. 11), these six core processes should not be considered as separate processes, but rather as *six facets of one diamond*. The six processes can further be categorized into three pillars of flexibility: 'open', 'aware', and 'engaged' (Harris, 2019; Hayes, 2016). The processes 'defusion', 'acceptance', 'self as context' and 'contact with the present moment' are regarded as the four core mindfulness processes ('flexible attention') and comprise the term 'mindfulness' in ACT. Therefore, within the framework of ACT, mindfulness can be referring to any or all of these four processes. A central concept in ACT is that by developing a more psychologically flexible stance, there seems to be a greater chance of becoming aware of uncomfortable experiences, whilst at the same time focusing on what a person wants life to be about (Hayes, 2016). To facilitate psychological flexibility, the six core elements in ACT can be worked on in any order, and the person can decide on his/her own priorities. ACT is intended to help the person accept that which cannot be controlled, and commit to action that will enrich life (Harris, 2019; Hayes, 2005). The pragmatic perspective in ACT puts the emphasis on specifying values and truth by defining what works for each person. According to the founders of ACT, all therapeutic interactions are considered in the way they relate to the client's chosen values and goals, and the primary consideration is whether the actions or thoughts are working in practice (Hayes, Strosahl, et al., 2012).

Stuttering management considered within the perspective of ACT

Combining stuttering management with elements of ACT is not new, as already highlighted by a number of authors (Beilby et al., 2012; Cheasman, Simpson, & Everard, 2015; Harley, 2018; Plexico & Sandage, 2011; Scott & Jaime, 2013; Sønsterud, Halvorsen, Feragen, Kirmess, & Ward, 2020). As described earlier, psychological flexibility is one of the key components of ACT, and it is worthwhile for all of us – including people who stutter – to develop it. In ACT, awareness skills and awareness exercises are introduced in different ways, and short exercises – for example involving noticing the breath or observing changes in the body (e.g., through kinaesthetic feedback) – may help a person to improve awareness and access a better connection with the present moment. To facilitate psychological flexibility, the six core elements in ACT can be worked on in different orders, based on the person's own decisions and main priorities. Evaluation of symptoms is not an aspect of ACT, where reducing or eliminating symptoms is not a specific goal. It might, therefore, seem paradoxical to work toward reducing the negative impact of stuttering while simultaneously focusing on increasing participants' acceptance and awareness of it. Various researchers have debated this issue (Beilby et al., 2012; Cheasman et al., 2015; Nippold, 2012; Yaruss, Coleman, & Quesal, 2012). Beilby and colleagues (2012) concluded that it is possible to work towards both of these goals, and that the two goals can complement one another. I also support the consideration of Cheasman et al. (2015), in that by improving awareness, and desensitization and externalization processes, an individual may develop better tools to cope with stuttering – including over the long term.

In ACT, acceptance means opening up, making room for, and allowing painful feelings, sensations or emotions to be as they are (Harris, 2019; Hayes, Strosahl, et al., 2012). Within the framework of ACT, accepting the existence of stuttering does not necessarily mean liking or wanting it, but rather making room for the stuttering and fostering curiosity about it (Cheasman, Simpson, & Everard, 2013; Sønsterud et al., 2020). Hayes, Strosahl, et al., (2012) suggest that the word *acceptance* can carry negative, non-therapeutic connotations for some people who stutter. Therefore, in the ACT approach, Cheasman et al. (2015) recommend introducing the concept of acceptance via terms such as 'friendly curiosity', 'making space for', and 'willingness' rather than using the word 'acceptance' itself. Acceptance is one of the cornerstones of ACT and is part of the six core processes described earlier. I recommend the work of Everard, Simpson and Cheasman (2013, 2015), as well as Everard and Cheasman's chapter in this handbook, where they are highlighting issues and challenges around acceptance in relation to stuttering.

In the ACT process of clarifying values, the overall question is to ask ourselves whether a particular action or behavior is taking us *towards* or *away* from living the life we really want (Harris, 2019). According to Harris, any activity or behavior can be a 'towards move' or an 'away move', depending on the individual's context, see figure 2 below.

Figure 2: The Choice Point (Harris, 2019)

Harris (2019) suggests that the four mindful core processes described above ('defusion', 'acceptance', 'self as context', and 'contact with the present moment') can be used in any combination as 'unhooking skills'. These aim to 'unhook' the person from difficult thoughts and feelings, with the aim of reducing its impact and influence over overt and/or covert behavior.

In order to understand instances of human suffering, the term ‘hooked’ is used to refer to two core processes which are involved: ‘cognitive fusion’ and ‘experiential avoidance’, which ACT regards as responsible for most of the psychological suffering (Harris, 2019; Hayes, Strosahl, et al., 2012). Cognitive fusion means that thoughts might dominate behavior, thus defusion means separating or distancing from these thoughts. Experiential avoidance means trying to avoid, suppress, escape or get rid of unwanted *‘private experiences’* (Harris, 2019; Hayes, 2005). Although these processes can be regarded as typical and even sometimes life-enhancing in certain contexts, the same processes can become hindrances for living a rich and meaningful life (Harris, 2019). This might be a reality for some people with stuttering too. A ‘towards move’ refers to any committed physical and/or psychological action which is guided by the person’s values (Harris 2019). According to Hayes, Strosahl, et al. (2012), when we learn to *‘turn inwards’*, normal instances of *psychological pain* become a central focus of our everyday problem-solving.

In this way, several elements of ACT may add important aspects to working within stuttering therapy. By identifying the stuttering- and speech-modification, and/or awareness-based elements which may appear meaningful for each individual, it is hoped that therapy might be a positive contribution to the further development of a person who stutters. Examples of how ACT is used in combination with stuttering- and speech-modification strategies can be seen in, for example, the MIST approach (Sønsterud et al., 2020), and could also easily be integrated into other stuttering approaches. Combined with stuttering- and speech-modification interventions, awareness-, and value-based elements from ACT could constitute a holistic and individual stuttering-management program which has been shown to be helpful for several people who stutter (Sønsterud et al., 2020).

Exposure therapy, within traditional behaviour therapy, is a technique used to treat anxiety symptoms, and may involve exposing the person to the anxiety sources or their context, with the aim of helping the person overcome the anxiety or distress (Beck, 2011). ACT also incorporates exposure-based strategies, but the focus is not to reduce symptoms of anxiety and distress. In ACT terms, exposure exercises may help people to remain present and aware, regardless of the levels of distress they experience. ACT is aiming to connect people with values, and to help them realize that no matter how difficult their situations are, they still have choices. To live by their values could mean to change whatever they can to improve the situation, but at the same time make room for the pain and/or distress that goes with it (Harris, 2019; Hayes, 2016). In other words, when anxiety and psychological distress are present, how do people want to respond differently in terms of values-guided action?

Adding ACT practices may further the benefits of exposure therapy by allowing a person to practice defusion. Having a more mindful perspective on thoughts, feelings and/or situations, and seeing thoughts as neither negative nor positive, but simply as 'thoughts', may increase behavioural flexibility (Harris, 2019; Hayes, 2005; Hayes, Barnes-Holmes, et al., 2012). Hayes and colleagues highlight that a mindful approach can strengthen a more vital value-consistent life. In this way, several elements of ACT add important aspects to the field of stuttering and could be one of the pillars of an individual stuttering-management program. Along with their stuttering, and in spite of it, people need to notice when they are making 'towards moves', and notice what that is like, and what difference it makes in their daily life. Several participants who stuttered in the MIST study (Sønsterud et al., 2020) chose to combine exercises which exposed them to communication situations. The choice to explore and transfer speech- and/or awareness-based actions into daily life settings seemed to be linked to the principles for coping in real-world settings (Sønsterud, Feragen, Kirmess, Halvorsen, & Ward, 2019). Furthermore, outcome goals were broadly-based, mainly relating to people's daily life situations, and which were important to them (Sønsterud, 2020). These will be described in more detail below.

Individual goals in stuttering therapy

According to McLeod (2018) and Wampold (2015), people's goals can be stated, but cannot always be easily evaluated because they may need to be broken down into specific, meaningful and measurable sub-goals or tasks which contribute towards the larger goal. These different goal levels can be classified as *process goals* and *outcome goals*. Outcome goals are goals that have the ultimate desired outcome as the target, and process goals are specific actions or processes of performing (Zimmerman & Kitsantas, 1997). For example, as reported in Sønsterud et al. (2019), a person might initially state that his or her goal is to improve speech fluency, reduce stuttering or even get rid of stuttering altogether. In such cases, the SLT may probe further, asking what would happen or what would be different for the person if they achieved this goal. Some participants in the treatment study by Sønsterud (2020) nuanced or expanded their goals, for example responding with "If I was stuttering less, I would be able to reach my academic potential", or "Improving the fluency of my speech would help me to improve social life", or "If it was not for my stuttering, it would be easier to find a partner". In these examples, the goals in their initial form were related to their stuttering. Based on the responses of the majority of participants in the tudies by Sønsterud et al. (2019, 2022), increasing speech fluency or gaining a sense of control over the stuttering were regarded as highly relevant goals. According to Zimmerman and Kitsantas (1997), goals such as these might be defined as process goals rather than outcome goals, since several participants felt that increasing speech fluency or reducing stuttering would contribute to the attainment of broader goals such as optimizing educational achievement or increasing social participation (see Sønsterud et al., 2022 for a recent discussion). It is interesting to consider the extent to which participants characterize the therapy process as interreacting with their relationships and social participation. There are many ways for the SLTs and the person who stutters to reflect upon values throughout the therapy sessions, and some of the following questions could be asked. For example, "What sort of a person would you like to be?". "How would positive changes in ways of relating to others be observed?". "When people are acting more on their values, what would be noticed by them regarding their behaviour, or what would they do more of?". "What difference does it make in life?". "Can increased confidence in communication contribute to a richer or more meaningful life?".

Binder, Holgersen, and Nielsen (2010) reported correlations between positive therapy outcomes and therapy components which cluster around four themes: establishing new ways of relating to others; reduced symptomatic distress or changes in behavioural patterns contributing to suffering; increased self-understanding and insight; and accepting and valuing oneself. Ideally, outcomes of stuttering therapy will reflect the outcomes which people themselves regard as significant. The individual experience of goal achievement in the study of Sønsterud (2020) was described by people as taking place in a variety of life domains. When explored through dialogues and shared reflections in therapy sessions, the achievements were often related to a general wish to experience and participate in life more fully and, based on responses from participants throughout the study (Sønsterud, 2020), it seemed that most of the participants (16 out of 18) did experience the attainment of broader outcome goals. Examples included people who had hitherto avoided telephone calls, but after therapy were using the phone almost every day; a grandparent who did not enjoy talking, and avoided social settings as often as possible, but become more socially active and interacted much more with his grandchildren; three employees who chose to avoid situations or strived to be as 'invisible' as possible in work settings, but who become more confident in speaking situations and sought out social situations to participate in. Other examples are a parent who avoided reading aloud, but started to enjoy reading bedtime stories for his children; two young men who started enjoying dating; and a person who previously felt unable to pursue higher education due to stuttering, but who has today finalized his study at one of Norway's most prestigious universities.

Those people who stutter and seek speech therapy usually have ideas about what they want to gain from the therapy process. During initial discussions, the SLT can begin to form a general sense of the person's speech, stuttering, personality, and communication style, and gather information about how the person functions in various environments. This information gathering includes observation of both verbal and non-verbal traits, formal stuttering measures, and informal observations, talks and interviews; all to form an impression of what is important and meaningful for the individual. The SLT should spend time identifying the person's goals, and developing an understanding of what these goals really mean to them. At the same time, it is important to give the person a feeling that the work of change can start as soon as possible, both to give them something concrete to work upon, and to facilitate their motivation for therapy. All these aspects are considered important because they 'anchor' the therapy process, and help create a sense of collaboration and shared purpose (McLeod, 2018). As pointed out earlier, overall, therapy should be continually assessed and integrated into what matters for each person (Duncan, Miller, Wampold, & Hubble, 2010).

Improving awareness and doing what matters

Mindfulness is a mode of awareness that is evoked when attention is regulated (Hayes, Strosahl, et al., 2012). According to Kabat-Zinn (2003), mindfulness means paying attention in a particular way that is deliberate, in the present moment, and non-judgmental. As described earlier, awareness skills and awareness exercises are introduced in flexible ways, and short exercises involving, for example, noticing the breath or noticing what's happening in the body can help a person by improving awareness, and getting better contact with the present moment. Behavioural awareness within the context of stuttering therapy may also refer to the extent to which an individual can feel, and be consciously aware of, what he or she is physically doing when speaking and/or stuttering. Clinical work in this area may involve supporting the person in improving awareness of factors such as breathing patterns, voicing, and/or physical sensations in the body, as well as clarifying values; always remembering to acknowledge that the body and voice is working as one, and that the individual is best placed to decide what they find optimal.

Although varying individually and contextually, stuttering can have a negative impact on relationships, education, career, and social life, and can significantly influence both communication and quality of life (Bricker-Katz, Lincoln, & Cumming, 2013; Craig, Blumgart, & Tran, 2009; Erickson & Block, 2013; Manning & Beck, 2013; O'Brian, Jones, Packman, Menzies, & Onslow, 2011; St. Louis & Tellis, 2015;

Steine & Inglingstad, 2013; Yaruss, 2010). Lack of belief in one's ability to speak can lead to avoidance behaviors and social withdrawal. Anxiety may 'creep into our muscles' and cause tension in our body. For many people who stutter, daily life with a speech condition that potentially affects their social interactions can exact a psychosocial and psychological toll. According to Craig, Blumgart, and Tran (2011), there are three unique contributors to adaptive outcomes: self-efficacy, social support and healthy social functioning. Clinical experience suggests that the individual's general social functioning might be a decisive factor which can affect therapy outcomes, along with – among others – their degree of awareness, social skills, overall speaking ability, and self-discipline. As a form of behavior therapy which addresses emotions, ACT can involve committed action by the individual in work, educational, or social settings. According to Harris (2019), values are desired qualities of ongoing actions, and are the heart's deepest desires for how we want to treat ourselves, and others. Values are like a compass which gives us direction, and keeps us on track in life. There are lots of resources/materials for using ACT which are available in the ACT literature. To integrate ACT processes such as living your values and to do what it takes (committed action), useful worksheets have been developed, such as for example the Bull's eye (Luoma et al., 2017). The Bull's eye is a brief values measure covering four key life domains: work and education, leisure, personal growth and health, and relationships. According to Harris (2019), values are consciously chosen to bring desired qualities to our actions. He states further that values need to be freely chosen. Values are not like commandments we must obey, but rather to be aware of, and use for guidance. Harris (2019, p. 217) compares values with a compass metaphor in the following statement: "When you go on a journey, you don't want to clutch the compass tightly every step of the way – you want to carry it in your backpack, pull it out when you need it to find your way, then put it away again." Chapter 9 provides a more detailed presentation of stuttering management and awareness-based work. This chapter may be practical to read to gain more ideas for improving skills within stuttering therapy.

SLTs' significant role in the outcome of therapy

There is a multiplicity of factors which can potentially influence treatment outcomes. Indeed, one can speculate that the critical elements for successful therapy might result from the interplay of a range of factors, including the intervention itself, characteristics of both the client and clinician, and aspects of the interaction between the SLT and the person who stutters. For example, we know that SLTs' competence and the degree of professional trust in them play an important role within the framework of goal-directed therapy (Manning, 2010; Plexico, Manning, & Dilollo, 2005, 2010; Sønsterud, Kirmess, et al., 2019). In the fields of both psychology and speech-language therapy it has become evident that the contrasts between treatment approaches do not account for all the therapy outcomes. Meta-analyses have further indicated that clinician variability in the working alliance potentially has a greater influence on therapy outcomes than client variability (Flückiger et al., 2018; Flückiger et al., 2019). Some researchers have found that a clinician's interpersonal style influences both the quality of the alliance and the therapeutic process (Anderson, Ogles, Patterson, Lambert, & Vermeersch, 2009; Heinonen & Nissen-Lie, 2019; Nissen-Lie et al., 2013; Oddli & Halvorsen, 2014). We would also include the clinician's interpersonal style, and, for SLTs working with individuals who stutter, the continued relevance of their flexibility, honesty, respect, trustworthiness, confidence, warmth, interest, and openness, highlighted by, for example, Ackerman and Hilsenroth (2003) or Van Riper (1973). These aspects mirror, for example, the work of Miciak and colleagues (2018), who identified four main conditions necessary for establishing a therapeutic relationship: being present, receptive, genuine and committed. The authors (ibid.) state further that these conditions, in conjunction with applying communication skills, represent the intentions and attitudes of both the clinician and client (see Sønsterud et al., 2019, for further information).

Although the findings of the study by Sønsterud, Kirmess, et al. (2019) identified significant associations between the quality of the working alliance and treatment outcomes, strong associations between a client's motivation and willingness to set aside time for self-training and treatment outcomes were also found. Furthermore – based on findings in the MIST study (Sønsterud et al., 2020), strong associations were found between overall satisfaction with the stuttering therapy, and therapy outcomes at both 6 and 12 months post-therapy. This may indicate that several tasks included in the MIST approach were regarded as useful in daily life settings.

Although there is a consensus that SLTs should openly and honestly discuss an individual's goals and expectations for therapy, personal motivation for therapy and the impact of the working alliance for people who stutter have rarely been investigated. From a perspective of dispositionalism (Kerry, Eriksen, Lie, Mumford, & Anjum, 2012), the greatest causal link can be seen in single-instance cases, as exemplified in the following question: "How effective may a particular clinician be with a particular client at a specific time-point?". A dispositional account emphasizes the importance of people's background conditions in understanding causes, recognizing that the therapy is not only the factor which influences outcomes. Kerry et al. (2012, p. 1008) suggest that "causation is what is added to a situation that interferes and changes the outcome" and, within the framework of dispositionalism, the added factor is causally powerful only when the factor is causally related to at least some of the factors already involved. According to Logan (2015), discussions with clients about therapy preferences can offer important insights into a person's experiences with stuttering. Logan (2015) further suggests that SLTs must be prepared to adapt therapy approaches to meet the needs and goals of each person, and to carefully consider the effect of such adaptions by collecting information monitoring how the person is responding to specific elements within the therapy. These aspects have been highlighted in this chapter, and they also support the main facets of the pluralistic approach (McLeod, 2018). As mentioned above, the pluralistic approach builds on shared decision-making principles. Several authors within the field of stuttering have also highlighted this aspect (Finn, 2003; Logan, 2015; Manning, 2010; Shapiro, 2011; Sønsterud et al., 2020; Ward, 2018).

According to Miller et al. (2010, p. 424), clinicians do not need to know in advance what approach to use, but rather need to be able to recognize if the current relationship "is a good fit and, if not, be able to adjust the treatment and accommodate the client's experience and goals". Nissen-Lie et al. (2017) state that there is a link between the therapists' self-report and the therapy outcomes. Therapists may serve as role models for their clients when the therapists allow themselves to reflect on their share of any difficulties that may arise within the clinician-client relationship. The authors (ibid.) suggest that clients may use this stance as a model in their own everyday struggles, and adapt their coping process when they are feeling distressed. The authors (ibid.) advise to foster an atmosphere that is characterized by tolerance for not knowing, embracing ambiguity and admitting to shortcomings and limitations without fear of losing face or authority (Nissen-Lie et al., 2017, p. 57). Nevertheless, as Miller et al. (2010) explain, still too little is known about successful therapists. I doubt that 'the best SLT' or 'the best stuttering therapy' exist. The studies of Sønsterud et al. (2019, 2020) have, rather, documented multiple factors which may influence therapy outcomes, including factors related to the SLT. A person's wishes and goals in therapy may change over time, as well as their readiness for treatment. Therapy should, therefore, always include consideration of the client's current expectations and goals through collaborative exploration and reflection throughout the therapy sessions. What I can state, in accordance with several other authors (McLeod, 2018; Shapiro, 2011; Stewart, 2020; Wampold, 2015; Ward, 2018), is that within the perspective of individual stuttering therapy, SLTs need to be even more sensitive to clients' characteristics, needs, motivations, values, responses and individual therapy outcomes.

Research in the field of psychotherapy demonstrates that individually-centered treatment and self-managed training can be efficiently implemented by a trained clinician (Benum, Axelsen, & Hartmann, 2013; Nissen-Lie et al., 2013; Oddli & Halvorsen, 2014; Oddli & McLeod, 2016). Clinical experience and research has also demonstrated that quality of life and psychological health can be significantly improved for adults who stutter, when therapy is tailored to their specific needs (Baxter et al., 2015; Beilby et al., 2012; Craig et al., 2009; Langevin, Kully, Teshima, Hagler, & Narasimha Prasad, 2010), yet to date, there has been little focus on the multiplicity of factors which can potentially influence treatment outcomes. When considering resources, therapy elements, training implications, and clinician effects, there remains much to understand. In a range of stuttering treatment approaches, it remains unclear which factors account for the observed changes. For example, Baxter et al. (2015) point to the need to debate how a significant reduction in frequency and severity of stuttering might influence the everyday functioning of a person who stutters, and I support this concern. Exploring the extent to which the procedures have personal significance for individuals within their daily life, and whether such changes can contribute to improved general well-being and quality of life, is of great value. The inclusion of qualitative data, in addition to quantitative data, is appropriate in considering how the stuttering management is functioning in a meaningful and context-sensitive way.

Conclusion

The use of clinical skills based on, and inspired by, for example the *Acceptance and Commitment Therapy* (ACT), seems to enable SLTs to achieve important skills in speech-language therapy, and which may serves the person on a long-term basis. There are several ways to manage stuttering, and some people cope very well with their stuttering, with no need for professional support. Nevertheless, many people who stutter seek support. Some have successfully developed a relationship with an SLT, often with support and encouragement from others, but there are still many who have not been able to establish a supportive collaboration with a SLT. There are many reasons for this, including but not limited to, the individual's location, limited local provision of SLT services, and access to such services. There may also be individuals who do not trust SLTs or who have had previous negative experiences with therapy for stuttering. This is a very sad fact. But, by improving knowledge of, and competence in, psychotherapeutic skills within the field of speech-language therapy, I believe it is even more possible to improve skills as a speech-language therapist.

Multiple Choice Questions

1. The main aim for speech-language therapists should be to focus their stuttering therapy on:
   a) Changing the stuttering for the better.
   b) Following the guidelines within a particular therapy approach.
   c) Joint considerations and decision-making principles at an individual level.
   d) Teaching fluency techniques.
2. The four core mindfulness processes in ACT are:
   a) Defusion, acceptance, self-as-context, and contact with the present moment.
   b) Acceptance, committed actions, contact with the present moment, and defusion.
   c) Contact with the present moment, defusion, live your values, and acceptance.
   d) Self as context, defusion, acceptance, and live your values.
3. To understand instances of human psychological suffering, ACT refers to two core processes, which are:
   a) Cognitive and emotional fusion.
   b) Turning inwards and turning outwards.
   c) Cognitive fusion and experiential avoidance.
   d) Experiential and emotional avoidance.
4. According to Craig, Blumgart and Tran (2011), there are three unique contributors to adaptive outcomes:
   a) Social support, healthy social functioning, and increased acceptance.
   b) Self-efficacy, social support, and healthy social functioning.
   c) Self-efficacy, self-confidence, and healthy social functioning.
   d) Healthy social functioning, an exciting career, and self-efficacy.

Suggested reading

Cheasman, C., Simpson, S., & Everard, R. (2013). *Stammering therapy from the inside: new perspectives on working with young people and adults*. Guildford: J & R Press.

Harris, R. (2019). *ACT made simple: An easy-to-read primer on Acceptance and Commitment Therapy* (Second ed.). Oakland, California: New Harbinger Publications.

Luoma, J.B., Hayes S.C. & Walser R.D. (2017). *Learning ACT: An Acceptance and Commitment Therapy Skills-Training Manual for Therapists*. (Second edition) Context Press.

Stewart, T. (2020). *Stammering Resources for Adults and Teenagers : Integrating New Evidence into Clinical Practice*. Milton, UNITED KINGDOM: Taylor & Francis Group

Wampold, B.E. (2015). *The Great Psychotherapy Debate: The Evidence for What Makes Psychotherapy Work* (Second ed.). Hoboken: Taylor and Francis.

References

Ackerman, S.J., & Hilsenroth, M.J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review*, *23*(1), 1–33. doi:10.1016/S0272-7358(02)00146-0

Anderson, T., Ogles, B.M., Patterson, C.L., Lambert, M.J., & Vermeersch, D.A. (2009). Therapist effects: facilitative interpersonal skills as a predictor of therapist success. *Journal of Clinical Psychology*, *65*(7), 755–768. doi:10.1002/jclp.20583

Baxter, S., Johnson, M., Blank, L., Cantrell, A., Brumfitt, S., Enderby, P., & Goyder, E. (2015). The state of the art in non-pharmacological interventions for developmental stuttering. Part 1: a systematic review of effectiveness. *International Journal of Language and Communication Disorders*, *50*(5), 676–718. doi:10.1111/1460-6984.12171

Beck, J.S. (2011). *Cognitive behavior therapy : basics and beyond* (2nd ed. ed.). New York: Guilford Press.

Beilby, J.M., Byrnes, M.L., & Yaruss, J.S. (2012). Acceptance and Commitment Therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders*, *37*(4), 289–299. doi:10.1016/j.jfludis.2012.05.003

Benton, T. (2011). *Philosophy of social science : the philosophical foundations of social thought* (2nd ed. ed.). Basingstoke: Palgrave Macmillan.

Benum, K., Axelsen, E.D., & Hartmann, E. (2013). *God psykoterapi : et integrativt perspektiv*. Oslo: Pax.

Binder, P.-E., Holgersen, H., & Nielsen, G.H. (2010). What is a “good outcome” in psychotherapy? A qualitative exploration of former patients’ point of view. *Psychotherapy Research*, *20*(3), 285–294. doi:10.1080/10503300903376338

Bricker-Katz, G., Lincoln, M., & Cumming, S. (2013). Stuttering and work life: An interpretative phenomenological analysis. *Journal of Fluency Disorders*, *38*(4), 342–355. doi:https://doi.org/10.1016/j.jfludis.2013.08.001

Cheasman, C., Simpson, S., & Everard, R. (2013). *Stammering therapy from the inside : new perspectives on working with young people and adults*. Guildford: J & R Press.

Cheasman, C., Simpson, S., & Everard, R. (2015). Acceptance and Speech Work: The Challenge. *Procedia – Social and Behavioral Sciences*, *193*, 72–81. doi:https://doi.org/10.1016/j.sbspro.2015.03.246

Craig, A., Blumgart, E., & Tran, Y. (2009). The impact of stuttering on the quality of life in adults who stutter. *Journal of Fluency Disorders*, *34*(2), 61–71. doi:10.1016/j.jfludis.2009.05.002

Craig, A., Blumgart, E., & Tran, Y. (2011). Resilience and Stuttering: Factors that Protect People from the Adversity of Chronic Stuttering. *Journal of Speech, Language, and Hearing Research, 54*(6), 1485–1496. doi:10.1044/1092-4388(2011/10-0304)

Davies, C.D., Niles, A.N., Pittig, A., Arch, J.J., & Craske, M.G. (2015). Physiological and behavioral indices of emotion dysregulation as predictors of outcome from Cognitive Behavioral Therapy and Acceptance and Commitment Therapy for anxiety. *Journal of Behavior Therapy and Experimental Psychiatry, 46*, 35–43. doi:https://doi.org/10.1016/j.jbtep.2014.08.002

Duncan, B.L., Miller, S.D., Wampold, B.E., & Hubble, M.A. (2010). *The heart and soul of change: Delivering what works in therapy*: American Psychological Association.

Egan, G. (2014). *The skilled helper : a client-centred approach* (10th edition. ed.). Hampshire: Cengage Learning.

Erickson, S., & Block, S. (2013). The Social and Communication Impact of Stuttering on Adolescents and Their Families. *Journal of Fluency Disorders.*, *38*(4), 311–324.

Eustis, E.H., Hayes-Skelton, S.A., Roemer, L., & Orsillo, S.M. (2016). Reductions in experiential avoidance as a mediator of change in symptom outcome and quality of life in acceptance-based behavior therapy and applied relaxation for generalized anxiety disorder.(Report). *Behaviour Research and Therapy, 87*, 188. doi:10.1016/j.brat.2016.09.012

Finn, P. (2003). Evidence-based treatment of stuttering:: II. Clinical significance of behavioral stuttering treatments. *Journal of Fluency Disorders, 28*(3), 209–218. doi:10.1016/S0094-730X(03)00039-1

Flückiger, C., Del Re, A.C., Wampold, B.E., & Horvath, A.O. (2018). The Alliance in Adult Psychotherapy: A Meta-Analytic Synthesis. *Psychotherapy, 55*(4), 316–340. doi:10.1037/pst0000172

Flückiger, C., Hilpert, P., Goldberg, S., Caspar, F., Wolfer, C., Held, J., & Vîslă, A. (2019). Investigating the Impact of Early Alliance on Predicting Subjective Change at Posttreatment: An Evidence-Based Souvenir of Overlooked Clinical Perspectives. *Journal of Counseling Psychology, Advanced online* doi:10.1037/cou0000336

Gilman, M. (2014). *Body and voice : somatic re-education*. San Diego, CA: Plural Publishing.

Harley, J. (2018). The Role of Attention in Therapy for Children and Adolescents Who Stutter: Cognitive Behavioral Therapy and Mindfulness-Based Interventions. *American Journal of Speech-Language Pathology, 27*(3S), 1139–1151. doi:10.1044/2018_AJSLP-ODC11-17-0196

Harris, R. (2019). *ACT made simple: An easy-to-read primer on Acceptance and Commitment Therapy* (Second ed.). Oakland, California: New Harbinger Publications.

Hayes, S.C. (2005). *Get out of your mind & into your life: The new acceptance & commitment therapy*. Oakland, Calif: New Harbinger Publications.

Hayes, S.C. (2016). Acceptance and Commitment Therapy, Relational Frame Theory, and the Third Wave of Behavioral and Cognitive Therapies – Republished Article. *Behaviour Therapy, 47*(6), 869–885. doi:10.1016/j.beth.2016.11.006

Hayes, S.C., Barnes-Holmes, D., & Wilson, K.G. (2012). Contextual Behavioral Science: Creating a science more adequate to the challenge of the human condition. *Journal of Contextual Behavioral Science*, *1*(1–2), 1–16. doi:http://dx.doi.org/10.1016/j.jcbs.2012.09.004

Hayes, S.C., Strosahl, K.D., & Wilson, K.G. (2012). *Acceptance and Commitment Therapy: The process and practice of mindful change* (2nd ed. ed.). New York: Guilford Press.

Heinonen, E., & Nissen-Lie, H.A. (2019). The professional and personal characteristics of effective psychotherapists: a systematic review. *Psychotherapy research : journal of the Society for Psychotherapy Research*, 1–16. doi:10.1080/10503307.2019.1620366

Kabat-Zinn, J. (2003). Mindfulness-Based Interventions in Context: Past, Present, and Future. *Clinical Psychology: Science and Practice*, *10*(2), 144.

Kerry, R., Eriksen, T.E., Lie, S.A.N., Mumford, S.D., & Anjum, R.L. (2012). Causation and evidence-based practice: an ontological review. *Journal of Evaluation in Clinical Practice*, *18*(5), 1006–1012. doi:10.1111/j.1365-2753.2012.01908.x

Langevin, M., Kully, D., Teshima, S., Hagler, P., & Narasimha Prasad, N.G. (2010). Five-Year Longitudinal Treatment Outcomes of the ISTAR Comprehensive Stuttering Program. *Journal of Fluency Disorders*, *35*(2), 123–140. doi:10.1016/j.jfludis.2010.04.002

Logan, K.J. (2015). *Fluency disorders*. San Diego, CA: Plural Publishing.

Luoma, J.B., Hayes, S.C., & Walser, R.D. (2017). *Learning ACT: An Acceptance and Commitment Therapy skills-training manual for therapists* (J. Star Ed. Second ed.). Oakland, CA, US: Context Press.

Manning, W.H. (2010). Evidence of clinically significant change: the therapeutic alliance and the possibilities of outcomes-informed care. *Seminar Speech and Language*, *31*(4), 207–216. doi:10.1055/s-0030-1265754

Manning, W.H., & Beck, J.G. (2013). Personality dysfunction in adults who stutter: Another look. *Journal of Fluency Disorders*, *38*(2), 184–192. doi:10.1016/j.jfludis.2013.02.001

McLeod, J. (2018). *Pluralistic therapy : Distinctive features.* In Psychotherapy & counselling distinctive features series, T.F. Group (Ed.).

Miciak, M., Mayan, M., Brown, C., Joyce, A.S., & Gross, D.P. (2018). The necessary conditions of engagement for the therapeutic relationship in physiotherapy: an interpretive description study. *Archives of Physiotherapy*, *8*, 3. doi:10.1186/s40945-018-0044-1

Miller, S.D., Hubble, M.A., Duncan, B.L., & Wampold, B.E. (2010). *Delivering what works*: American Psychological Association.

Nippold, M. (2012). When a School-Age Child Stutters, Let's Focus on the Primary Problem. *Language, Speech & Hearing Services in Schools (Online)*, *43*(4), 549–551. doi:10.1044/0161-1461(2012/12-0054)

Nissen-Lie, H.A., Havik, O.E., Høglend, P.A., Monsen, J.T., Rønnestad, M.H., & Tracey, T.J.G. (2013). The Contribution of the Quality of Therapists' Personal Lives to the Development of the Working Alliance. *Journal of Counseling Psychology*, *60*(4), 483–495. doi:10.1037/a0033643

Nissen-Lie, H.A., Monsen, J.T., & Rønnestad, M.H. (2010). Therapist predictors of early patient-rated working alliance: A multilevel approach. *Psychotherapy Research*, *20*(6), 627–646. doi:10.1080/10503307.2010.497633

Nissen-Lie, H.A., Havik, O.E., Høglend, P.A., Rønnestad, M.H., & Monsen, J.T. (2015). Patient and Therapist Perspectives on Alliance Development: Therapists' Practice Experiences as Predictors. *Clinical Psychology & Psychotherapy*, *22*(4), 317–327. doi:10.1002/cpp.1891

Nissen-Lie, H.A., Rønnestad, M.H., Høglend, P.A., Havik, O.E., Solbakken, O.A., Stiles, T.C., & Monsen, J.T. (2017). Love Yourself as a Person, Doubt Yourself as a Therapist? *Clinical Psychology & Psychotherapy*, *24*(1), 48–60. doi:10.1002/cpp.1977

O'Brian, S., Jones, M., Packman, A., Menzies, R., & Onslow, M. (2011). Stuttering severity and educational attainment. *Journal of Fluency Disorders*, *36*(2), 86–92. doi:10.1016/j.jfludis.2011.02.006

Oddli, H.W., & Halvorsen, M.S. (2014). Experienced psychotherapists' reports of their assessments, predictions, and decision making in the early phase of psychotherapy. *Psychotherapy (Chic)*, *51*(2), 295–307. doi:10.1037/a0029843

Oddli, H.W., & McLeod, J. (2016). Knowing-in-Relation: How Experienced Therapists Integrate Different Sources of Knowledge in Actual Clinical Practice. *Journal of Psychotherapy Integration*, *27*(1). doi:10.1037/int0000045

Oddli, H.W., Nissen-Lie, H.A., & Halvorsen, M.S. (2016). Common Therapeutic Change Principles as "sensitizing concepts": A key perspective in psychotherapy integration and clinical research. *Journal of Psychotherapy Integration*, *26*(2), 160–171. doi:10.1037/int0000033

Plexico, L.W., Manning, W.H., & Dilollo, A. (2005). A phenomenological understanding of successful stuttering management. *Journal of Fluency Disorders*, *30*(1), 1–22. doi:10.1016/j.jfludis.2004.12.001

Plexico, L.W., Manning, W.H., & Dilollo, A. (2010). Client perceptions of effective and ineffective therapeutic alliances during treatment for stuttering. *Journal of Fluency Disorders*, *35*(4), 333–354. doi:10.1016/j.jfludis.2010.07.001

Plexico, L.W., & Sandage, M.J. (2011). A Mindful Approach to Stuttering Intervention. *Perspectives on Fluency and Fluency Disorders*, *21*(2), 43. doi:10.1044/ffd21.2.43

Ramnerö, J., & Törneke, N. (2008). *The ABCs of human behavior : behavioral principles for the practicing clinician*. In ebrary, N. Törneke (Ed.).

Scott, P., & Jaime, H. (2013). The Clinical Applications of Acceptance and Commitment Therapy With Clients Who Stutter. *Perspectives on Fluency and Fluency Disorders*, *23*(2), 54–69. doi:10.1044/ffd23.2.54

Shapiro, D.A. (2011). *Stuttering intervention: A collaborative journey to fluency freedom* (2nd ed. ed.). Austin, Tex: PRO-ED.

St. Louis, K.O., & Tellis, G. (2015). *Stuttering Meets Sterotype, Stigma, and Discrimination : An Overview of Attitude Research*. Morgantown: West Virginia University Press.

Steine, A.-K., & Inglingstad, K.N. (2013). *Å leve med stamming : En analyse av hvordan voksne mennesker som stammer opplever sin livssituasjon.* University of Oslo Oslo.

Stewart, T. (2020). *Stammering Resources for Adults and Teenagers : Integrating New Evidence into Clinical Practice*. Milton, UNITED KINGDOM: Taylor & Francis Group.

Sønsterud, H. (2020). *Stuttering therapy: What works for whom? Minding the body in speech – a multifaceted, individual approach to stuttering therapy.* (PhD), University of Oslo, Oslo.

Sønsterud, H., Feragen, K.B., Kirmess, M., Halvorsen, M.S., & Ward, D. (2019). What do people search for in stuttering therapy: Personal goal-setting as a gold standard? *Journal of Communication Disorders*, 105944. doi:10.1016/j.jcomdis.2019.105944

Sønsterud, H., Halvorsen, M.S., Feragen, K.B., Kirmess, M., & Ward, D. (2020). What works for whom? Multidimensional Individualized Stuttering Therapy (MIST). *Journal of Communication Disorders*. doi.org/10.1016/j.jcomdis.2020.106052

Sønsterud, H., Howells, K., & Ward D. (2022). Covert and overt stuttering: concepts and comparative findings. *Journal of Communication Disorders*. doi.org/10.1016/j.jcomdis.2022.106246

Sønsterud, H., Kirmess, M., Howells, K., Ward, D., Feragen, K.B., & Halvorsen, M.S. (2019). The working alliance in stuttering treatment: A neglected variable? . *International journal of language & communication disorders*, *54*(4), 606–619. doi:10.1111/1460-6984.12465

Van Riper, C. (1973). *The treatment of stuttering*. Englewood Cliffs,N.J: Prentice-Hall.

Wampold, B.E. (2015). *The Great Psychotherapy Debate: The Evidence for What Makes Psychotherapy Work* (Second ed.). Hoboken: Taylor and Francis.

Ward, D. (2018). *Stuttering and Cluttering: Frameworks for Understanding and Treatment* (Second ed.). Oxon, New York Routledge.

Wetherell, J.L., Liu, L., Patterson, T.L., Afari, N., Ayers, C.R., Thorp, S.R., . . . Petkus, A.J. (2011). Acceptance and Commitment Therapy for Generalized Anxiety Disorder in Older Adults: A Preliminary Report. *Behavior Therapy*, *42*(1), 127–134. doi:https://doi.org/10.1016/j.beth.2010.07.002

Yaruss, J.S. (2010). Assessing quality of life in stuttering treatment outcomes research. *Journal of Fluency Disorders*, *35*(3), 190–202. doi:10.1016/j.jfludis.2010.05.010

Yaruss, J.S., Coleman, C., & Quesal, R.W. (2012). Stuttering in School-Age Children: A Comprehensive Approach to Treatment. *Language, Speech & Hearing Services in Schools (Online)*, *43*(4), 536–548. doi:10.1044/0161-1461(2012/11-0044)

Zimmerman, B., & Kitsantas, A. (1997). Developmental phases in self-regulation: Shifting from process to outcome goals. Journal of Educational Psychology, 89, 29–36. *Journal of Educational Psychology*, *89*, 29–36. doi:10.1037/0022-0663.89.1.29

Østergaard, T., Lundgren, T., Rosendahl, I., Zettle, D.R., Jonassen, R., Harmer, J.C., . . . Landrø, N.I. (2019). Acceptance and Commitment Therapy Preceded by Attention Bias Modification on Residual Symptoms in Depression: A 12-Month Follow-Up. *Frontiers in psychology*, *10*. doi:10.3389/fpsyg.2019.01995

Chapter 13

Aleksandra Krawczyk & Selma Saad Merouwe

Stuttering and Bilingualism in Children and Adults: Current Research and Future Developments

Stuttering in bilinguals is an area of interest to both researchers and speech-language therapists; however, the current data on bilingualism and stuttering are still lacking, despite the increase in the number of bilinguals all over the world. This chapter aims to review the literature tackling the existing interactions between stuttering and bilingualism. More specifically, it provides the readers with evidence-based information regarding the manifestations of speech disfluencies and stuttering in bilingual children and adults, and some highlights to consider in assessing and treating bilingual children and adults who stutter.

Definition of bilingualism

Nowadays, bilingualism is becoming a norm since it characterizes the linguistic daily life of more than half of the world's population (Grosjean, 2010). In fact, bilingualism is the consequence of several phenomena (e.g. the opening of borders, peoples' movements, cultural and commercial exchanges between countries). Furthermore, it is very common to encounter mixed couples from different countries raising their children in a multilingual context (Bhatia & Ritchie, 2013; Kohl et al., 2008). Also important to mention is school and university education, which has an impactful role in learning a second language. As a result, it is currently more common to meet bilingual people than monolingual people (Kohnert, 2010).

This situation inspires researchers to understand the bases underlying the acquisition of several languages. However, they often find themselves faced with assumptions that cannot be generalized for many reasons. First of all, the information related to the bilingual participants is often insufficient, and their linguistic profiles are usually heterogeneous and described very briefly. This makes it is difficult to compare a bilingual person with others having the same combination of languages (Grosjean, 1998). It is therefore important to define bilingualism and the learning mechanisms that trigger it.

Bilingualism on a continuum

Many authors have tried to explain what bilingualism refers to. Earlier, a person was considered bilingual if his/her proficiency in his/her second language was similar to that of a native speaker (Bloomfield, 1933). A few years later, other authors revised this definition suggesting that it was sufficient to have a minimum proficiency in one of the four linguistic skills *understanding*, *speaking*, *reading* and *writing* to be identified as a bilingual person (Haugen, 1953; Macnamara, 1967; Hamers & Blanc, 1989). We notice that these definitions refer most importantly to the linguistic competency. On the other hand, other authors suggested explanations based on the use of languages. For instance, a bilingual person would be able to use two or more languages on a daily basis, in different contexts and with different interlocutors, without necessarily mastering them in the same way (Grosjean, 1982; Grosjean & Li, 2013; Weinreich, 1974).

Up until now, the authors do not agree on a mutual definition of bilingualism. Yet, it is obvious that perfectly mastering two languages is illusive (Fishman, 1971; Wei, 2007). Thus, it seems wiser to consider bilingualism as the ability to communicate in two or more languages, while being in the middle of a continuum of skills and language use, which could range from a minimum ability to a maximum ability (Chin & Wigglesworth, 2007). There would therefore be as much bilingualism as there are bilingual individuals.

Types of bilingualism

Different types of bilingualism can be identified depending on the age of acquisition of each language, its learning circumstances and contexts of use.

The acquisition of two languages could be done simultaneously or sequentially. Bilingualism is considered simultaneous when, for example, in mixed couples, each of the two parents speaks their mother tongue with the child from birth or before the age of two. On the other hand, sequential bilinguals usually speak only one language at home and do not use the second commonly used language in the country until around the age of three or four, when they start attending daycare or school that will support learning that language (Baker, 2001; Bhatia & Ritchie, 2013; De Houwer & Ortega, 2019; Paradis et al., 2005; Paradis, 2010). It turns out that simultaneous bilinguals achieve a high level of linguistic competency in both languages, while sequential bilinguals are more likely to have limited second language skills (Paradis et al., 2005). That being said, it happens that children with a first (minority) language could develop and acquire very good skills in learning their second (community) language, and even master it better than their first language. This phenomenon is often related to some factors such as motivation (Dörnyei & Skehan, 2003), and the quality and context of language input in the child's environment (Jia, 2003), which could contribute to the change of the linguistic dominance (Genesee et al., 2004; Hoff & Shatz, 2007).

In addition, the age of acquisition makes it possible to differentiate early bilinguals from late bilinguals. The first case refers to the period preceding the age of 11 years, while the second refers to the period beyond this age (Hamers & Blanc, 1989). On the other hand, bilingualism can be considered as active if the speaker expresses himself easily in all languages and understands them perfectly, and passive when one of the languages is understood without being used orally (Bhatia & Ritchie, 2013; Valdés & Figueroa, 1994; Wei, 2005).

Finally, bilingualism is considered to be elective when the speakers willingly choose to learn and use another language, while it is considered as contextual when the latter are obliged to do so for social and professional success (Hapsburg & Peña, 2002). Consequently, bilingual people would rarely have a balanced bilingualism (Fishman, 1972), given the various criteria mentioned above. In fact, the literature exposes another type of bilingualism, based on the linguistic dominance, which refers to the knowledge and frequency of language use.

The maximum proficiency achieved by the bilingual speaker allows the differentiation between balanced bilingualism – where the level of mastery of the second language is similar to that of the mother tongue – and dominant bilingualism – where the speaker masters better one of the two spoken languages (Bhatia & Ritchie, 2013; De Houwer & Ortega, 2019). In this case, the better-spoken language is considered to be a dominant language, while the other one is considered as non-dominant (Kohnert, 2013). Other authors have identified the frequency of language use as a factor determining linguistic dominance (Gutiérrez-Clellen & Kreiter, 2003; Restrepo, 1998). A language would be considered as dominant when used 61 to 80% of the time, whereas it would be non-dominant when its use varies between 20 and 40% of the time. Balanced bilinguals would use both languages 41 to 60% of the time. Parental questionnaires are the main tools for identifying a child's linguistic dominance and understanding his profile. Several researchers have focused on the design of these questionnaires, for example: the *Alberta Language and Development Questionnaire-ALDeQ* (Paradis, Emmerzael & Duncan, 2010), the *Alberta Language Environment Questionnaire-ALEQ* (Paradis, 2011) and *Parents of Bilingual Children Questionnaire-PaBiQ* (Tuller, 2015). These questionnaires usually have common sections including the developmental history and current language skills of the child, as well as the exposure to different languages and their use at home and in other contexts. Their use is therefore important when assessing the language and fluency of bilingual speakers in a speech therapy context. For adults, self-report questionnaires are often used to determine linguistic background and proficiency. *The Language Experience and Proficiency Questionnaire* (LEAP-Q) by Marian, Blumenfeld, & Kaushanskaya (2007) and *Language History Questionnaire* (LHQ 2.0; Li, Sepanski, & Zhao, 2006; Li, Zhang, Tsai, & Puls, 2014) are examples of self-report questionnaires that provide deeper insight into an adult's linguistic history (e.g. age of exposure to different languages) and linguistic experience (e.g. functional use of each language spoken).

Indeed, speech and language therapists receive referrals of families who are concerned about the development of language and/or the fluency of their children. For adults, speech-language therapists often treat bilingual clients, even though it is likely that the speech-language therapist does not speak the same languages as the client (Jordaan, 2008). When children and adults are bilingual, treatment decisions can be particularly difficult to make given the context in which they evolve. Diagnostic errors leading to an under-estimation or over-estimation of the difficulties could occur in bilingual contexts (Bedore & Peña, 2008; Byrd et al., 2016; Paradis, 2010). Firstly, the child's difficulties could be attributed to the fact that he is learning several languages at the same time, resulting in a false-negative diagnosis. On the other hand, a disorder could be diagnosed when the deficiencies noted are part of typical bilingual language development, leading to a false-positive diagnosis.

Stuttering is one of the most common neurodevelopmental disorders. Bilingual children produce more interruptions in the flow of their speech than monolinguals (Bedore et al., 2006). Some authors consider that stuttering is more frequent in bilinguals than in monolinguals, due to the exposure to many languages (Shenker, 2011; Van Borsel et al., 2001). In the following, we will focus on the nature of stuttering and fluency in bilingual speakers, and will provide an overview of the identification and treatment of stuttering in a bilingual context.

Stuttering: definition, etiology and symptomatology

Stuttering is a complex speech disorder characterized by interruptions in the flow of speech with, quite often, a significant impact on the life of the person who stutters. According to the DSM-5, stuttering is categorized as a communication disorder and considered to be a developmental speech fluency disorder (American Psychiatric Association, 2013), affecting the rhythm and fluency of speech, and therefore hindering communication and the quality of life.

Over the past decades, several theoretical conceptualizations have emerged in an attempt to explain the causes of stuttering. Current data on etiological origins suggest multifactorial patterns, combining genetic, neurobiological, behavioral, emotional and environmental factors (Benito-Aragón et al., 2019; Bloodstein & Ratner, 2008; Drayna & Kang, 2011; Koenraads et al., 2019; Shapiro, 2011).

The symptomatology of stuttering includes in the first place the audible manifestations, considered to be primary characteristics. Those are separate from typical interruptions experienced by all speakers (for example, interjections such as "uh"). Specifically, stuttering behaviors manifest as prolongations (e.g. ssssssoup), part and whole word repetitions (p-p-p-en), broken words (bo__ttle) and blocks (__bottle).

The overt speech characteristics can oftentimes be accompanied by physical, emotional, cognitive and behavioral components secondary to stuttering (Bloodstein & Ratner, 2008; American Psychiatric Association, 2013; Guitar, 2013; Shapiro, 2011). These secondary behaviors can be divided into overt and covert concomitants as well as introspective variables (Bloodstein & Bernstein Ratner, 2008). Overt concomitants are visible to the eye, such as eye-blinking or jaw tension. Covert concomitants are only measurable through instrumentation, such as increased heartrate (Bloodstein & Bernstein Ratner, 2008). Introspective variables involve the individual's affective and/or cognitive reactions to stuttering, such as increased anxiety in certain speaking situations or negative beliefs about their communication abilities. All three of these factors occur as a result of stuttering.

To diagnose stuttering, a speech-language therapist must complete a holistic assessment that involves assessing the client's severity of stuttering as well as examining the affective, cognitive, and behavioral aspects of stuttering. People who stutter will often experience differing levels of fluency depending on the speech task (e.g. dialogue versus oral reading) or situation (e.g. talking on the phone versus speaking with a family member). It is important to consider this variability when diagnosing stuttering to get the most accurate understanding of the client's fluency abilities. In addition, there are self-report assessments that explore the client's affective, behavioral, and cognitive views of stuttering. Elevated or significant scores may indicate that the client has negative associations with his or her speaking abilities due to the impact of their stutter. Therefore, diagnosing stuttering involves objective information (such as frequency of stuttering during certain speaking tasks/situations) as well as subjective reports occurring from client interviews and self-report measures. For bilingual individuals who stutter, the researchers urge that comprehensive testing samples are needed in all languages spoken (Shenker, 2011). For example, it is possible that stuttering will present in both languages, but it may manifest with different types, frequencies, or distributions (Caesar & Kohler, 2007; Lim, Lincoln, Chan, & Onslow, 2008a). Therefore, clinicians must be aware of these differences and collect speech samples in both languages as well as understand how the client uses both languages daily.

Diagnosis criteria in monolingual population

The diagnosis of stuttering, in its overt manifestations, is based on the type and frequency of disfluencies (Conture, 2001). These are divided into two categories: stuttering-like disfluencies (including whole and part word repetitions, prolongations, broken words and blocks) and other disfluencies (including multisyllable word and phrase repetitions, interjections, revisions and abandoned speech), which are not indicative of stuttering. Earlier, researchers have identified several factors that contribute to disfluencies in monolingual people who stutter: the initial sound of a word (Wendell & Brown, 1935); the length of the word (Brown & Moren, 1942); the position of the word in a sentence (Brown, 1938); the grammatical class of the word (Brown, 1937); and the accent pattern of the word (Brown, 1938). In addition, increased syntactic complexity (Blood & Hood, 1978; Bloodstein, 1974) and decreased word familiarity (Hubbard & Prins, 1994) have also been found to lead to more stuttering. The majority of stuttering occurs at the beginning of words and mostly on consonants compared to vowels.

Disfluencies usually appear in all children's speech (Ambrose & Yairi, 1999; Eggers & Elen, 2018), but those who stutter have an excessive number of stuttering-like disfluencies. Thus, it was determined that children with a minimum of 3 stuttering-like disfluencies in a 100-syllable speech sample (Ambrose & Yairi, 1999), 7% of other disfluencies (Tumanova et al., 2014), 10% total disfluencies per 100 words (Guitar, 2013) and a minimum of 2 iterations per repetition (Ambrose & Yairi, 1995, 1999; Pellowski & Conture, 2002) should be diagnosed with stuttering. Other authors suggest that the child's speech sample (100 words) should include a minimum of 3 disfluencies (part-word or monosyllabic word repetitions) to be diagnosed as a child who stutters (Bloodstein, 1995; Conture, 2001). This 3% criterion, used internationally, is mainly based on data from monolingual English speaking children (Ambrose & Yairi, 1999). Its relevance has been proven with other monolingual Spanish-speaking, French-speaking, German and Dutch children (Boey et al., 2007; Carlo & Watson, 2003, Leclercq et al., 2017; Natke et al., 2006; Tumanova et al., 2014). However, another more recent study analyzed disfluencies in typically developing Finnish children and suggested that the 3% criterion is not clinically relevant given the length of Finnish words. Therefore, the authors encourage the identification of more reliable guidelines for differentiating stuttering-like disfluencies from other disfluencies (Jansson-Verkasalo et al., 2020).

Given the spread of bilingualism around the world (Bialystok et al., 2012, Chen et al., 2008; Dumont & Lemaître, 2005; Mahendra & Namazi, 2014), researchers and clinicians have attempted to study interlinguistic characteristics that can differentiate bilingual children who stutter and who do not stutter from their monolingual peers (Finn & Corders, 1997; Roberts & Shenker, 2007; Van Borsel et al., 2001). The conclusions of their studies often point to the critical need for empirical data on the nature of the disfluencies of bilingual children in all the spoken languages (Tetnowski et al., 2012). A better understanding of the manifestations of stuttering in bilinguals is therefore essential on both scientific and clinical levels (Shenker, 2011; Shin, 2017).

Stuttering and bilingualism: overview of current findings

Childhood

In former publications, Travis et al. (1937) postulate that stuttering appears more in bilinguals than in monolinguals, following the analysis of disfluencies affecting the speech of bilingual children between 4 and 17 years in spontaneous speech and reading samples. The conclusions of Blanton (1916), Eisenson (1984) and Karniol (1995) also converge in the same direction, knowing that the research carried out by Blanton and Karniol was based on single case studies. Much later, other authors suggest that exposure to several languages would put children at risk of developing stuttering (Van Borsel et al., 2001), and therefore agree with the conclusions of previous studies, assuming that bilingual children would have more disfluencies than their monolingual peers (Bedore et al., 2006; Firozjaei, 2013). More recently, some authors suggested that bilingualism puts children at risk of developing stuttering (Howell et al., 2009). The main conclusion of their study was that if a minority language were used at home up to age 5, the chance of starting to stutter would be lower and the recovery rate would be higher than for children who acquire English as well as a minority language during this period. In other words, postponing exposure to English would reduce the risk of onset of stuttering, and contribute to a subsequent recovery from stuttering. However, such findings are rare. Other researchers, on the other hand, have built an argumentation against the previous postulation, and suggested that bilingual children would be at risk for misdiagnosis as children who stutter, due to poor understanding of the nature of manifestation of stuttering in two (or more) languages, and the reliance on monolingual-English diagnostic criteria (Byrd et al., 2015; Eggers et al., 2019). Lastly, Gahl (2020) identifies that the research of Travis et al. (1937) had inconsistent counts and rates reported-among other design issues-and cannot be used to assume that bilingual children are more prone to stuttering.

Given the data currently available, a number of clinicians consider that exposure to several languages would inevitably be a risk factor for the onset and development of stuttering. This finding was objectified through the study conducted by Byrd et al. (2016), which aimed at investigating whether clinicians perceive bilingualism as a risk factor for the development and persistence of stuttering. 207 speech-language therapists working in the United States took part in an online survey aiming to study their knowledge related to the risk factors for the development of stuttering, including bilingualism. 22.7% of the speech-language therapists considered bilingualism to be a risk factor for the development and persistence of stuttering. Indeed, identifying stuttering in bilinguals is not an easy task (Byrd, Watson et al., 2015). Speech-language therapists would find it difficult to differentiate the difficulties affecting speech fluency from those related to a lack of mastery of the second language in bilingual children, often considering that the particularities noted are due to bilingualism (Dockrell & Howell, 2015; Dockrell et al., 2017). It is therefore important to improve our understanding of the speech disfluencies produced by bilingual children who do not stutter taking into account the variety of linguistic profiles, as well as richness and amount of exposure to different languages. This will make it possible to better diagnose stuttering in a bilingual context.

Manifestation of stuttering in bilingual children

The data currently available on the manifestation of stuttering in bilingual people are few, but disparate. The main reasons are variables related to the number of participants, their age, the languages to which they are exposed, the age of acquisition, mastery and use of their languages, and the methodology followed to identify stuttering and define the bilingualism of subjects. Howell et al. (2009) studied the manifestations of stuttering in 69 bilingual children and concluded that disfluencies were present in all spoken languages in 95% of the participants, and that their frequency depended on the degree of language proficiency. Further studies followed, and although the number of participants was smaller, the authors found that bilingual children stuttered in all spoken languages (Koushik et al., 2009; Mamdoh & Gomaa, 2015; Mohammadi et al., 2012).

Several studies showed that people who stutter would have different stuttering manifestations from one language to another. For example, Shenker et al., (1998) studied the case of a girl speaking English and French with a predominance of English. More stuttering-like disfluencies were identified in English than in French during spontaneous interactions with her parents. The findings of Carias and Ingram (2006) and Lee et al. (2014) also converge in that direction.

However, other studies suggest that stuttering occurs more in the less dominant language, or second language. Indeed, expressing oneself in the less dominant language would require most of the cognitive resources, since the expression would require the inhibition of the dominant language whose lexical activation is normally strong (Szmalec, 2013). This had led researchers to consider that the mastery of the language would have an effect on the distribution, frequency and nature of disfluencies (Maruthy et al., 2015; Schäfer & Robb, 2012).

In addition, some authors showed interest in the nature of disfluencies depending on the spoken language. Several studies suggest that bilingual people who stutter produce stuttering-like disfluencies as well as other disfluencies in all the languages they speak (Ambrose & Yairi, 1999; Carias & Ingram, 2006; Gkalitsiou et al., 2017). More particularly, interjections and prolongations would be more frequent in the less mastered language, while repetitions would be more frequent in the dominant language (Caria & Ingram, 2006). As for physical concomitants, their presence has been noted in both bilingual and monolingual children by several researchers (Howell & Davis, 2011; Karniol, 1992, Lee et al., 2014).

Other authors have looked at linguistic factors that can influence the onset of disfluencies in bilingual children, such as grammatical class of words. They were able to identify more disfluencies on content words in the first language, and on function words in the second language (Gkalitsiou et al., 2017; Howell et al., 2004). However, the number of participants was limited, so the assumptions cannot be generalized.

We therefore find it difficult to reach clear conclusions regarding the manifestation of disfluencies in bilingual children who stutter. The majority of the studies targeting this aspect are case studies, or based on a limited number of participants, so generalization of the findings is not possible. In addition, the profiles of bilinguals are very heterogeneous (Van Borsel, 2011), given the fact that they differ in the age of acquisition of the second language, the degree of mastery of their second language, the linguistic dominance characterizing their bilingualism, the combination of languages and many other factors (Werle et al., 2019). This makes it almost impossible to conclude on the psycholinguistic profile of bilingual children who stutter.

That being said, some authors have been interested in the possible effects of bilingualism on stuttering and have postulated that children exposed to several languages would be more vulnerable to develop stuttering (Howell et al., 2009). Other subsequent studies have denied this finding (Byrd et al., 2015; Eggers et al., 2019; Eggers et al., 2019). It is therefore important to know whether early exposure to several languages would have an impact on the speech fluency of young children.

Speech disfluencies in bilingual children

Bilingual children produce more interruptions in their speech than their monolingual peers (Bedore et al., 2006). Those include filled pauses (interjections), repetitive use of connectors, repetitions of sounds, syllables, words and phrases, and revisions (Navarro-Ruiz & Rallo-Fabra, 2001). According to Fiestas et al. (2005), the revisions can be phonological, lexical and grammatical. In fact, speech interruptions can appear when the message is abstract, complicated or when ideas are difficult to formulate, especially if the language used is not fully developed or acquired. Thus, they are considered to be a reflection of linguistic uncertainties (Loban, 1976).

According to Byrd et al. (2015), bilingual children would have more difficulties in terms of lexical evocation and the formulation of complete ideas. They are therefore likely to experience a high level of linguistic uncertainty, which could clearly lead to a high production of disfluencies. These interruptions are more frequent than in monolinguals, but above all, they are different in terms of types of dysfluency, including more repetitions and revisions (Bedore et al., 2006; Fiestas et al., 2005; Karniol, 1992; Poulisse, 1999).

Some authors wanted to investigate the type of disfluencies in bilingual children. For instance, a few studies identified word and syllable repetitions as being the most produced by bilingual Spanish-English children who do not stutter (Bedore et al., 2006; Fiestas et al., 2005). In addition, pilot studies carried out with this same population (Byrd et al., 2015) and with bilingual Yiddish-Dutch children (Eggers et al., 2019) made it possible to identify significantly more disfluencies in their speech than what would be considered indicative of stuttering in monolinguals (3% criterion). In fact, Byrd et al. (2015) recruited 18 Hispanic children who do not stutter aged between 5;6 and 6;7 years, of whom 6 had Spanish as the dominant language, 6 were balanced bilinguals Spanish-English and 6 had English as the dominant language. The main goal of this study was to describe the frequency and types of speech disfluencies produced by bilingual children who do not stutter. Narrative speech samples were obtained in both spoken languages, then transcribed and analyzed, and the results were compared to the stuttering identification guidelines established on English monolingual children (Ambrose & Yairi, 1999). 14/18 children obtained more than 3% stuttering-like disfluencies in their speech samples (ranging from 3% to 22%), and 13/18 exceeded the threshold of 10% disfluencies (stuttering like and other disfluencies) in at least one of the spoken languages. Repetitions of monosyllabic words and sounds predominated the stuttering-like disfluencies, while revisions and interjections predominated the other disfluencies. With regards to the number of iterations, averages of 5 and 6 were obtained for the cases of sound and word repetitions respectively. In addition, the rhythm and tension of these iterations were comparable and were not atypical. Finally, all participants produced significantly more stuttering-like disfluencies in Spanish, regardless of language dominance. This study was replicated on another population consisting of 59 bilingual Yiddish-Dutch children who do not stutter, divided into two age groups: 6.01–7.07 and 9.00–10.04 years (Eggers et al., 2019). All children had Yiddish as dominant language. The study methodology was similar to Byrd et al. in 2015. Among the main results, we note that all children produced significantly more stuttering-like disfluencies and other disfluencies in their second language, with a predominance of repetitions of monosyllabic words and syllables, and a presence of all sub-categories of other disfluencies. These were indeed more frequent in older children, with a majority of repetitions of sentences, lexical revisions and incomplete words. Finally, a good number of participants exceeded the 3% criterion in both languages (including 46% in their dominant language and 78% in their non-dominant language).

Moreover, clinicians seem to have difficulties in differentiating typical disfluencies from those specific to stuttering (Byrd et al., 2015). Therefore, it seems important to understand the origin of these difficulties, which in certain contexts might lead to false diagnoses.

Speech behaviors overlapping with stuttering

Bedore et al. (2006) mentioned a possible overlap between stuttering-like disfluencies, and interruptions in the flow of speech in bilingual children. They analyzed the types and frequency of these interruptions in 22 bilingual Hispanic-American children who do not stutter (average age 68.48 months), and compared them to 22 monolingual English-speaking children (average age 69.18 months). They identified repetitions as the most frequent disfluencies causing interruptions, exceeding those produced by monolingual children. The repetitions included phrases, multisyllabic words – considered to be other disfluencies (Ambrose & Yairi, 1999; Howell, 2013), as well as repetitions of sounds, syllables and monosyllabic words – indicative of stuttering (Yairi & Seery, 2011). The frequency of repetitions of sounds and syllables was particularly high in bilingual Hispanic-American children who do not stutter, indicating that these children could therefore be diagnosed as having a stutter, given the presence of the excessive frequency of disfluencies (Shenker & Watson, 2009).

Adulthood

There is no evidence that learning a second language would cause stuttering to occur in adulthood. Researchers have been interested in understanding the relationship between stuttering, bilingualism, and linguistic analysis (Bernstein Ratner & Benitez, 1985). For example, some researchers looked at bilingual PWS to better understand whether syntax or phonology impacted stuttering. In German-English bilingual persons who stutter, participants stuttered more on content words in German, but overall stuttering frequency was higher in participants' second language–English (Schäfer & Robb, 2012). As it relates to phonetics, Morrish, Nesbitt, and Zsilavecz (2017) identified that in the speech of a German, Akrikaans, and English adult who stutters, the voiceless plosive /k/, voiceless fricative /f/, and the consonant cluster /kl all evidenced more stuttering. The researchers also found increased stuttering on consonants compared to vowels overall, which is similar to monolingual PWS.

Another factor that has been found to potentially impact stuttering in bilingual PWS is language familiarity. As mentioned, stuttering will typically manifest in both languages, but to differing degrees (e.g. more stuttering in the native language, second language, or equal distribution). Although the body of research on bilingual PWS is small (but growing), the existing studies have found that stuttering is distributed across languages, with some studies showing more stuttering in participants' native language (Howell et al., 2004; Jayaram, 1983) and other studies showing more stuttering in the second language (Jankelowitz & Bortz, 1996; Lim et al., 2008; Nwokah, 1988; Roberts, 2002; Schäfer & Robb, 2012). Overall, however, many studies involving bilingual PWS were either single case studies or had small group sizes. More research in the area of bilingual adults who stutter is needed before making over-arching assumptions about any cross-linguistic patterns.

Considerations for the assessment of stuttering in a bilingual context

Childhood

Identifying stuttering is not an easy task. In 1948, Stern and Log showed that teachers mistakenly considered children who do not stutter as children who stutter. Much later, a study led by Byrd, Watson et al. (2015) investigated the ability of clinicians to identify stuttering in bilingual children. 86% of the speech-language therapists falsely diagnosed a bilingual Hispanic child who does not stutter as having stuttering, while 29% considered a bilingual Hispanic child who stutters as a child who does not stutter, based on the analysis of audio recordings of their speech samples. Another study led by Van Zaalen-op't Hof et al. (2009) showed weak agreement between two speech-language therapists with experience in fluency disorders in identifying stuttering in monolingual and bilingual children.

In fact, there are several inter-individual and inter-linguistic differences in bilingual children, and the assessment tools currently available do not take into account these psycholinguistic peculiarities (Gutierrez-Clellen & Simon-Cereijido, 2010). Bilingual children may have a high frequency of ambiguous disfluencies, including pauses, repetitions, and interjections in their speech (Shenker & Watson, 2009). This overlap between the aspects of bilingualism and those of stuttering makes the differential diagnosis difficult, especially if the understanding of the linguistic environment of the child is limited, and if the 3% criterion of stuttering-like disfluencies, established on monolinguals, is used during the diagnosis process. This therefore puts bilingual children at risk of being wrongly diagnosed with stuttering (Byrd et al., 2015; Byrd et al., 2016).

On the other hand, some clinicians consider that they are not sufficiently trained to assess bilingual children, and to differentiate the difficulties related to bilingualism to those inherent in the children. In some cases, the disfluencies noted in children's speech could be explained by the bilingualism of the child, leading to a false negative diagnosis of stuttering (Dockrell et al., 2017). Consequently, it would be difficult to come up with appropriate care plans for children who need speech therapy services. A holistic speech therapy assessment, specific to the bilingual population and taking into account the linguistic characteristics of bilinguals is therefore required. It will lead to a reliable diagnosis, and subsequently to a suitable therapeutic plan.

Given the specificities related to the linguistic profile of bilinguals and the variability related to stuttering, it is important to take into account some key elements when assessing the fluency of a bilingual child.

First of all, parental concern about stuttering is a key element that should not be overlooked during the speech therapy assessment. According to Glascoe (1997), this is a reliable source calling for the need for further investigation. This concern is usually related to the tension and the atypical rhythm coming along with the disfluencies, in both monolingual and bilingual children (Byrd et al., 2015). In fact, Byrd (2018) suggests that the presence of these two characteristics worries the parents more than the frequency of disfluencies itself.

Second, an understanding of the child's linguistic environment is important for an assessment leading to a reliable diagnosis. According to studies led by Werle et al. (2019) and Byrd (2018), it is not enough to indicate that the child is living in a bilingual environment. In fact, three fundamental aspects should be included to describe a person's linguistic profile: the linguistic history, which is defined by the age and the context of exposure to different languages; the linguistic function, which refers to the current frequency of exposure and use of different language; and the language proficiency, which refers to the person's overall ability to speak and understand a language. Thus, clinicians are strongly encouraged to use questionnaires especially designed to objectify these data, such as the *Alberta Language and Development Questionnaire* (Paradis et al., 2010), *Bilingual Language Profile* (Birdsong et al., 2012) and *Parents of Bilingual Children Questionnaire* (Tuller, 2015).

Third, it is recommended to collect speech samples in all spoken languages by the child, and not only in his dominant language (Shenker, 2011; Byrd, 2018). The available data in the literature are quite divergent with regards to the manifestation of disfluencies according to the language dominance. Studies showed that the disfluencies of bilinguals could be more frequent in their L2 (Eggers et al., 2019), in their L1 (Brejon-Teitler, 2015) or do not depend on the linguistic dominance (Byrd et al., 2015). Speech samples collected in all spoken languages will therefore allow a more exhaustive assessment of the speech disfluencies. Furthermore, Byrd et al. (2012) showed that bilingual children who do and do not stutter show more disfluencies in a story telling than in a spontaneous conversation. They suggested varying the speech samples collection contexts for a complete assessment. It has also been recommended to obtain recordings of the child's speech in his family context at home for a better representativeness (Shapiro, 2011; Volpin et al., 2020).

Finally, based on the findings of Byrd et al. (2015), Eggers et al. (2019) and Jansson-Verkasalo et al. (2020), the diagnostic criteria for stuttering established on the English-speaking monolingual population (3% stuttering-like disfluencies) cannot be used to identify stuttering in all monolingual populations, and certainly not in a bilingual context. Bilingual children who do not stutter are likely to produce well beyond 3% stuttering-like disfluencies in their speech, which could easily put them at risk of being wrongly diagnosed with stuttering if the 3% criterion is used. It would therefore be more appropriate to seek other clinical features in favor of a reliable differential diagnosis. At the present time, we distinguish two characteristics that should be examined to confirm that the disfluencies observed are related to stuttering: the presence of physical tension coming along with the disfluencies, and an abnormal rhythm of the iterations. Usually, the disfluencies of children who do not stutter are produced without tension, and the rhythm of iterations is regular and relaxed (Boey et al., 2007; Byrd et al., 2015). Another aspect to be considered with caution is the production of monosyllabic word repetitions. Although these are categorized as stuttering-like, they should not be considered as indicative of stuttering unless they are accompanied by atypical physical tension, as recent studies have shown that these disfluencies are produced very frequently by bilingual children who do not stutter (Byrd et al., 2015; Eggers et al., 2019). Along with these two characteristics, there are other components that should be studied closely through clinical observation and questionnaires. These are the child's reactionary attitudes to disfluencies (showing the degree of discomfort underlying negative emotions and cognitions) and a certain change in the general behavior (anger, sadness, aggressiveness, isolation etc.) and in his verbal behavior (minimum speech, loss of communication appetite). Several studies have indeed shown that children who stutter exhibit negative reactive attitudes towards their speech, unlike children who do not stutter, which should be considered when establishing a differential diagnosis (e.g. Kefalianos et al., 2014; Brce & Vanryckeghem, 2017).

While waiting to obtain a set of well-defined and adapted diagnosis criteria aiming to identify stuttering in a bilingual population, it is recommended to take into consideration the aforementioned key elements in a context of assessment and diagnosis.

Adulthood

When assessing bilingual adults who stutter, clinicians are likely to find disfluencies in both languages. However, stuttering may present differently across languages specific to frequency and types. For this reason, it is important to conduct a comprehensive assessment (Shenker, 2011). It is likely that the clinician does not speak the same languages spoken by the client and will need to use their clinical skills to discern stuttering from typical bilingual speaking disfluencies. Few studies have looked into the clinician's ability to evaluate stuttering in a foreign language. In these studies, clinicians were able to discern fluent versus stuttered speech in an unfamiliar language (Einarsdóttir & Ingham, 2009) as well as severity (Lee et al., 2014; Van Borsel & Britto Pereira, 2005). However, clinicians had trouble specifying the type of stutter heard (e.g. repetition, prolongation, etc.) (Van Borsel & Britto Pereira, 2005). Based on these findings, speech-language therapists have the necessary skillset to analyze the speaking samples of bilingual adults who stutter, even if in a foreign language. Speech samples (in order to identify the frequency of stuttering) are just one part of this assessment, however.

In addition to speech samples, bilingual assessment should include a detailed self-report tool to gain a holistic understanding of language history and experience. Coalson, Peña, and Byrd (2013) and Werle, Byrd, and Coalson (2019) reviewed multiple self-report questionnaires and noted that various language factors (such as accent) were not included in the majority of self-report questionnaires. Therefore, clinicians may generate their own questionnaires to ensure that all important parts are included (e.g. years of language exposure, frequency and places of use, types of language skills used) or use the ones mentioned previously in this chapter, such as LEAP-Q (Marian, Blumenfeld, & Kaushanskaya, 2007) and LHQ 2.0 (Li et al., 2014). The data collected in these questionnaires can guide the clinician's assessment decisions as well as provide insight into the ways a bilingual adult who stutters uses the languages they speak in their lives.

As previously mentioned, stuttering involves more than the auditory components (repetitions, prolongations, and blocks). The covert characteristics of stuttering-such as affect and cognitions-are a monumental piece of stuttering assessment. By understanding how stuttering impacts a bilingual adult's participation and oversall emotional experience, the clinician can address these aspects in therapy in addition to various speaking techniques, if appropriate (Yaruss & Quesal, 2006). There are a few self-report questionnaires available that address the affective, behavioral, and cognitive components of stuttering. One such tool is the *Overall Assessment of the Speaker's Experience of Stuttering* (OASES; Yaruss & Quesal, 2016). Based on the *World Health Organization's International Classification of Functioning, Disability, and Health* (ICF; WHO, 2001), this questionnaire measures the impact that stuttering has on an individual's life. It is available in both English and Spanish. The other tool is the *Behavior Assessment Battery for Adults Who Stutter* (BAB; Vanryckeghem & Brutten, 2018). The BAB provides normative data via subtests for the following areas: speaking situations, emotional reactions, reactions, behaviors used during speech, and communication attitude. The scores allow the clinician to evaluate which of these areas are elevated compared to speakers who do not stutter, leading to better diagnosis of stuttering and eventual treatment targets. The BAB has been translated into multiple languages, including Polish, Greek, and Italian.

Overall, assessing bilingual adults who stutter does not differ much from monolingual adults who stutter. Clinicians must include a detailed case history or interview (with the consideration of language history and experience), speech samples (in both languages), and insight into the affective, behavioral, and cognitive impacts of stuttering (via self-report tools). This holistic approach-with consideration for bilingualism-will prepare the clinician to work with the client on individually tailored therapy goals.

Considerations for treatment of stuttering in a bilingual context

Up until now, there are neither specific guidelines nor standard therapeutic approaches for the treatment of bilingual speakers. However, the available literature suggests some factors that should be considered when treating bilinguals who stutter. Among these factors, the most recurrent are the language used during the therapy and the generalization of progress from the treated language to the untreated one.

Childhood

Many authors suggested temporarily reducing the number of languages to which the bilingual child is exposed, and choosing the language that is most often used by all family members (e.g. Rustin et al., 1996). The rationale behind this recommendation was that if the second language was introduced when the child had a good control of his first language, the chance of stuttering onset would be reduced (Eisenson, 1986; Howell et al., 2009; Karniol, 1992). This reasoning is based on the demands/capacity model implying that increasing demands on a developing linguistic system might result in disfluencies. There is actually some evidence from Karniol (1992) who described the case of a Hebrew-English speaking boy who started to stutter at age 2 years 1 month. He was exposed to English and Hebrew from birth, and also to Hungarian through his maternal grandparents. According to the author, the stuttering disappeared when the parents began speaking only Hebrew with the child; so it was assumed that the cause for the boy's stuttering was bilingualism. However, the characteristics of the stuttering and its development were not clearly described. In addition, given the young age of the boy, and the short duration of the stuttering, it is very likely that it was the case of a natural recovery from early stuttering. In fact, not everyone agrees with Karniol's assumption. For example, Stahl and Totten (1995) believed that bilingual families should not be advised to limit themselves to one language in order to prevent chronic stuttering. They suggested however that temporarily eliminating bilingualism would be a reasonable action in bilingual children who are at risk for chronic stuttering. However, Shenker et al. (1998) stated that temporary eliminating bilingualism is not a necessary prerequisite to successfully reduce disfluencies in children who stutter. This conclusion was illustrated by the case of a bilingual English-French speaking preschooler. The authors initiated indirect treatment while maintaining bilingualism. The parents were encouraged to pursue bilingualism at home but not to mix languages. At a later stage, a more direct operant approach was initiated, and the child showed progress in her fluency in both languages. Moreover, Guttmann and Shenker (2006) described the case of four bilingual preschoolers whose language continued to progress while disfluencies decreased. They clearly concluded that placing linguistic demands on these children for speaking more than one language did not increase stuttering. Accordingly, to date, there are not sufficiently reliable findings to consider that bilingualism is a risk factor to stuttering. The available literature is mostly based on clinical case studies, a limited number or participants or a vague methodology. In addition, the description of the linguistic profile of the participants is often insufficient. Postponing exposure to a second language or completely eliminating bilingual education should therefore not be advised to children at risk of developing stuttering. We currently know that bilingualism has many advantages, so we need sufficiently significant evidence to give parents of bilingual children such advices. In addition, in some cases, it would be even harmful to limit the parents to using one language (for example, when both parents speak different mother tongue and do not express themselves easily in the spouse's language). A flexible and pleasant practice of bilingualism seems to us to be the most appropriate advice to give to parents, seeing the available scientific data at the present time.

On the other hand, only a few studies had provided documentation on the treatment of bilingual children who stutter with regards to the generalization of treatment progress within languages. For example, Humphrey et al. (2001) presented an individual case study of 11-year-old identical twin bilingual English-Arabic girls using a combination of fluency shaping and stuttering modification techniques. The language treatment was Arabic. It was documented that fluency increased in Arabic reading and generalized to English reading. However, this case study is not enough to conclude that cross-generalization can always take place. In fact, Conture and Curlee (2007) discussed that gains made in therapy in one language might generalize to an untreated language in some cases. Yet, in some other cases, there might be some improvement in the untreated language but less than in the treated one. So ideally, providing treatment in both spoken languages seems to be the best approach. But, not all speech-language therapists are bilingual, or they do not necessarily speak all languages spoken by the child who stutters. That's the reason why the treatment should be collaboration between the skills of the clinician and the linguistic knowledge of the child's family. Effective treatment of bilingual children using parents as partners has been described in different contexts (e.g. Yaruss et al., 2006).

Adulthood

Best practice would be to provide bilingual therapy for adults who stutter and are speakers of two languages. However, it is likely that the speech-language therapist only speaks one of the two languages spoken by the client. Therefore, the clinician must use their skillset in one language to support the client in both languages. For example, the clinician can demonstrate fluency techniques in one language and have the client practice in both languages. Although there is a lack of research on bilingual adults who stutter generalizing treatment gains in one language to another, some preliminary information exists. Three comprehensive reviews (Roberts & Shenker, 2007; Van Borsel et al., 2001) on generalization in bilinguals who stutter revealed that treatment in one language led to reduction of stuttering in the other language as well. However, a note of caution exists: These studies are mostly anecdotal and lack convincing empirical data to make assumption (Lim, Lincoln, Onslow, & Chan, 2015). A more recent study, therefore, was undertaken by Lim et al., (2015) to gain a better understanding of generalization. The study featured 19 English-Mandarin bilingual adults who stuttered who received treatment only in English. The study showed that participants presented with reduced stuttering in Mandarin following English-only treatment, indicating a generalization effect. The reduction in stuttering was still present three months later. However, as mentioned previously, there is an overall lack of research in this area, with a need for generalization to be studied between different languages and time periods (e.g. 6 months post-treatment).

Conclusion

Although this chapter includes a summary of what is known about stuttering and bilingualism in children and adults, there are still gray areas where additional research is needed. Taking the current research together, it can be understood that bilingual children and adults may experience stuttering just as the monolingual population would, but bilingualism cannot be viewed as the cause of stuttering manifestation. Instead, the research points to the fact that bilingual children and adults who stutter experience disfluencies in both languages, though possibly with differing frequencies and types. For this purpose, assessment and treatment of bilingual children and adults who stutter must take into consideration the linguistic environment of the individual and use this knowledge to guide diagnostic and treatment decisions.

Review questions / Multiple Choice Questions

1. Which of the following is **not** considered when assessing bilingual adults who stutter?
    a) Bilingual speech sample
    b) In-depth case history including language history and proficiency
    c) Oral motor abilities
    d) Interview
2. Which of the following is **true?**
    a) Research shows that speech-language clinicians are able to identify stuttering in a foreign language

   b) The majority of bilingual adults who stutter only stutter in one language
   c) The LEAP-Q is a bilingual stuttering assessment
   d) Bilingualism can cause stuttering
3. Bilingual children produce more interruptions in their speech than monolinguals because: (choose **all** that apply)
   a) Bilingualism causes stuttering
   b) The spoken languages might be not fully acquired yet
   c) Bilingualism causes language delay
   d) Bilingual children might have difficulties in terms of word retrieval and the formulation of complete ideas
4. When considering stuttering in bilingual children, we should: (choose **all** that apply)
   a) Analyze spontaneous speech samples only
   b) Assess all spoken languages
   c) Look for physical tension associated to disfluencies and arythmicity of iterations
   d) Assess only the dominant language

Suggested reading

Ambrose, N.G. & Yairi, E. (1999). Normative disfluency data for early childhood stuttering. *Journal of Speech, Language, and Hearing Research*, *42*(4), 895–909. https://doi.org/10.1044/jslhr.4204.895

Byrd, C. (2018). Assessing bilingual children: Are their disfluencies indicative of stuttering or the by-product of navigating two languages? *Seminars in Speech and Language*, *39*, 324–332. https://doi.org/10.1055/s-0038-1667161

Byrd, C.T., Bedore, M.L., & Ramos, D. (2015). The disfluent speech of bilingual Spanish-English children: Considerations for differential diagnosis of stuttering. *Language, Speech, and Hearing Services in Schools*, *46*(1), 30–43. https://doi.org/10.1044/2014_LSHSS-14-0010

Shin, S.J. (2017). *Bilingualism in schools and society: Language, identity and policy* (2nd ed.). Routledge. http://doi.org/10.4324/9781315535579

Wendell, J., & Brown, S.F. (1935). Stuttering in relation to various speech sounds. Quarterly Journal of Speech, 21(4), 481–496.

Werle, D.R., Byrd, C., & Coalson, G. (2019). Description of multilingual participants who stutter: An update 2011–2018. *Communication Disorders Quarterly*, *41*(1), 50–57.

References

Ambrose, N. & Yairi, E. (1995). The role of repetition units in the differential diagnosis of early childhood incipient stuttering. *American Journal of Speech-Language Pathology*, *4*(3), 82–88. https://doi.org/10.1044/1058-0360.0403.82

Ambrose, N.G. & Yairi, E. (1999). Normative disfluency data for early childhood stuttering. *Journal of Speech, Language, and Hearing Research*, *42*(4), 895–909. https://doi.org/10.1044/jslhr.4204.895

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders DSM-5* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596.

Baker, C. (2001). *Foundations of bilingual education and bilingualism* (3rd ed.). Multilingual Matters.

Bedore, L.M., Fiestas, C.E., Peña, E.D., & Nagy, V.J. (2006). Cross-language comparisons of maze use in Spanish and English in functionally monolingual and bilingual children. *Bilingualism: Language and Cognition*, *9*(3), 233–247. https://doi.org/10.1017/s1366728906002604

Bedore, L.M. & Peña, E.D. (2008). Assessment of bilingual children for identification of language impairment: Current findings and implications for practice. *International Journal of Bilingual Education and Bilingualism*, *11*(1), 1–29.

Benito-Aragón, C., Gonzalez-Sarmiento, R., Liddell, T., Diez, I., Uquillas, F. d., Ortiz- Terán, L., . . . Sepulcre, J. (2019, October). Neurofilament-lysosomal genetic intersections in the cortical network of stuttering. *Progress in Neurobiology*. Volume: 184. https://doi.org/10.1016/j.pneurobio.2019.101718.

Bernstein Ratner, N., & Benitez, M. (1985). Linguistic analysis of a bilingual stutterer. *Journal of Fluency Disorders*, *10*, 211–219.

Bhatia, T. & Ritchie, W. (2013). *The handbook of bilingualism and multilingualism* (2nd ed.). Wiley-Blackwell.

Bialystok, E., Craik, F.I. & Luk, G. (2012). Bilingualism: Consequences for the mind and brain. *Trends in Cognitive Sciences*, *16*(4), 240–250. https://doi.org/10.1016/j.tics.2012.03.001

Birdsong, D., Gertken, L.M., & Amengual, M. (2012). *Bilingual language profile: An easy-to-use instrument to assess bilingualism*. Center for Open Educational Resources and Language Learning, The University of Texas at Austin. Retrieved from https://sites.la.utexas.edu/bilingual/

Blanton, S. (1916). A survey of speech defects. *Journal of Educational Psychology*, *7*(10), 581.

Blood, G.W. & Hood, S.B. (1978). Elementary school-aged stutterers disfluencies during oral reading and spontaneous speech. *Journal of Fluency Disorders*, *3*, 155–165.

Bloodstein, O. (1974). The rules of early stuttering. *Journal of Speech and Hearing Disorders*, *39*, 379–394.

Bloodstein, O. (1995). *A handbook on stuttering. Language*. Arts et Disciplines, Singular.

Bloodstein, O. et Bernstein-Ratner, N. (2008). *A handbook on stuttering* (6th ed.). Thomson Delmar Learning.

Bloodstein, O., & Bernstein Ratner, N. (2008). A handbook on stuttering (6th ed.). Learning, Inc. Thomson.

Bloomfield, L. (1933). *Language*. Holt, Rinehart and Winston.

Boey, R.A., Wuyts, F.L., Van de Heyning, P.H., De Bodt, M.S., & Heylen, L. (2007). Characteristics of stuttering-like disfluencies in Dutch-speaking children. *Journal of Fluency Disorders*, *32*(4), 310–329. https://doi.org/10.1016/j.jfludis.2007.07.003

Brce, J. & Vanryckeghem, M. (2017). Communication attitude of Slovenian preschool children who do and do not stutter. *Journal of Speech Pathology et Therapy*, *02*(01), 1–5.

Brejon, N.T. (2015). Implications du multilinguisme dans les manifestations du bégaiement. *Revue de laryngologie-otologie-rhinologie*, *136*(5), 203–208.

Brown, S.F. (1937). The influence of grammatical function on the incidence of stuttering. *The Journal of Speech Disorders*, *2*, 207–215.

Brown, S.F. (1938). Stuttering with relation to word accent and word position. *Journal of Abnormal and Social Psychology*, *33*, 112–120.

Brown, S.F., & Moren, A. (1942). The frequency of stuttering in relation to word length during oral reading. *Journal of Speech Disorders*, *7*, 153–159.

Byrd, C. (2018). Assessing bilingual children: Are their disfluencies indicative of stuttering or the by-product of navigating two languages? *Seminars in Speech and Language*, *39*, 324–332. https://doi.org/10.1055/s-0038-1667161

Byrd, C.T., Bedore, M.L., & Ramos, D. (2015). The disfluent speech of bilingual Spanish-English children: Considerations for differential diagnosis of stuttering. *Language, Speech, and Hearing Services in Schools*, *46*(1), 30–43. https://doi.org/10.1044/2014_LSHSS-14-0010

Byrd, C.T., Haque, A.N., & Johnson, K. (2016). Speech-language therapists' perception of bilingualism as a risk factor for stuttering. *Communication Disorders, Deaf Studies and Hearing Aids*, *4*(2), 1000158.

Byrd, C.T., Watson, J., Bedore, L., & Mullis, A. (2015). Identification of stuttering in bilingual Spanish-English speaking children. *Contemporary Issues in Communication Science and Disorders*, *42*, 72–87. https://doi.org/10.1044/cicsd_42_S_72

Byrd, C.T., Vallely, M., Anderson, J.D. & Sussman, H. (2012). Nonword repetition and phoneme elision in adults who do and do not stutter. *Journal of Fluency Disorders*, *37*(3), 188–201.

Caesar, L.G., & Kohler, P.D. (2007). The state of school-based bilingual assessment: Actual practice versus recommended guidelines. *Language, Speech & Hearing Services in Schools*, *38*, 190–200.

Carias, S. & Ingram, D. (2006). Language and disfluency: Four case studies on Spanish–English bilingual children. *Journal of Multilingual Communication Disorders*, *4*, 149–157. http://doi.org/10.1080/14769670601092663

Carlo, E. & Watson, J. (2003). Disfluencies of 3- and 5-year old Spanish-speaking children. *Journal of Fluency Disorders*, *28*(1), 37–53. https://doi.org/10.1016/s0094-730x(03)00004-4

Chen, S.X., Benet-Martinez, V., & Bond, M.C. (2008). Bicultural identity, bilingualism, and psychological adjustment in multicultural societies: Immigration-based and globalization-based acculturation. *Journal of Personality*, *76*(4), 803–838. https://doi.org10.1111/j.1467-6494.2008.00505.x

Chin, N.B. & Wigglesworth, G. (2007). *Bilingualism: An advanced resource book*. Routledge.

Coalson, G.A., Peña, D.E., & Byrd, C.T. (2013). Description of multilingual participants who stutter. *Journal of Fluency Disorders*, *38*, 141–156.

Conture, E.G. (2001). *Stuttering: Its nature, diagnosis, and treatment*. Allyn & Bacon.

Conture, E.G., & Curlee, R.F. (2007). Stuttering and Related Disorders of Fluency. Thieme Medical Publishers.

Craig, A., Hancock., K., Tran, Y., Craig, M., & Peters, K. (2002). Epidemiology of stuttering in the community across the entire life span. *Journal of Speech, Language, and Hearing Research*, *45*, 1097–1105.

De Houwer, A. & Ortega, L. (2019). *The Cambridge handbook of bilingualism*. Cambridge University Press.

Dockrell, J. & Howell, P. (2015). Identifying the challenges and opportunities to meet the needs of children with speech, language and communication difficulties. *British Journal of Special Education*, *42*(4), 411–428.

Dockrell, J., Howell, P., Leung, D., & Fugard, A.J.B. (2017). Children with speech language and communication needs in England: Challenges for practice. *Frontiers in Education*, *2*(35). https://doi:10.3389/feduc.2017.00035

Dörnyei, Z. & Skehan, P. (2003). Individual differences in second language learning. In: C. Doughty & M. Long (dir.), *The handbook of second language acquisition* (p. 589–630). Blackwell.

Drayna, D. & Kang, C. (2011). Genetic approaches to understanding the causes of stuttering. *Journal of Neurodevelopmental Disorders*, *3(4)*, 374–380.

Dumont, J.C. & Lemaître, G. (2005). *Counting immigrants and expatriates in OECD countries: A new perspective*. United Nations expert group meeting on international migration and development.

Dworzynski, K., Remington, A., Rijsdijk, F., Howell, P. & Plomin, R. (2007). Genetic etiology in cases of recovered and persistent stuttering in an unselected longitudinal sample of young twins. *American Journal of Speech and Language Pathology*, *16*, 169–178.

Eggers, K. & Elen, R. (2018). Spraakonvloeiendheden bij personen die niet stotteren (3–82J): Invloed van geslacht en leeftijd. [Speech disfluencies in people who do not stutter (3–82y): Influence of gender and age]. *Logopedie [Logopedics]*, *3*, 11–25.

Eggers, K., Van. Eerdenbrugh, S., & Byrd, C.T. (2019). Speech disfluencies in bilingual Yiddish-Dutch speaking children. *Clinical Linguistics Phonetics* *34*(6), 576–592.

Eggers, K., Van Eerdenbrugh, S., & Byrd, C. (2020). Spraakonvloeiendheden bij tweetalig Jiddisch-Nederlands-en Turks-Nederlandstalige kinderen en een Nederlandstalige controlegroep. *Logopedie*, 21–33.

Einarsdóttir, J., & Ingham, R. (2009). Does language influence the accuracy of judgments of stuttering in children? *Journal of Speech, Language, and Hearing Research*, *52*(3), 766–779. https://doi.org/10.1044/1092-4388(2009/07-0248)

Einarsdóttir, J., & Ingham, R.J. (2009). Does language influence the accuracy of

Eisenson, J. (1984). Stuttering as an expression of language development. In L.R. Raphael, C.B. Raphael, & M.R. Valdovinos (Eds.), *Language and Cognition*. (pp. 59–72). Plenum Press. https://doi.org/10.1007/978-1-4899-0381-5_6

Eisenson, J. (1986). Language and speech disorders in children. Pergamon Press.

Fiestas, C.E., Bedore, L.M., Peña, E.D., & Nagy, V.J. (2005). Use of mazes in the narrative language samples of bilingual and monolingual 4- to 7-year old children. In J. Cohen, K.T. McAllister, K. Rolstad, & J. MacSwan (Eds.), *Proceedings of the 4th international symposium on bilingualism*, (pp. 730–740). Cascadilla Press.

Finn, P. & Cordes, A.K. (1997). Multicultural identification and treatment of stuttering: A continuing need for research. *Journal of Fluency Disorders*, *22*, 219–236.

Firozjaei, A.K. (2013). Prevalence of stuttering in bilingual and monolingual primary schools. *International Research Journal of Applied and Basic Sciences*, *4*, 1328–1331.

Fishman, J.A. (1971). The sociology of language. In: J. Fishman (dir.), *Advances in the sociology of language*, *1*, 217–404. Mouton.

Fishman, J.A. (1972). *Advances in the Sociology of Language* (vol. 2). Mouton.

Gahl, S. (2020). Bilingualism as a purported risk factor for stuttering: A close look at a seminal study (Travis et al., 1937*). Journal of Speech, Language, and Hearing Research*, *63*, 3680–3684.

Genesee, F., Paradis, J., & Crago, M. (2004). *Dual language learning and disorder: A handbook on bilingualism and second language learning*. Brookes.

Gkalitsiou, Z., Byrd, C., Bedore, L., & Taliancich-Klinger, C. (2017). Stuttering on function words in bilingual children who stutter: A preliminary study. *Clinical Linguistics & Phonetics*, *31*, 791–805

Glascoe FP. (1997). Parents' concerns about children's development: prescreening technique or screening test? *Pediatrics*, *99*(04), 522–528

Grosjean, F. & Li, P. (2013). *The Psycholinguistics of Bilingualism*. Wiley-Blackwell.

Grosjean, F. (1982). *Life with two languages: An introduction to bilingualism*. Harvard University press.

Grosjean, F. (1998). Studying bilinguals: Methodological and conceptual issues. *Bilingualism: Language and Cognition*, *1*, 131–149.

Grosjean, F. (2010). *Bilingual: Life and reality*. Harvard University Press. https://doi.org/10.4159/9780674056459

Guitar, B. (2006). *Stuttering: An integrated approach to its nature and treatment* (3rd ed.). Lippincott Williams & Wilkins.

Guitar, B. (2013). *Stuttering: An integrated approach to its nature and treatment* (4th ed.). Lippincott Williams & Wilkins.

Gutiérrez-Clellen V.F. & Kreiter, J. (2003). Understanding child bilingual acquisition using parent and teacher reports. *Applied Psycholinguistics*, *24*, 267–288.

Gutiérrez-Clellen V.F. & Simon-Cereijido G. (2010). Using nonword repetition tasks for the identification of language impairment in Spanish-English speaking children: does the language assessment matter? *Learning Disabilities Research & Practice*, *25*(01), 48–58.

Hamers, JF. & Blanc, M. (1989). *Bilingualité et bilinguisme*. Mardaga.

Hapsburg, D.V. & Peña, E.D. (2002). Understanding bilingualism and its impact on speech audiometry. *Journal of Speech, Language, and Hearing Research*, *45*(1), 202– 213.

Haugen, E. (1953). *The Norwegian language in America; A study in bilingual behavior.* University of Pennsylvania Press.

Hoff, E. & Shatz, M. (2007). *Handbook of language development*. Wiley Blackwell.

Howell P. (2013). Screening school-aged children for risk of stuttering. *Journal of Fluency Disorders*, *38*(02), 102–123.

Howell, P., & Davis, S. (2011). Predicting persistence of and recovery from stuttering by the teenage years based on information gathered at age 8 years. *Journal of Developmental and Behavioral Pediatrics*, *32*(3), 196–205.

Howell, P., Davis, S., & Williams, R. (2009). The effects of bilingualism on stuttering during late childhood. *Archives of Disease in Childhood*, *94*, 42–46. http://doi.org/10.1136/adc.2007.134014

Howell, P., Ruffle, L., Fernandez-Zuniga, A., Gutierrez, R., Ferdandez, A.H., & O'Brian, M.L., Tarasco, M., Vallejo Gomez, I. et Au-Yeung, J. (2004). *Comparison of exchange patterns of stuttering in Spanish and English monolingual speakers and a bilingual Spanish-English speaker*. University College London.

Howell, P., Ruffle, L., Fernandez-Zuniga, A., Gutierrez, R., Fernandez, A.H., O'Brien, M.L., Tarasco, M., Vallejo Gomez, I., & Au-Yeung, J. (2004). Comparison of exchange patterns of stuttering in Spanish and English monolingual speakers and a bilingual Spanish-English speaker. In: A. Packman, A. Meltzer, and H.F.M. Peters (Eds.), *Theory, Research and Therapy in Fluency Disorders. Proceedings of the 4th World Congress on Fluency Disorders, Montreal, Canada* (pp. 415–422). Nijmegan University Press.

Hubbard, C.P., & Prins, D. (1994). Word familiarity, syllabic stress pattern, and stuttering. *Journal of Speech and Hearing Research*, *37*, 564–57.

Humphrey, B., Natour, Y., & Amayreh, M. (2001). Bilingual stuttering: Comparing treatment studies of children vs. adults. Paper presented at the annual convention of the Florida Association of speech-Language Therapists and Audiologists. Orlando, FL.

Jankelowitz, D.L., & Bortz, M.A. (1996). The interaction of bilingualism and stuttering in an adult. *Journal of Communication Disorders*, *29*, 223–234. http://doi.org/10.1016/0021-9924(95)00050-X

Jankelowitz, D.L & Bortz, M.A. (1996). The interaction of bilingualism and stuttering in an adult. *Journal of Communication Sciences and Disorders*, *29*, 223–234.

Jansson-Verkasalo, E., Lehtiö, I., Silvén, M., & Eggers, K. (2020). Speech disfluencies in typically developing Finnish-speaking children - preliminary results. *Clinical Linguistics and Phonetics*, *35*(8), 707–726.

Jayaram, M. (1983). Phonetic influences on stuttering in monolingual and bilingual stutterers. *Journal of Communication Disorders*, *16*, 287–297. http://doi.org/10.1016/0021-9924(83)90013-8

Jia, G. (2003). The acquisition of the English plural morpheme by native Mandarin Chinese-speaking children. *Journal of Speech, Language, and Hearing Research*, *46*, 1297–1311.

Jordaan, H. (2008). Clinical intervention for bilingual children: An international survey. *Folia Phoniatrica et Logopaedica*, *60*, 97–105.

Karniol, R. (1992). Stuttering out of bilingualism. *First Language*, *12*, 255–283.

Karniol, R. (1995). Stuttering, language, and cognition: A review and a model of stuttering as suprasegmental sentence plan alignment (SPA). *Psychological Bulletin*, *117*(1), 104.

Kefalianos, E., Onslow, M., Ukoumunne, O.C., Block, S., & Reilly, S. (2014). Stuttering, temparament, and anxiety: Data from a community cohort ages 2–4 years. *Journal of Speech, Language and Hearing Research*, *57*(4), 1314–1322.

Koenraads, S., Marroun, H.E., Muetzelb, R., Chang, S., Vernooij, M., Jong, R.B., . . . Schroeff, M.V. (2019). Stuttering and gray matter morphometry: A population- based neuroimaging study in young children. *Brain and Language*, *194*, 121–131.

Kohl, M., Beauquier-Maccota, B., Bourgeois, M., Clouard, Ch., Donde, S., Mosser, A., Pinot, P., Rittori, G., Vaivre-Douret, L., Golse B., & Robel L. (2008). Bilinguisme et troubles du langage chez l'enfant: étude rétrospective. *La Psychiatrie de l'Enfant*, *51*, 577–595.

Kohnert K. (2010). Bilingual children with primary language impairment: Issues, evidence and implications for clinical actions. *Journal of Communication Disorders*, *43*, 456–473.

Kohnert, K. (2013). *Language disorders in bilingual children and adults.* Plural Publishing.

Koushik, S., Shenker, R., & Onslow, M. (2009). Follow-up of 6–10-year-old stuttering children after Lidcombe Program treatment: A Phase I trial. *Journal of Fluency Disorders*, *34*, 279–290. http://doi.org/10.1016/j.jfludis.2009.11.001

Leclercq, A.-L., Suaire, P., & Moyse, A. (2017). Beyond stuttering: Speech disfluencies in normally fluent French-speaking children at age 4. *Clinical Linguistics & Phonetics*, *32*(2), 166–179. http://doi.org/10.1080/02699206.2017.1344878

Lee, A.S., Robb, M.P., Ormond, T., & Blomgren, M. (2014). The role of language familiarity in bilingual stuttering assessment. *Clinical Linguistics & Phonetics*, *28*, 723–740. http://doi.org/10.3109/02699206.2014.892154

Lee, A., Robb, M., Ormond, T., & Blomgren, M. (2014). The role of language familiarity in bilingual stuttering assessment. *Clinical Linguistics and Phonetics*, *28*, 723–740.

Li, P, Sepanski, S., & Zhao, X. (2006). Language history questionnaire: A web-based interface for bilingual research. *Behavior Research Methods*, *38*(2), 202–210.

Li, P., Zhang, F., Tsai, E., Puls, B., (2014). Language history questionnaire (LHQ 2.0): A new dynamic web-based research tool. *Bilingualism: Language and Cognition*, *17*(3), 673–680.

Lim, V.P.C., Lincoln, M., Chan, Y.H., & Onslow, M. (2008). Stuttering in English–Mandarin bilingual speakers: The influence of language dominance of stuttering severity. *Journal of Speech, Language, and Hearing Research*, *51*, 1522–1537. http://doi.org/10.1044/1092-4388(2008/07-0054)

Lim, V.P.C., Lincoln, M., Chan, Y.H., & Onslow, M. (2008a). Stuttering in English-Mandarin bilingual speakers: The influence of language dominance on stuttering severity. *Journal of Speech, Language, and Hearing Research*, *51*, 1522–1537.

Lim, V.P.C., Lincoln, M., Onslow, M., & Chan, Y.H. (2015). English-only treatment of bilingual speakers who stutter: Generalization of treatment effects from English to Mandarin. *International Journal of Speech Language Pathology*, *17*(5), 431–440.

Lim, V.P.C., Rickard Liow, S.J., Lincoln, M., Chan, Y.H., & Onslow, M. (2008). Determining language dominance in English-Mandarin bilinguals: Development of a self-report classification tool for clinical use. *Applied Linguistics*, *29*, 389–412.

Loban, W. (1976). *Language development: Kindergarten through grade twelve*. National Council of Teachers of English.

Macnamara, J. (1967). The linguistic independence of bilinguals. *Journal of Verbal Learning and Verbal Behavior*. *6*, 729–736.

Mahendra, N. & Namazi, M. (2014). Becoming Bilingual. *The ASHA Leader*, *19*, 40–44.

Mamdoh, H. & Gomaa, M.A. (2015). Assessment of severity of stuttering in native versus foreign language in secondary (late) bilingual children. *Indian Journal of Otolaryngology and Head & Neck Surgery*, *67*, 132–134.

Marian, V., Blumenfeld, H.K., & Kaushanskaya, M. (2007). The Language Experience and Proficiency Questionnaire (LEAP-Q): assessing language profiles in bilinguals and multilinguals. *Journal of Speech, Language and Hearing Research*, *50*(4), 940–967.

Maruthy, S., Raj, N., Geetha, M.P., & Priya, C.S. (2015). Disfluency characteristics of Kannada –English bilingual adults who stutter. *Journal of Communication Disorders*. 56, 19–28.

Mohammadi, H., Bakhtiar, M., Rezaei, M., & Sadeghi, K. (2012). Stuttering behavior in Kurdish-Persian bilingual speakers. *Procedia – Social and Behavioral Sciences*, *32*, 283–287.

Morrish, T., Nesbitt, A., & Zsilavecz, U. (2017). Sounds affecting moments of stuttering in multilingualism: A case study. *Communication Disorders Quarterly*, *38*(3), 154–160.

Natke, U., Sandrieser, P., Pietrowsky, R., & Kalveram, K. (2006). Disfluency data of German preschool children who stutter and comparison children. *Journal of Fluency Disorders*, *31*(3), 165–176. http://doi.org/10.1016/j.jfludis.2006.04.002

Navarro-Ruiz, M.I. & Rallo-Fabra, L. (2001). Characteristics of mazes produced by SLI children. *Clinical Linguistics and Phonetics*, *15*(1), 63–66. http://doi.org/10.1080/026992001461325

Nwokah, E.E. (1988). The imbalance of stuttering behavior in bilingual speakers. *Journal of Fluency Disorders*, *13*, 357–373. http://doi.org/10.1016/0094-730X(88)90004-6

Nwokah, E. E. (1988). The imbalance of stuttering behavior in bilingual speakers. *Journal of Fluency Disorders*, *13*(5), 357–373.

Paradis J., Emmerzael K., & Sorenson Duncan, T. (2010). Assessment of English language learners: using parents report on first language development. *Journal of Communication Disorders*, *43*, 474–497.

Paradis, J. (2010). The interface between bilingual development and specific language impairment. *Applied psycholinguistics*, *31*, 227–252.

Paradis, J. (2011). Individual differences in child English second language acquisition: Comparing child- internal and child-external factors. *Linguistic Approaches to Bilingualism*, *1*(3), 213–237.

Paradis, J., Crago, M. & Bélanger, C. (2005). Le développement langagier bilingue chez les enfants : incidence sur l'évaluation du trouble primaire du langage. *Fréquences*, *17*(3), 27–30.

Pellowski, M.W. & Conture, E.G. (2002). Characteristics of speech disfluency and stuttering behaviors in 3- and 4-year-old children. *Journal of Speech, Language, and Hearing Research*, *45*(1), 20–34. http://doi.org/10.1044/1092-4388(2002/002)

Poulisse, N. (1999). *Slips of the tongue: Speech errors in first and second language production*. John Benjamins.

Restrepo, M.A. (1998). Identifiers of predominantly Spanich-speaking children with language impairment. *Journal of Speech, Language, and Hearing Research*, *41*, 1398–1411.

Roberts, P.M., & Shenker, R.C. (2007). Assessment and treatment of stuttering in bilingual speakers. In: E. Conture, & R.F. Curlee (Eds.), *Stuttering and related disorders of fluency* (3rd ed., pp. 183–209). Thieme Medical Publishers, Inc.

Roberts, P.M. (2002). Disfluency patterns in four bilingual adults who stutter. *Journal of Speech Language Pathology*, *26*(1), 5–19.

Rustin, L., Botterill, W., & Kelman, E. (1996). Assessment and therapy for young dysfluent children: family interaction. Whurr Publishers.

Schäfer, M. & Robb, P. (2012). Stuttering characteristics of German-English bilingual speakers. *Clinical Linguistics & Phonetics*, *26*(7), 597–612.

Shapiro., D. (2011). *Stuttering intervention*. (2nd ed.). Pro-ed.

Shenker, R.C. (2011). Multilingual children who stutter: Clinical issues. *Journal of Fluency Disorders*, *36*, 186–193.

Shenker, R.C., Conte, A., Gingras, A., Courcey, A., & Polomeno, L. (1998). The impact of bilingualism on developing fluency in a preschool child. In: E.C. Healey, & H.F.M. Peters (Eds.), Second world congress on fluency disorders proceedings, San Francisco, August 18–22 (pp. 200–204). Nijmegen Univ. Press.

Shenker, RC. & Watson, J. (2009). Cultural and linguistic diversity in stuttering treatment: Embracing the challenges. Short course presented at American Speech and Hearing Association. New Orleans, November.

Shin, S.J. (2017). *Bilingualism in schools and society: Language, identity and policy* (2nd ed.). Routledge. http://doi.org/10.4324/9781315535579

Stahl, V., & Totten, G. (1995). Bilingualism in young dysfluent children. In: C.W. Starkweather, & H.F.M. Peters (Eds.), Stuttering: proceedings of the first world congress on fluency disorders, Munich, Germany, August 8–11, 1994 p. 213.

Stern, E. & Log, D. (1948). A preliminary study of bilingualism and stuttering in four Johannesburg schools. *Journal of Logopedics*, *1*, 15–25.

Szmalec, A. (2013). Bilinguisme et bégaiement chez l'enfant. *Enfance*, *3*, 287–298.

Tetnowski, J.A., Richels, C., Shenker, R., Sisskin, V., & Wolk, L. (2012, February 14). When the diagnosis is dual. *The ASHA Leader*. www.asha.org/Publications/leader/2012/120214/When-the-Diagnosis-Is-Dual/

Travis, L.E., Johnson, W. & Shover, J. (1937). The relation of bilingualism to stuttering: A survey of the East Chicago, Indiana, schools.

Travis, L.E., Johnson, W., & Shover, J. (1937). The relation of bilingualism to stuttering. *Journal of Speech Disorders*, *2*, 185–189.

Tuller, L. (2015). Clinical use of parental questionnaires in multilingual contexts. In S. Armon-Lotem, J. D. Jong, & N. Meir (Eds.), *Assessing Multilingual Children Disentangling Bilingualism from Language Impairment* (pp. 300–330). Multilingual Matters.

Tumanova, V., Conture, E.G., Lambert, E.W., & Walden, T.A. (2014). Speech disfluencies of preschool-age children who do and do not stutter. *Journal of Communication Disorders*, *49*, 25–41. http://doi.org/10.1016/j.jcomdis.2014.01.003

Valdés, G. & Figueroa, R.A. (1994). *Bilingualism and testing: A special case of bias*. Ablex Publishing.

Van Borsel, J. (2011). Review of research on the relationship between bilingualism and stuttering. In Howell P, Van Borsel J, (Eds.). *Multilingual Fluency Disorders*. (pp. 253–253), Multilingual Matters.

Van Borsel, J., & Britto Pereira, M.M. (2005). Assessment of stuttering in a familiar versus an unfamiliar language. *Journal of Fluency Disorders*, *30*, 109–124.

Van Borsel, J., Maes, E., & Foulon, S. (2001). Stuttering and bilingualism: A review. *Journal of Fluency Disorders*, *26*, 179–205.

Van Borsel, J., Maes, E., & Foulon, S. (2001). Stuttering and bilingualism: A review. *Journal of Fluency Disorders*, *26*, 179–205. http://doi.org/10.1016/S0094-730X(01)00098-5

Van Zaalen-op't Hof, Y., Wijnen, F., & De Jonckere, P.H. (2009). Differential diagnostic characteristics between cluttering and stuttering–Part one. *Journal of Fluency Disorders*, *34*(3), 137–154.

Vanryckeghem, M. & Brutten, G.J. (2018). Behavior Assessment Battery for Adults who Stutter. Plural Publishing Inc

Volpin, L., De Weck, G., & Rezzonico, S. (2020). Enfants bilingues et prise en charge logopédique: panorama des pratiques déclarées. *Glossa*, *129*, 16–31.

Wei, L. (2005). *The bilingualism reader.* Psychology Press.

Wei, L. (2007). *The Bilingual Reader*. (2nd ed.), Routledge.

Weinreich, U. & Martinet, A. (1974). *Languages in contact: Findings and problems.* The Hague by Mouton.

Werle, D., Byrd, C., & Coalson, G. (2019). Description of Multilingual Participants Who Stutter: An Update 2011–2018. *Communication Disorders Quarterly*, 1–8.

World Health Organization. (2001). *International Classification of Functioning, Disability and Health: ICF*. World Health Organization.

Yairi, E. & Seery, Ch. (2011). *Stuttering: Foundation and clinical applications.* Pearson Education. Yaruss, J.S., Coleman, C., & Hammer, D. (2006). Treating preschool children who stutter: Description and preliminary evaluation of a family-focused treatment approach. *Language, Speech, and Hearing Services in Schools*, 37, 118–136. doi: 10.1044/0161–1461(2006/014)

Yaruss, S. & Quesal, R.W. (2016). *Overall Assessment of the Speaker's Experience of Stuttering (OASES).* Stuttering Therapy Resources.

Chapter 14

Kirsten Howells & Jenny Packer

Acquired Stuttering: Differential Diagnosis, Therapeutic Considerations and Support Options

Purpose of the chapter

The defining characteristics of acquired stuttering are later onset (usually in adulthood) of stuttering-like dysfluencies apparently unconnected with a history of developmental stuttering. This may be associated with:

- side effects of medications,
- structural neurological conditions, such as head injury, stroke, brain tumour or Parkinson's disease,
- functional neurological conditions,
- malingering, where an individual feigns symptoms.

This chapter aims to summarise current knowledge, assessment, and diagnosis of acquired stuttering, as well as therapeutic considerations and treatment options. Key terms, definitions, review questions and suggestions for further reading are included at the end of the chapter.

The authors firmly believe that stuttering is how some people talk – different to, but not less than, fluent speech. Within this chapter, terms such as 'changes in fluency' and 'loss of fluency' are used to reflect the personal experience of those with an acquired stutter. For these people, the onset of stuttering may have been abrupt and involve a significant challenge and loss to their sense of self within family, social and work interactions.

Considerations for differential diagnosis

There are multiple causes for acquired stuttering. It is therefore important to have an open mind in relation to the nature of the stuttering, as any preconceptions you hold may influence your clinical reasoning and decision making. Acquired stuttering really can be a bit of a puzzle, and may require some detective work on the part of you and your client to differentially diagnose what is going on.

Available research on acquired stuttering is sparse (Cruz et al., 2018). Many relevant papers report only case study examples. Earlier literature tended to suggest that different types of stuttering (e.g., developmental vs. acquired, and acquired structural neurological vs. acquired functional neurological – then called psychogenic stuttering) could be discriminated via differing patterns of symptoms and responses during assessment. Some authors provide tables or lists which suggest that different stuttering behaviours are characteristic of either acquired or developmental stuttering. However, more recent research indicates that the patterns reported in earlier literature are unreliable. Instead, heterogeneity of symptoms among individuals with the same aetiology seems common, while similar patterns of stuttering have been observed in association with a range of acquired conditions, or with brain lesions at different sites (Chang, Synnestvedt, Ostuni & Ludlow, 2010; De Nil, Jokel & Rochon, 2007; Krishnan & Tiwari, 2013; Lundgren, Helm-Estabrooks & Klein, 2010).

In summary, developmental and acquired stuttering, and different types of acquired stuttering, cannot necessarily be differentiated based on speech symptoms alone. Nevertheless, assessment of symptoms is essential to generate a clinical hypothesis regarding the underlying cause, and to contribute to the selection of the appropriate support or management approach.

Evaluation of acquired stuttering

Through the evaluation process, the person and clinician aim to collaboratively explore the nature and cause of the changes in fluency (differential diagnosis); decide whether intervention is warranted; agree goals of any intervention; and subsequently discuss and identify suitable intervention approaches.

Case history

The varied nature of acquired stuttering means that gathering information through the case history is the foundation of your evaluation. This information is likely to have a significant influence on your hypothesis regarding what may have caused the stuttering, and which intervention or support approaches may therefore be appropriate. This is the basis on which you and your client can start to build a treatment and management plan. The case history should include the following elements, to facilitate diagnosis, planning and appropriate intervention or support:

- what the person is seeking from you,
- onset and development of the change in fluency (e.g., gradual or sudden onset; any concurrent symptoms; history of developmental stuttering; earlier episodes of altered fluency),
- pattern and variation in fluency and dysfluency,
- what the individual believes has caused the changes in fluency,
- medical history, including diagnoses, planned or completed investigations, and other professionals involved,
- medications and drug use, including any changes in dosage, newly introduced, or withdrawn,
- social circle and activities,
- family commitments, relationships and responsibilities,
- work,
- hobbies and interests.

As well as collecting the facts related to the topics listed above, you should remain open to *listening* to the person as they talk about these aspects of their life. They may reveal emotional responses and personal stressors that could be contributing to their presentation of stuttering.

Assessment

Assessment should include an evaluation of the stutter, including observation and description of type and patterns of fluency and dysfluency. For example, does stuttering occur rarely or often? Is it heard at the beginning, middle or end of words and sentences? When does speech flow more or less easily, and how much physical struggle is associated with the moments of dysfluency? Are the dysfluencies predominantly stutter-like, or do they reflect word-retrieval difficulties, articulatory groping, or language formulation difficulties?

Assessment of broader speech and language skills should be included, to identify any underlying impairments, additional difficulties or linguistic factors that may influence fluency. For example, dysfluencies may be associated with word-retrieval or word-production difficulties in aphasia; with articulatory groping in apraxia; or with palilalia or speech festination in parkinsonism and other extrapyramidal conditions (Lundgren et al., 2010).

If not already undertaken by another relevant health professional, use of the *Mini Mental State Examination* (MMSE) as a routine screen of cognitive function can be useful (De Nil et al., 2007). As with all formal assessment tools, it is important to consider the ways in which involuntary dysfluencies may impact the individual's ability to respond to the questions.

Other elements of the assessment may vary depending on the individual's personal goals for therapy. The person should be given the opportunity to both articulate their goals and describe their hopes for the collaboration with a therapist. Questions about the impact of stuttering should be asked to determine which aspects of this individual's life are most affected by the changes in fluency. For example, how does the person see their ideal future? Would they like to work with the public, but at the moment feel unable to do this? Are they currently getting their partner to order meals in restaurants, but would like to do this for themselves in the future? A conversation about how the person's life has changed since the onset of stuttering can help the therapist better understand the person's needs and wishes, and help the individual define their personal goals.

It is useful to understand the individual's perception of severity, regarding both their stuttering behaviours, and the impact the stutter has on their daily life. Visual analogue scales, descriptions, and questionnaires regarding the subjective experience of stuttering are useful and may help the person clarify their experience while additionally providing a baseline for later comparison. Examples of relevant questionnaires include the WASSP (*Wright & Ayre Stuttering Self-Rating Profile*) (Wright & Ayre, 2000) and the OASES (*Overall Assessment of the Speaker's Experience of Stuttering*) (Yaruss & Quesal, 2006). Caution should be taken in drawing comparisons with any normative data for these or other assessment tools, as these have typically been developed from norms based on developmental stuttering. They cannot, therefore, be applied in the same way to someone with acquired stuttering.

Reports from key people in the person's life can be gathered and used alongside the information outlined above to assess the level of insight the person who stutters has into their communication changes and their impact. This information can feed into your hypothesis about the cause of the acquired stutter, and subsequently into any proposals for intervention or follow-up. For example, if the individual perceives their overt stuttering behaviours as very noticeable but other key people view these as minimally intrusive to conversations, this may suggest that desensitisation work could be helpful. Alternatively, the person may have a very low level of awareness regarding stuttering behaviours that all others perceive as a significant change. In this case, you may wish to evaluate their level of cognitive functioning, as this could have implications for their ability to process and retain information within the therapy process, if intervention is desired.

Development of hypotheses

As previously stated, acquired stuttering can be associated with a variety of causes, or more than one cause. Your evaluation will allow you to develop a best hypothesis regarding the nature of a particular individual's acquired stuttering. This can then guide your choice of intervention approach, as different intervention approaches may be more, or less, suitable for different types of acquired stuttering and an individual's specific circumstances. Your hypothesis may change over time, as you and your client learn more about their individual stuttering presentation. Potential hypotheses for consideration are outlined below.

Recurrence or exacerbation of a developmental stutter

The re-emergence of a developmental stutter which has not been present for many years may be similar to the experience of someone with an acquired stutter, as the individual adjusts to new sensations, emotions and responses within communicative exchanges. Even if assessment findings indicate no history of developmental stuttering or an uncertainty regarding this, it may be helpful to ask the individual to check with others whether they stuttered as a young child.

Side effects of medications

The literature includes occasional reports of stuttering onset associated with various medications (Aukst-Margetić & Margetić, 2008; Grover, Verma & Nebhinani, 2012; Ipaslan, Coşkun, Kocak & Gorücü, 2015; Lebrun, 1992; Margetić, Aukst-Margetić & Krajinović, 2009; Norman, Jaramillo, Eapen, Amuan & Pugh, 2018). These include, for example, some antidepressants, antiepileptic medication and neuroleptics. The potential for changes in medication to be a causal factor should therefore be considered more seriously if these classes of medication are part of the picture. Thus, if the person has recently begun taking any new medications or has altered the dosage of a pre-existing medication, check the literature for any references linking this particular medication with loss of fluency. While being aware that many people take many medications without experiencing any impact on their fluency, if it seems that the timing of any medication changes has coincided with changes in fluency, discuss this possibility with the individual and their doctor. If the link is confirmed, there may be alternatives available, or an adjustment in dosage may lead to a reduction in stuttering.

Medication use is often a balance between target effects and side effects. In some cases, it may be that alternative medications are not an option, and any changes in fluency must be viewed as secondary to the health gains resulting from the prescribed medication.

Structural neurological stuttering

Information gathered during assessment may indicate the presenting stutter is attributable to physical changes in neurological structures. This could include diagnoses such as epilepsy, brain tumour, recent stroke, or a progressive condition such as Parkinson's disease. On occasion, speech changes may be the first indication of neurological change or disease. You may be the first professional to evaluate the symptoms and listen to the person's concerns. Unless you already know the onset of stuttering is linked to a *known* neurological diagnosis, it is essential to consider the potential for an as yet *undiagnosed* neurological issue. If no such diagnosis or investigations have been reported during the case history, you have a duty of care to draw this to the attention of a doctor who can decide whether neurological investigations are warranted. This is particularly important if symptoms started recently, or if the person has not already discussed them with a doctor. It is necessary to do this in a sensitive manner, to minimise unnecessary concern about potentially serious health issues that may turn out to only be hypothetical. You can explain the range of causes that can be associated with changes in speech fluency in adults, stating that – based on the information gathered – it is clear that something has changed, and it is important to find out if the symptoms are associated with a medical condition. Phrasing such as the following may be helpful:

> "Usually, stuttering starts in childhood. For you, stuttering has started later, and we need to work out which factors have come together to contribute to this, so that we can find the best strategies for you. There are lots of reasons why speech might change as an adult, but it can sometimes be associated with a medical condition or even with some medications. That's why I've asked all the questions about whether you're taking any medication and so on. We also need to make sure there aren't any small changes in the way your brain is functioning or the way your muscles are working that are impacting on your speech. This isn't something I can look at here, so I'm going to contact your doctor and ask them to give you a check-up to make sure there isn't anything else going on."

Therapeutic work can start at the same time as any neurological investigations are undertaken. The investigations do not need to delay onset of therapy, but their results may influence management decisions. The findings of the broader speech and language assessments taken as part of the evaluation may also assist the medical team by highlighting other areas of concomitant change.

Functional neurological stuttering

Functional neurological stuttering is associated with changes in *how* the brain is working rather than changes to its structures. Functional neurological stuttering is involuntary and genuine, and can have just as much, if not more, impact on an individual as any other form of stuttering. Terminology around such symptoms varies, and historically has included descriptions such as ‘psychogenic disorder’, ‘functional disorder’, ‘conversion disorder’ or ‘medically unexplained symptoms’. This diversity of terminology has been acknowledged to add to the confusion relating to such disorders (Barnett & O’Kane, 2020). Within this chapter, the term functional neurological stuttering will be used.

In some cases, there may be a clear trigger for the onset of functional neurological stuttering, such as illness or a traumatic event, but this is not always the case. Indeed, where there is no clear trigger, some people find explaining the changes in their speech patterns to others a significant challenge. Stuttering has also been noted in association with concussion, particularly in the early stages (Cherry & Gordon, 2017), although it seems less likely to persist in these cases (Binder, Spector & Youngjohn, 2012).

Baker et al. (2021) recognise a range of biological, psychological and social factors that may contribute to the onset and maintenance of functional neurological disorders, including stuttering. Some factors may predispose someone to develop a functional neurological stutter (for example, genetic factors or experience of previous functional disorders, less helpful psychological coping styles, or adverse life events) while other factors (such as physical injury or illness, dilemmas leading to negative consequences or stress) potentially trigger the onset of stuttering. A final set of factors can maintain the communication changes (for example physical pain, fear or avoidance of speaking situations and stigma related to the changes in fluency).

It is important to remember that changes in fluency that appear to be functional *could* be an early symptom of changes to brain structures, or may exist *alongside* structural changes, possibly as a functional response to those physical changes and their impact for the person.

Although the evidence is limited, there may be a subset of features that occur more often in acquired psychogenic stuttering than in developmental or other forms of acquired stuttering. Baumgartner and Duffy (1997) and Baker et al. (2021) each identify some features that may occur more often in functional neurological stuttering than in other forms of stuttering. These include:

- language involvement, with unusual grammatical constructions observed, e.g., “me get sick”,
- an unusual pattern of dysfluencies, such as a very high number of repetitions of every syllable or extremes of variability or consistency,
- presence of concomitant behaviours which are unusual in their nature or severity, for example, arm tremors or extreme facial grimacing,
- increased stuttering with more simplistic speech tasks.

Awareness of such features may be helpful within the diagnostic process, but caution should be employed as, although *some* individuals with functional neurological stuttering may display these behaviours, others may not.

Malingering

There are occasional reports in the literature of individuals *feigning* onset or exaggerating stuttering symptoms for personal gain, perhaps financial or psychosocial, or to avoid or reduce negative consequences (Binder et al., 2012). It is important to attempt to differentiate malingering from functional neurological presentations, as malingering is a false presentation that could unfairly waste clinical time and resources, whilst functional neurological disorders are genuine with real consequences for the individual. However, as always, differential diagnosis is complex, and malingering may exist alongside genuine symptoms and concerns.

Binder, Spector and Youngjohn (2012) describe three cases where stuttering, along with other symptoms, was suspected to be an instance of malingering, related to a personal injury lawsuit or compensation claim. They describe the patterns of dysfluency and symptoms, as well as a range of testing protocols used in evaluation. If you suspect malingering or feigning of symptoms, a referral to psychology may be appropriate for multidisciplinary discussion.

Management of acquired stuttering

The choice of management approach is directly linked with the hypothesis formulated during the evaluation process. Discuss your hypothesis, rationale and possible goals for intervention with the person, and invite their thoughts and opinions. Details of the conversation will vary depending on your hypothesis, any underlying medical conditions, and causal factors associated with the changes in fluency.

The aim of intervention will vary for each individual depending on their personal circumstances. Therapy for acquired stuttering is about much more than simply trying to restore former speech patterns. The goal may be to help the individual adjust to living with a stutter, understand different factors that impact on the presence of stuttering, increasing their communicative strengths and ability to advocate for their communication needs with family, friends and colleagues or may include some work on the introduction of strategies to reduce struggle and effort when speaking. Time spent agreeing shared goals and building the beginnings of a strong therapeutic relationship is a good investment, as this can be a key part of successful intervention.

Regardless of the cause, individuals with acquired stuttering, just as those with developmental stuttering, deserve the best evidence-based interventions (De Nil et al., 2007). Elements of management related to specific types of acquired stuttering are outlined below. Some articles in the literature which describe treatment for acquired stuttering focus purely on speech behaviours. Our opinion, however, is that the presence of an acquired stutter can trigger a dramatic change in self-image and communication style that can have a significant impact on the individual and their interactions with friends, family, employer and colleagues. For this reason, we recommend a more holistic approach to management, including information, coping and compensatory strategies, and desensitisation for the person and their communication partners.

Recurrence or exacerbation of developmental stuttering

If your case history has established that the individual seeking support has a history of developmental stuttering, the range of management approaches designed to address developmental stuttering in adults will be appropriate. The focus of any intervention will be determined by the person’s own goals. Other chapters in this book cover a range of therapy options that can be considered. The person may benefit from support in adjusting their self-image to that of someone who stutters if they have regarded themselves for many years as a person who consistently speaks fluently. Your management approach may need to include an extra focus on this area.

Side effects of medications

As previously mentioned, where stuttering is a side effect of medication, altering the drug type or dosage may not always be possible. There will be times when the essential health benefits of a medication outweigh the challenges posed by any side effects. In this case, work on understanding, desensitisation, and acceptance of the speech changes can form the central pillar of early management. Again, the person may benefit from support in adjusting their self-image to that of someone who stutters, and your management approach may need to include an extra focus on this area.

Exploring the broader nature of communication, and the fact that a person can be a skilled communicator regardless of their level of fluency, can also be helpful. If desired, the individual may also benefit from support in helping friends, family and colleagues to understand the changes in fluency, and ways to be good communication partners for the individual.

Case study

Janine, aged 10, was referred to Speech and Language Therapy as her parents and teacher had noticed a stutter which was affecting her confidence to speak at school. At initial assessment, case history information revealed that although Janine had experienced very mild periods of gentle stuttering since the age of 6, this had not impacted on her day to day communication. In the last 5 months, Janine's stutter had increased in frequency and severity, with a lot of tense blocks. Within the last 6 months, Janine had been diagnosed with ADHD and prescribed a stimulant medication to manage this. The therapist checked possible side effects associated with this medication, and noted some published case studies where use of stimulant medications had led to increased stuttering. Janine had been having significant difficulties maintaining attention and focus through the school day due to her diagnosed ADHD, and medication was proving helpful in a number of ways. Following discussion with Janine, her parents and the paediatrician, Janine's medication was changed to a non-stimulant option, as this had been found to be helpful in some other cases of medication-induced stuttering. Janine and her parents were reassured to know there was a reason for the increase in stuttering, and the fact that this could be explained helped Janine feel more confident to speak in school. Some therapy sessions were arranged to help Janine recognise her strengths as a communicator, understand what stuttering is, and rebuild her confidence to speak in school.

Structural neurological stuttering

In cases of structural neurological stuttering, management will be influenced by the underlying disorder. For example, if assessment has brought to light underlying language formulation or word retrieval difficulties linked to aphasic symptoms, or coordination difficulties linked to dyspraxia, these areas would be the target of intervention rather than focusing on the stutter itself.

In circumstances where the communication difficulty can be described as stuttering, the focus of intervention should be on the whole presentation and the impact of the loss of fluency, including the person's communicative confidence and emotional well-being, rather than purely on the reduction of the overt stuttering behaviours. The choice of intervention approach in structural neurological stuttering is likely to be the result of a trial-and-error process, to evaluate what works best for the individual (De Nil et al., 2007). However, the impact of the underlying structural neurological changes should be taken into account when selecting various elements of your intervention. For example, someone experiencing stuttering-like dysfluencies associated with Parkinson's disease may find using a strategy to alter initiation of speech sounds less helpful, due to the inherent difficulties initiating movements associated with the Parkinson's diagnosis. It should be noted that great variability has been reported in treatment responses by individuals presenting with structural neurological stuttering. This type of stuttering often has a slower response, and has been reported as more resistant to change (Cruz et al., 2018).

In a survey of SLTs in Germany (König, 2009), the vast majority of respondents reported taking a holistic approach when working with people with structural neurological stuttering, consciously incorporating elements such as anxiety reduction and the counselling of relatives into their management strategy. When considering direct therapy to ameliorate speech symptoms, the fluency shaping techniques of reduced speech rate and rhythmical speech were most often used, followed by the stuttering modification technique of easy onset. Poor health and low levels of therapy motivation were identified as factors that may limit the potential for positive change in speech symptoms or psychosocial responses. The surveying author concludes that similar methods to those used with developmental stuttering can form part of therapy with people with structural neurological stuttering, and that a combination of approaches and techniques may be used.

Case study

Dorothy, aged 72, was admitted to hospital following acute onset of right-sided weakness and difficulty talking. Medical investigations revealed a left-sided infarct, which was treated with thrombolysis. Over subsequent days Dorothy's right-sided weakness gradually resolved and the speech difficulties took on the characteristics of stuttering and mild word-finding difficulties. She was seen by the inpatient speech and language therapy team on three occasions to monitor and discuss the changes in her speech. Dorothy appeared relatively unconcerned, and regarded the 'stumbles and loss of words' as a minor frustration but nothing more. Following her discharge from hospital, Dorothy was visited at home. She and her husband reported minor speech hesitations, but they did not feel the need for specific speech and language therapy support. Three months later, the community team telephoned Dorothy to review the situation. Dorothy answered the call herself and chatted freely, reporting that all difficulties had resolved.

Functional neurological stuttering

The available literature on working with people who present with functional neurological stuttering is limited. Whereas Baumgartner and Duffy (1997) suggest that some individuals with functional neurological stuttering show a marked reduction in symptoms within two treatment sessions, Baker et al. (2021) point out that this is not always the case, and that other people will benefit from significantly longer and more intensive therapeutic partnerships. Therapeutic outcomes may be uncertain, and therapy may not necessarily follow a linear course, due to the multiple factors and influences that may be involved.

Recent consensus recommendations for management of functional communication disorders (Baker et al., 2021) recommend consideration of three therapeutic domains: Education and explanation, symptomatic intervention, and exploration of psychological factors.

Education and explanation

Baker et al. (2021) emphasise the importance of naming and describing the 'diagnosis' to validate the experiences of the person and help them develop an understanding of what has changed. Useful phrasing is given for ways such explanations can be made accessible, such as describing a 'software' rather than a 'hardware' issue, or using an analogy such as, 'the train is off the rails. The train and railway are both working but only run smoothly when properly aligned.' The clarity of such explanations can further assist the person to advocate for themselves with family, friends and colleagues.

Education on the typical functioning of the speech mechanisms can further aid understanding of the nature of the change. As the therapeutic journey progresses, exploring relationships between different relevant predisposing, triggering and maintaining factors and their impact for the individual will be important.

Symptomatic intervention

If the stutter is of recent onset, then incorporating activities that focus on facilitating change, both physically and emotionally, may be helpful (Ward, 2010). Duffy (1995) suggests a positive, can-do attitude, with optimism and confidence in the process, combined with intensive treatment that includes physical relaxation techniques and regular practice. Ward (2010) echoes this, highlighting how reduction in musculoskeletal tension has been found in some cases to re-establish fluency. Baker et al., (2021) suggest a range of symptomatic interventions, including identifying symptomatic behaviours and explaining the mechanism of the symptom, alongside the introduction of strategies that facilitate previously natural and automatic patterns of movement. See the *Further Reading* section at the end of this chapter for suggestions regarding activities in diagnostic therapy.

Exploration of psychological factors

If the case history suggests an apparently clear link between a recent stressful psychosocial event and the onset of stuttering, it is recommended that close attention be paid to the relevant psychosocial issues within the therapy process (Baker et al. 2021). Use of an approach such as cognitive behavioural therapy to identify and challenge unhelpful thoughts is recommended, alongside support to address predisposing and triggering psychosocial factors of relevance for the individual. Mahr and Leith (1992) describe a situation where an individual's acquired stuttering appeared to be associated with a physically and emotionally abusive marriage, but resolved when the person was able to end the relationship and plan divorce proceedings. Ward (2010) describes cyclical patterns which can link stress, anxiety, and stuttering. Where appropriate, it is prudent to consider onwards referral to a psychologist or counsellor to support the individual, with possible speech therapy input alongside to desensitise the individual to the experience of stuttering.

Clinical experience suggests that it is wise to establish a timescale for active treatment aiming to resolve or significantly reduce the physical symptoms of stuttering, and to subsequently alter the aim of therapy to *living well with stuttering* if this initial approach is not sufficient.

Case study

Following a sudden loss of consciousness, Marius (aged 52) was taken to hospital by the emergency services. Upon regaining consciousness, Marius started stuttering, characterised by prolonged blocks and associated tense hand, neck and facial movements. Initial medical investigations revealed no structural neurological involvement, but subsequent medical investigations gave conflicting results, with one nerve conduction study suggesting possible Motor Neurone Disease and another finding no abnormalities. The medical team ultimately concluded that there was no structural damage or disease. Five months after the loss of consciousness, Marius was referred to Speech and Language Therapy.

At his first meeting with the therapist, Marius expressed frustration due to both the changes in his speech and what he perceived as a lack of understanding or interest from medical professionals. During the course of the discussion the therapist noted the following:

- a significant increase in stuttering and tense concomitant hand, neck and facial movements in any structured speaking task, not just those that might typically be expected to increase stuttering.

The concomitant body movements were unusual, consisting of significant facial grimacing, and large twisting movements in the neck and wrists. These movements also occasionally occurred in non-speaking tasks. The case history revealed multiple stressors in the period prior to the loss of consciousness, including moving house and resigning from his job following a dispute with his line manager. Marius had experienced a period of significant anxiety some years earlier.

On reviewing the information and discussing with Marius, the therapist hypothesised that functional neurological stuttering was the most likely diagnosis. This was based on:

- the history of prolonged and multiple stressors prior to the onset of symptoms,
- the somewhat unusual nature of the concomitant behaviours and their pattern of severity.

This information was shared with Marius, balancing reassurance that his communication changes were being taken seriously (particularly important as Marius had expressed frustration at being dismissed by medical professionals previously) alongside an explanation of the factors thought to be contributing to the speech changes. Intervention focused on exploring the relationships between the various factors, including consideration of the impact of the ongoing grievance with Marius' employer. Symptomatic intervention focused on reducing high levels of muscular tension.

Malingering

If your evaluation findings suggest feigned symptoms, calmly bring the evidence to the individual's attention, explaining that this fits a pattern more typical of feigned symptoms than of organic disorder. If appropriate, consider offering 1–2 sessions of therapy, with intensive self-directed training in between, which may give the individual the opportunity for their symptoms to resolve without "loss of face". The clinician may additionally wish to consider signposting the individual to appropriate counselling services to explore the underlying reasons for the malingering presentation. If the stuttering presentation persists, reconsider whether symptoms are feigned or if there could be a functional neurological presentation at play.

Intervention options for acquired stuttering

The evidence base regarding treatment approaches to use with people with acquired stuttering is limited. De Nil et al. (2007) acknowledge that intervention techniques traditionally used with developmental stuttering are often the first option favoured by clinicians when meeting someone with acquired stuttering, but research indicates there is no consensus on the most effective approach (Cruz et al., 2018). Careful consideration needs to be given to tailor the choice of approach, based on the cause (or causes), pattern and impact of the stutter, and the person's goals and wishes. Stuttering modification, fluency shaping, altered auditory feedback (AAF) approaches, cognitive behavioural therapy (CBT) and solution focused brief therapy (SFBT) are just a few of the options available. Consideration can also be given to the role of peer support. Several studies have demonstrated the value of interacting and networking with other people who stutter (Boyle, 2013; Trichon & Tetnowski, 2016). It should be noted that these studies focused on individuals with *developmental* stuttering but there will also be great value for the individual with an acquired stutter in realising, '*I am not alone*', and having an opportunity to be part of a community of people who stutter. Ideally, networking opportunities should be considered thoughtfully. When the individual is in the early stages of developing a self-image as a person who stutters, they may benefit from initial contacts with other individuals with acquired stuttering. Later, when the individual has adjusted to the fact that they now stutter, contacts with people with developmental stuttering may also be welcomed and helpful. There can be many benefits to exploring the concept that communicative success does not equate solely to fluency. Exploring the value of stuttered speech alongside other diverse communication styles may help someone develop a positive sense of self alongside their new stuttering identity.

Other chapters in this book cover all the intervention and support options outlined above in detail, and we recommend the reader take time to study these chapters for further information.

Once you have an intervention approach in mind, think again about the individual you are working with. Use the information you have gathered during your assessment process, and consider what impact stuttering is having on their day to day communication. What effect is stuttering having on their confidence and interactions with others? What has the individual expressed as their hopes and goals for therapy? Does the intervention approach you are considering fit with these? If not, consider other options. Might another approach fit better? Weaving together relevant aspects of different approaches may be the best way to tailor an individualised management plan for the person you are working with.

Conclusion

Assessment, diagnosis and treatment of acquired stuttering is not necessarily straightforward, as the umbrella term encompasses a number of different presentations and diagnoses. In addition, a person may present with an acquired stutter with multiple causal factors. This chapter has highlighted factors for consideration and investigation when acquired stuttering is suspected, and signposted some of the options for management. Although it is not possible to write a step-by-step definitive guide for this client group, we hope that this information will help therapists develop confidence in working with people with acquired stuttering to explore treatment options together. Findings in the literature and clinical experience suggests that a key factor in facilitating change is the clinician-client relationship. It is therefore worthwhile investing time in this at the start of the intervention process, ensuring that everyone involved is working towards a common goal.

Key Terms and Definitions

Acquired stuttering – later onset of stuttering-like dysfluencies in the absence of, or apparently unconnected with, a history of developmental stuttering.
Aetiology – the cause or set of causes of a condition.
Case history – relevant information gathered about the individual to inform the assessment process.
Desensitisation – the process of reducing sensitivity to something, reducing negative emotional responses to a situation.
Developmental stuttering – stuttering with onset in early childhood; the most common type of stuttering.
Heterogeneity – the state of being diverse in character.
Holistic approach – support that looks at the whole person and their overall wellness, not just considering their stuttering in isolation.

Hypothesis / hypotheses – the proposed explanation/s made from evidence gathered, as a starting point for ongoing investigation and evaluation.

Malingering – feigning of symptoms for some form of personal gain.

Neurological – caused, controlled by, or arising in the nervous system.

Peer support – people using their own lived experience of stuttering to help each other.

Functional – related to the way something works rather than its structure.

Side effects – secondary, usually undesirable, effects of a medication or treatment.

Symptoms – physical or psychological features that are regarded as indicative of a disease, condition or illness.

Therapeutic relationship – an interactive relationship between the client (and family) and the professional, which maintains clearly defined boundaries of care, trust and respect.

Multiple Choice Questions

1. Which of the following is **not** one of the primary differential diagnoses in acquired stuttering?
   a) Recurrence of developmental stuttering
   b) Medication-induced stuttering
   c) Functional neurological stuttering
   d) Secondary stuttering
2. Why is it important to involve the medical team in the process of differential diagnosis in acquired stuttering?
   a) To enable the medical team to make a diagnosis of structural neurological stuttering
   b) To investigate whether the stuttering could be associated with an undiagnosed neurological condition or be medication-induced
   c) To request medication
   d) To request literature on acquired stuttering
3. Which three domains should be considered for management of functional neurological stuttering?
   a) Counselling, physical symptoms and laryngeal manipulation
   b) Speech, cognition and behaviour
   c) Education and explanation, symptomatic intervention, and exploration of psychological factors
   d) Insight, awareness and goals

4. Which of the following statements is most accurate?
    a) Stuttering modification should always be offered to people with acquired stuttering
    b) A range of therapy approaches are relevant in acquired stuttering
    c) Cognitive Behavioural Therapy is the preferred therapy option in acquired stuttering
    d) Acquired stuttering will resolve in time

Further reading

The following items taken from the reference list may be of particular interest for further reading:

For an overview of the literature related to neurogenic stuttering, see *Etiology, symptomatology, and treatment of neurogenic stuttering* by Luc De Nil et al. (2007) and *Stuttering following acquired brain damage: A review of the literature* by Kristine Lundgren et al. (2010).

For consensus recommendations for the management of functional neurological stuttering in the context of other functional neurological disorders, see Baker, J., Barnett, C., Cavalli, L., Dietrich, M., Dixon, L., Duffy, J.R., Elias, A., Fraser, D.E., Freeburn, J.L., Gregory, C., McKenzie, K., Miller, N., Patterson, J., Roth, C., Roy, N., Short, J., Utianski, R., van Mersbergen, M., Vertigan, A., Carson, A., Stone, J. & McWhirter, L. (2021). Management of functional communication, swallowing, cough and related disorders: consensus recommendations for speech and language therapy. *Journal of Neurology, Neurosurgery and Psychiatry*, *92*, 1112–1125.

References

Alpaslan, A.H., Coşkun, K.S., Kocak, U. & Gorücü, Y. (2015). Stuttering Associated With the Use of Short-Acting Oral Methylphenidate. *Journal of Clinical Psychopharmacology*, *35*(6), 739–741.

Aukst-Margetić, B. & Margetić, B. (2008). Stuttering as a side-effect of divalproex sodium. *Psychiatry and Clinical Neurosciences*, *62*(6), 748.

Baker, J., Barnett, C., Cavalli, L., Dietrich, M., Dixon, L., Duffy, J.R., Elias, A., Fraser, D.E., Freeburn, J.L., Gregory, C., McKenzie, K., Miller, N., Patterson, J., Roth, C., Roy, N., Short, J., Utianski, R., van Mersbergen, M., Vertigan, A., Carson, A., Stone, J. & McWhirter, L. (2021). Management of functional communication, swallowing, cough and related disorders: consensus recommendations for speech and language therapy. *Journal of Neurology, Neurosurgery and Psychiatry*, *92*, 1112–1125.

Barnett, C. & O'Kane, L. (2020, May). Opening the conversation. *Bulletin: The Official Magazine of the Royal College of Speech and Language Therapists*, *817*, 7.

Baumgartner, J. & Duffy, J.R. (1997). Psychogenic Stuttering in Adults With and Without Neurologic Disease. *Journal of Medical Speech-Language Pathology*, *5*(2), 73–95.

Binder, L.M., Spector, J. & Youngjohn, J.R. (2012). Psychogenic Stuttering and Other Acquired Nonorganic Speech and Language Abnormalities. *Archives of Clinical Neuropsychology*, *27*, 557–568.

Boyle, M.P. (2013). Psychological characteristics and perceptions of stuttering of adults with and without support group experience. *Journal of Fluency Disorders*, *38*(4), 368–381.

Chang, S-E., Synnestvedt, A., Ostuni, J. & Ludlow, C.L. (2010). Similarities in speech and white matter characteristics in idiopathic developmental stuttering and adult-onset stuttering. *Journal of Neurolinguistics*, *23*, 455–469.

Cherry, J.C. & Gordon, K.E. (2017). Stuttering as a symptom of concussion: Confirmation of association using non-traditional information sources. *Pediatric Emergency Care*, *33*(11), 137–139.

Cruz, C., Amorim, H., Beça, G. & Nunes, R. (2018). Neurogenic stuttering: A review of the literature. *Revista de Neurologia*, *66*(02), 59–64.

De Nil, L.F., Jokel, R. & Rochon, E. (2007). Etiology, symptomatology, and treatment of neurogenic stuttering. In: E.G. Conture & R.F. Curlee (Eds.), *Stuttering and Related Disorders of Fluency* (pp. 326–343). Thieme.

Duffy, Joseph R. (1995). *Motor Speech Disorders: Substrates, Differential Diagnosis, and Management*. Mayo Foundation.

Grover, S., Verma, A.K. & Nebhinani, N. (2012). Clozapine-induced stuttering: a case report and analysis of similar case reports in the literature. *General Hospital Psychiatry*, *34*, 703.e1–703.e3.

Krishnan, G. & Tiwari, S. (2013). Differential diagnosis in developmental and acquired neurogenic stuttering: Do fluency-enhancing conditions dissociate the two? *Journal of Neurolinguistics*, *26*, 252–257.

König, K. (2009). Possibilities in Neurogenic Stuttering Treatment. Retrieved from http://www.ecsf.eu/userfiles/files/Koenig_Kathrin_Neurogenic_Stuttering.pdf.

Lebrun, Y. (1992). Stuttering and epilepsy. *Journal of Neurolinguistics*, *6*(4), 433–444.

Lundgren, K., Helm-Estabrooks, N. & Klein, R. (2010). Stuttering following acquired brain damage: A review of the literature. *Journal of Neurolinguistics*, *23*, 447–454.

Mahr, G. & Leith, W. (1992). Psychogenic Stuttering of Adult Onset. *Journal of Speech, Language and Hearing Research*, *35*, 283–286.

Margetić, B., Aukst- Margetić, B. & Krajinović, B. (2009). A Case of Stuttering During Treatment with Levomepromazine. *Psychopharmacology Bulletin*, *42*, 1.

Norman, R.S., Jaramillo, C.A., Eapen, B.C., Amuan, M.E., Pugh, M. (2018). Acquired Stuttering in Veterans of the Wars in Iraq and Afghanistan: The Role of Traumatic Brain Injury, Post-Traumatic Stress Disorder, and Medications. *Military Medicine*, *183*(11–12), 526–534.

Trichon, M. & Tetnowski, J. (2015). Self-Help Conferences and Change in the Experience of Stuttering: Preliminary Findings and Implications for Self-Help Activities. In *Proceedings of the Tenth World Congress, 6–8 July, 2015, Lisbon, Portugal*. The International Fluency Association.

Ward, D. (2010). Sudden onset stuttering in an adult: Neurogenic and psychogenic perspectives. *Journal of Neurolinguistics*, *23*, 511–517.

Wright, L. & Ayre, A. (2000). *The Wright & Ayre Stuttering Self-rating Profile*. Winslow.

Yaruss, J.S. & Quesal, R.W. (2006). Overall Assessment of the Speaker's Experience of Stuttering (OASES): documenting multiple outcomes in stuttering treatment. *Journal of Fluency Disorders*, *31*(2), 90–115.

Chapter 15

Erik X. Raj

Laughter in Stuttering Therapy: Using Humor-Based Apps to Begin Meaningful Discussions

Purpose of the chapter

In this digital age, speech-language pathologists (SLPs) who provide therapy to individuals who stutter have access to numerous technologies to educate and engage their clients. Specifically, computer-based technologies, such as smartphones and tablet computers, which typically house a number of applications (apps), can be used as valid and relevant ways to provide meaningful therapy and support to school-aged children who stutter (CWS). Through the intentional use of humor-based apps that allow users to manipulate personal photographs in a manner that might be described as funny, some CWS may be more willing to share with their clinicians a number of personal thoughts and feelings that directly relate to stuttering and the lived experience of having this particular communication difficulty.

The purpose of this chapter is to highlight and discuss three humor-based apps that could help CWS grow and evolve as communicators. I will describe these apps in detail that allow the client and the clinician to actively participate in and collaboratively create a new comedic version of personal photographs. As an SLP who works primarily with CWS, I have enjoyed the opportunity to explore humor-based apps with my clients. I believe that, when a clinician makes the choice to appropriately infuse digital technology and humor into therapeutic experiences with CWS, a strong therapeutic relationship between the client and clinician develops. I hope that the practical information that I share in this chapter will help other clinicians to better imagine new ways to provide fun and functional therapy and support to CWS and will expand and enrich the 21st-century digital competencies of clinicians and clients.

The Relevance and Benefits of Apps in Speech and Language Therapy

A significant number of adults own smart mobile computing devices, such as an iPhone or iPad. For example, a vast majority (81%) of adults within the United States have smartphones, and a little more than half (52%) of Americans aged 18 years and over own tablet computers (Pew Research Center, 2019). Furthermore, a majority of parents in the United States allow their children to use their smartphones and tablet computers on a daily basis for various digital activities (Kabali et al., 2015). Children having as much access to smart mobile computing devices as they do (Given et al., 2014; Lauricella et al., 2014), with many of them first interacting with those digital technologies before their first birthday (Kabali et al., 2015), might be why today's youth are sometimes referred to as digital natives (Prensky, 2006) who are a part of the technologically savvy mobile generation (Lauricella et al., 2014).

In an effort to provide current school-aged children with more attractive, enjoyable, and effective 21st-century learning opportunities, educators across the globe are designing speech and language lessons that allow their students to use digital devices in the learning environment (Hussain et al., 2020; Toki & Pange, 2010). Studies have found that this action is beneficial for children with speech and language difficulties because those students were observed to be highly motivated and engaged while interacting with smart mobile computing devices during learning activities (Fernández-López et al., 2013; Orr & Mast, 2014). Also, parents of children with speech and language difficulties have reported positive attitudes toward their children using smart mobile computing devices during learning activities (Fletcher-Watson et al., 2016). These optimistic findings have paved the way for SLPs to explore the use of smart mobile computing devices and, more specifically, particular apps on those devices to gauge the apps' ability to enhance students' and clients' speech, language, and overall communication abilities (Davis & Sweeney, 2015; Ramsberger & Messamer, 2014).

Researchers have found that using apps in speech and language therapy gives SLPs the chance to model specific speech and language to their clients in ways that are reportedly both fun and functional (Davis & Sweeney, 2015). Also, because a substantial number of apps include customization features that can personalize the learning experience of a given user, clients have shown higher levels of therapy interest and satisfaction when they were encouraged to interact with apps during treatment with their SLPs (Heyman, 2020; Ramsberger & Messamer, 2014). In short, apps have demonstrated their ability to transform users from passive consumers of pre-made content to active creators of personalized content (Montgomery, 2015), that can directly coincide with individuals' speech and language goals.

The Case for Humor in Speech and Language Therapy

Studies show that using humor within therapeutic settings is beneficial for building rapport between adult clients and clinicians (Crepeau & Garren, 2011). From a speech-language pathology point of view, Walsh (2007) found that SLPs who introduced humor and allowed it to occur in their therapeutic interactions with adult clients had a positive influence on those adults' overall satisfaction levels. Also, Simmons-Mackie and Schultz (2003) discovered that, in speech-language therapy with adults, humor can be used as a tool to build solidarity, mitigate embarrassment, and solicit cooperation with tasks. Examples of using humor in the therapeutic setting are making fun of oneself in a playful manner, making fun of a stimulus item, or laughing at something unexpected in the context of therapy.

On the topic of children, Fourie et al. (2011) explored the therapeutic relationship between SLPs and their younger clients. Their study focused on the children's experiences in speech-language therapy. One of the themes that the semi-structured interviews revealed was that the children saw the SLPs as a source of play and fun. Examples that support these findings are when a child described his SLP by stating, "She was funny!" (p. 316) and, when asked to imagine a bad SLP, another child responded, "She would say . . . 'Stop laughing.'" (p. 316).

Not only do children with various communication difficulties appreciate humor in therapeutic settings, but parents of children with disabilities have also mentioned that they, too, appreciate humor, as it relates to the lives and care of their children (Rieger, 2004). Children naturally enjoy playing and participating in events that trigger smiles and laughter. So, it simply makes sense that a healthy number of studies consistently reveal that humor is a positive aspect that helps clients meet their goals and objectives within the therapy room. The data shows that as children grow and mature into adulthood, the natural desire to engage in humor does not disappear. Instead, the natural inclination to engage in humor remains. Thus, it is crucial that SLPs understand this and actively incorporate aspects of humor into their therapy settings whenever possible and appropriate.

Digital Technology and the Humor-Learning Relationship

When working with school-aged children, educators have learned that humor can gain learners' attention and increase their overall enthusiasm and motivation for the given subject at hand. For example, studies have found that showing funny pictures and telling jokes are valid parts of learning that students enjoy and appreciate (Kavandi & Kavandi, 2016). In addition, when humor was purposefully integrated into the learning experience of some high school–aged students, Çelik and Gündoğdu (2016) discovered that there were decreased levels of anxiety and increased levels of knowledge retention, with one student stating, “It is really pleasant to laugh and have fun while learning. I wish we were taught in the same way in other classes. I wouldn’t have any low marks then.” (p. 154).

Adults who have the privilege of working with children can set up a humor-learning environment that might help young learners experience lower levels of stress (Sánchez et al., 2017) or temporarily forget about negative experiences in their lives (Stuber et al., 2009). Laughing and talking about digital files, such as hilarious pictures and silly movies, is a simple yet effective way to make meaningful connections with today’s youth (Mahdiloo & Izadpanah, 2017; Weitkamp & Burnet, 2007). My experience has been that, at times, some CWS experience high levels of stress and frustration related to their stuttering. Therefore, wonderful things can happen when SLPs create a humorous learning environment where smiles and laughter revolve around discussing a silly digital stimulus.

Stuttering Affects More Than Just the Individual’s Speech Patterns

Some of the most important goals in therapy have to do with helping CWS develop and maintain healthier thoughts and feelings about themselves as communicators (Chmela & Reardon, 2001). If SLPs can create an atmosphere where CWS feel comfortable talking about their stuttering-related thoughts and feelings, those clients might be able to grow and evolve as communicators. One of the ways that SLPs can do this is by discussing Sheehan’s (1970, 1997) iceberg analogy.

Sheehan’s iceberg analogy compares stuttering to an iceberg floating in water. The ice above the surface is the portion that people can see and hear. When compared to stuttering, that small part of the iceberg represents the behavioral motor difficulties, or surface features, of stuttering. The part below the surface is, by far, the larger portion of the iceberg and should not be forgotten or ignored simply because it is not visible above the water’s surface. When compared to stuttering, that unseen part of the ice below the surface is just like the self-defeating thoughts and feelings that CWS sometimes experience. The potential shame, fear, guilt, and other thoughts, feelings, and emotions that may fill a speaker’s mind and heart during a moment of stuttering are hidden from the world because they exist internally, or below the surface. This analogy perfectly illustrates why creating goals and therapeutic activities that focus solely on the behavioral motor issues is limiting because doing so may fail to address the psychosocial components of stuttering (Healey et al., 2004).

Many authors have commented on the challenges that SLPs face in the overall treatment for CWS, particularly with respect to their comfort when discussing the aspects of stuttering that are below the surface. Several studies have documented that clinicians are not comfortable working with CWS (Brisk et al., 1997; Kelly et al., 1997; Mallard et al., 1988; Tellis et al., 2008), a fact that is particularly concerning given the negative impact that many CWS experience in their lives in association with their speaking difficulties (e.g., Yaruss & Quesal, 2016). Also, studies have found that a number of speech-language pathology graduate students are completing their education without ever treating clients who stutter. This may be why some of these graduate students have reported feeling unprepared to work with CWS, even after completing coursework in fluency disorders (Santus et al., 2019).

Perhaps certain humor-based apps could be used by clinicians and speech-language pathology graduate students to help both clients and clinicians feel more comfortable discussing aspects of stuttering that are below the surface. The use of apps in therapy has not been thoroughly explored in the literature; however, there are numerous ways that SLPs can integrate such digital technology into therapy to increase motivation and personalization of the therapy experience for CWS. Specifically, SLPs can use humor-based apps to encourage CWS to examine their own emotional reactions to stuttering, to role-play different ways of responding to other people's reactions to their stuttering, and to explore the negative impact of stuttering and discuss ways that impact may be reduced.

The FIVES Criteria for App Selection

I selected the humor-based apps highlighted and discussed in this chapter by consulting the FIVES criteria described by Sweeney (Davis & Sweeney, 2015; Sweeney, 2010). The FIVES criteria urge SLPs to consider the following words before downloading any app for potential use with a client during a speech-language therapy experience:

- Free or fairly-priced (based on the app's quality and utility)
- Interactive (based on the app's potential engagement and creation of a digital product)
- Visual (based on the app's ability to provide support and scaffolding for learning and practice through visuals)
- Educationally relevant (based on the app's ability to assist students in accessing the curriculum)
- "Speechie" (based on the app's relevancy to speech and language and whether it can be repurposed for therapy use)

Each of the humor-based apps discussed in this chapter perfectly meets the FIVES criteria.

Repurposing Apps for CWS

Edutainment is a term that combines the words *education* and *entertainment* (Addis, 2005). Emerging digital technologies, such as humor-based apps that can be directly downloaded to smartphones and tablet computers, can easily be repurposed from being solely for entertainment to being therapeutic by directly motivating and encouraging CWS to use their voices to describe details about a humorous photograph. Then, the SLP can redirect the conversation to pair the humorous photograph with intentional discussions about communication in general and stuttering in particular. The following three humor-based apps that I discuss are *Doodle Mirror (Kingdom of Fun)*, *Face Booth*, and *AgingBooth*.

Doodle Mirror (*Kingdom of Fun*)

Doodle Mirror (Kingdom of Fun) (Trend L, 2020) allows users to take a photograph of themselves with their smartphone's or tablet's camera and alter their picture so that they appear drastically different. For example, one of the settings enlarges people's eyes in a way that makes them look as if they were space aliens. See the before-and-after pictures in Figure 1. A silly and creative experience such as this could be ideal for CWS who are fascinated by science fiction books and movies, which could have characters in them that appear to be similar to the altered *Doodle Mirror* photograph. This humorous photograph could be used as a legitimate talking point to generate a healthy amount of conversation that could be carefully steered toward the subjects of communication as a whole and stuttering when the time is right.

I have used *Doodle Mirror* to begin general conversations about feelings with CWS. In particular, I have frequently paired the following prompt with a *Doodle Mirror* photograph: "How would you feel if you randomly saw this space alien walking down the street?" After a few moments of thinking time, CWS may be able to share that they would perhaps feel surprised, scared, or nervous. Further expansions of the stated feelings might reveal how a client would be surprised because "it's not every day that you walk outside your house and see a space alien" or "I would feel scared or nervous because I'm not sure if the space alien would be friendly or not." Each of those responses to the shared feelings is more than appropriate and shows how the child is able to speak directly on the subject of personal feelings.

Figure 1: Doodle Mirror *Results* [Before / After]

When working together with CWS, an important question that should be asked is "How does your stuttering make you feel?" However, my experience has been that some CWS may not be ready to share such personal information. This experience connects to the literature that shows how a number of children (Blood et al., 2003) and adults who stutter have stated that they rarely or never talk about their stuttering to anyone (Corcoran & Stewart, 1998). Not talking about talking seems to be an indicator that there is a strong self-perceived stigma associated with stuttering and a fear related to talking about talking (Beilby et al., 2013; Hughes et al., 2011). Taking this into consideration, asking about feelings associated with seeing a space alien may gently ease CWS into the idea of talking about feelings that directly relate to communication as a whole and stuttering in particular.

Using the *Doodle Mirror* photograph as a starting point for discussing feelings could then allow the client and clinician to go beyond the science fiction–themed conversation to more personal topics. For example, while still pointing to the previously shared feelings of being surprised, scared, or nervous, I have shared with clients that I often feel those same things whenever I have to travel somewhere by airplane. I have stated, "Sometimes, when I'm on an airplane, the occasional bumps in the sky really surprise me, and, when I feel those bumps when I'm sitting in my seat while flying in the air, I get really scared and nervous that we might have to make an emergency landing." Though, on its surface, this example might not necessarily sound like a conversation that pertains to communication and stuttering, it does set the foundation for future conversations about communication and stuttering, and the feelings connected to those topics.

After the client and clinician have participated in broad conversations about feelings, the following prompt could be used as a way to transition to more communication-based discussions that revolve around feelings: "Thank you for sharing those words with me about the times you feel those things. Hey, since we're in therapy, I'm wondering if you might be able to share with me a time you felt [surprised, scared, nervous] because of communication or stuttering." On numerous occasions, this approach has helped me uncover valuable therapeutic data that directly connects to the lived experiences of CWS. For example, a 6-year-old boy who stutters once shared the following with me: "I felt surprised when I went to the restaurant for my neighbor's birthday party and I didn't stutter when the waiter asked what drink I wanted." The child then said, "I felt scared and nervous when the waiter came back around again asking if I wanted a refill. I didn't want to break the no stutter streak."

This was the first time that this particular client had mentioned the "no stutter streak" in therapy. Upon engaging in deeper discussion, the child was able to describe how he would mentally tally each moment of his verbal communication when stuttering was not auditorily present. He believed that his goal as a communicator was to "keep the no stutter streak going for as long as possible." Through careful and caring conversations, I was able to help the client see how this particular way of thinking was not helpful. This is a clear example of how beginning the process of talking about feelings and talking about talking can help CWS consider different types of thinking related to who they are as communicators who stutter. It all started with exploring a humor-based app like *Doodle Mirror*. According to clients, making the decision to start a conversation about stuttering and actively talking about talking and the thoughts and feelings that surround talking are beneficial (Irani et al., 2012).

The *Doodle Mirror* example shows the overlap that exists when the choice is made to discuss feelings. See the Venn diagram in Figure 2. On one side of the diagram is the experience of seeing the space alien walking down the street. On the other side is the stuttering-related experience of being in the restaurant. The feelings of being surprised, scared, or nervous seem to be attached to both experiences. Therefore, this approach might serve as an eye-opening activity for some CWS to participate in.

To recap, SLPs might consider creating a funny photograph using *Doodle Mirror*. The client and clinician can talk about that neutral photograph in a way that allows

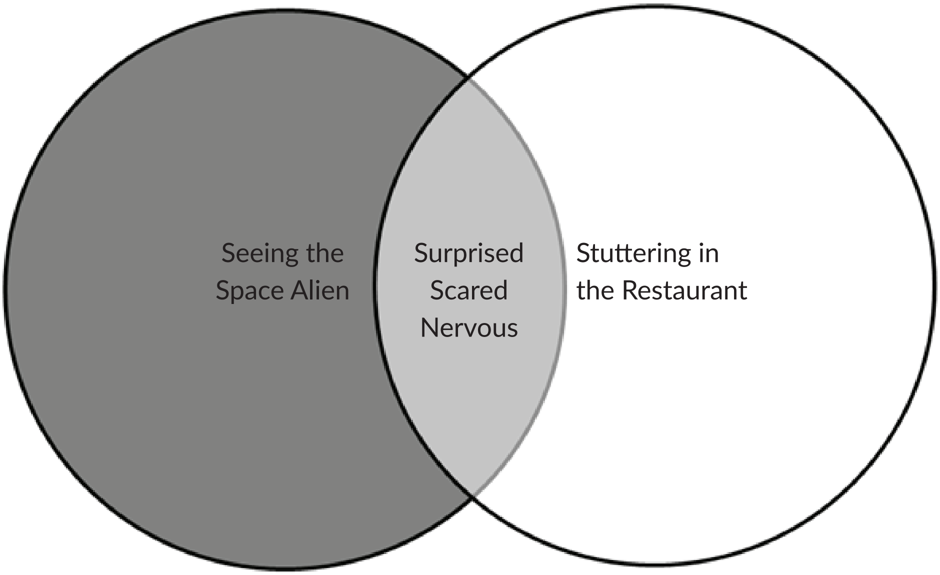


Figure 2: Doodle Mirror: *Feelings*

them to speak broadly about the various feelings connected to an altered aspect of the photograph. Then, as the session progresses, the clinician can make the conscious decision to move the conversation closer to the subjects of communication and stuttering.

Face Booth

Face Booth (Ekmekci, 2017) allows users to take a photograph of themselves with their iPhone's or iPad's camera and alter the photograph so that their face shows a plethora of new and often unusual details. For example, one of the categories within *Face Booth* is *animal*. This category has more than 50 different animal features, such as cat eyes, ram horns, pig noses, and dog ears. All these face details and more can be added to a user's photograph. See Figure 3.

Like *Doodle Mirror*, *Face Booth* can facilitate humorous and potentially science fiction–themed conversations between client and clinician. For example, I have used *Face Booth* to begin imaginative discussions with CWS in which I ask them to envision a world in which an animal exists that has cat eyes, ram horns, a pig nose, and dog ears. In particular, I have shared the following prompt after I had created a picture of this unique animal using *Face Booth*: "How might this creature talk?" After a few moments of think time, CWS might be able to guess and vocalize the

Figure 3: Face Booth: *Results* [Before / After]

unique ways that the imaginary creature produces sounds and how it "talks." One client might vocalize a type of strong growl, whereas another client might vocalize a high-pitched cackle. In my experience, this type of vocal activity almost always elicits a healthy amount of smiling and laughter. Highlighting these positive results is important because it might begin the process that allows CWS to see that their voices can be a source of fun and meaningful play.

One of the questions that I consistently ask CWS is, "Do you think it is possible to have fun with your voice?" Sometimes, this open-ended question results in responses that make it clear that clients do not think highly of their voices and do not view them as a source of fun, perhaps because of stuttering. Past literature has highlighted the feelings of people who stutter when they are asked to speak about the moments of stuttering. For example, individuals who stutter described their feelings during the moments of stuttering as follows:

- "like I am a butterfly trying to fly, but I am constantly buffered by strong winds. I cannot move forward like I want and it is frustrating" (Manning, 2006, p. 155).
- "a momentary suffocation . . . you get the feeling that you're drowning" (Plexico, et al., 2009, p. 94).
- "a black hole where time stands still until the word(s) get verbalized" (Tichenor & Yaruss, 2019, p. 4360).

In thinking back to *Face Booth* and the newly created photograph of the imaginary animal that has cat eyes, ram horns, a pig nose, and dog ears, the clinician could present the following feeling-related prompt to CWS: “How would you feel if one day you woke up and you were on a planet where all the animals looked like this?” After a few moments of think time, CWS might share that perhaps they would feel confused. Further conversations might reveal that the client would feel confused because “I never saw anything like this before!”

In an effort to move the conversation closer to the subject of stuttering, a clinician might say, “Hey, since we’re in therapy, I’m wondering how you would feel if one day you woke up and you were on a planet where everyone stutters.” This prompt might open up honest responses from CWS. For example, an 11-year-old boy who stutters once shared the following response with me: “I would feel confused because I’ve never met another person who stutters before.” The child then proceeded to say, “Wow! Imagine a planet where everyone was a person who stutters. That would be great because everyone would know exactly what I was going through.” This valuable string of dialogue emphasized the importance of connecting people who stutter with other people who stutter to expand their network of those who might be able to provide additional support. The honest response that the child shared helped me see that the client would benefit from meeting other CWS, so I gave the child’s parents information about a local support group for youth who stutter.

The act of providing support group information to the client and his parents was fully aligned with the literature that focuses directly on people who stutter who choose to partake in stuttering-related support group experiences. One of the ways these individuals have been able to gain support for adverse stuttering-related feelings and emotions is through experiences with other people who stutter. Stuttering support experiences are diverse (Trichon & Raj, 2018), with some being in-person experiences, such as national self-help conferences (Trichon & Tetnowski, 2011), local self-help meetings (Yaruss et al., 2002), or summer camps exclusively designed for CWS (Byrd et al., 2016). Other stuttering support experiences are internet-based, such as social networking websites (Fuse & Lanham, 2016; Raj & Daniels, 2017) or audio podcasts (Dignazio et al., 2020). No matter what the stuttering support experiences look like, one clear theme that all of them share is the sense that people who stutter benefit from knowing they are not alone, and that there are others out there who have similar lived experiences.

The example of the *Face Booth* photograph shows the overlap that exists when the choice is made to discuss feelings. See the Venn diagram in Figure 4. On one side of the Venn diagram is the experience of being on the planet with the unique animal that has cat eyes, ram horns, a pig nose, and dog ears, and on the other side is the experience of being on a planet where everyone stutters. The feeling of confused could describe both experiences. Therefore, this approach might serve as an appropriate activity for some CWS.

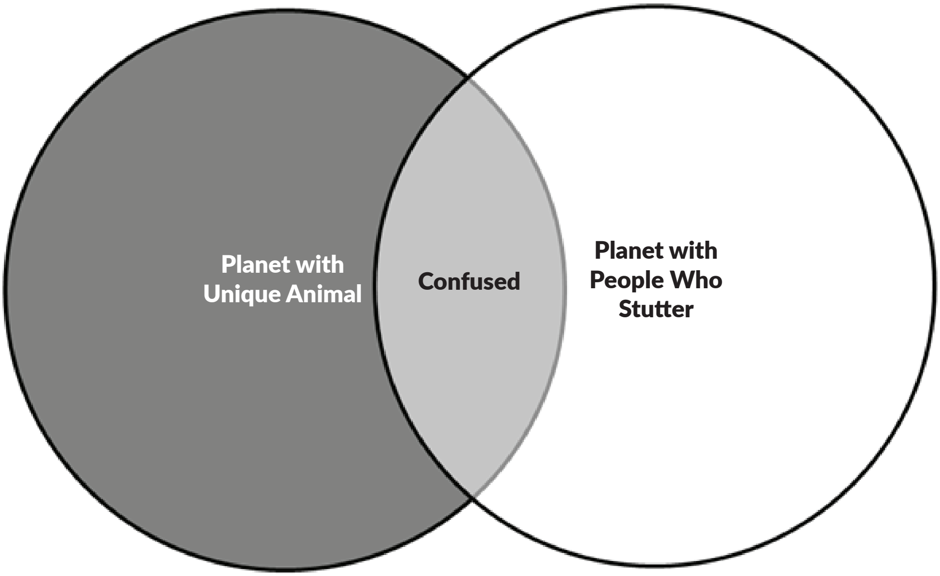


Figure 4: Face Booth: *Feelings*

To recap, SLPs might consider creating a funny photograph using *Face Booth*. The clinician and the CWS could speak directly about that neutral photograph in a way that allows them to speak broadly about various feelings connected to an altered aspect of the photograph. Then, as the session progresses, the clinician can make the conscious decision to move the conversation closer to the subjects of communication and stuttering.

AgingBooth

AgingBooth (PiVi & Co, 2020) allows users to take a photograph of themselves with their smartphone's or tablet's camera then alter the photograph so that their face looks much older. See Figure 5. In my experience, this particular app has been one of the most helpful that I have used with CWS. First, *AgingBooth* seems to be a big hit with younger clients because many of them enjoy seeing older versions of themselves. Second, the photograph that the app creates almost always sparks a massive burst of smiles and laughter in the therapy room. Thirdly, and perhaps most importantly, the photograph can be used as a valid talking point to start future-oriented conversations.

Figure 5: AgingBooth: *Wyniki* [Before / After]

Having future-oriented conversations with CWS is necessary because researchers have found that CWS report lower levels of optimism for their futures when compared to children who do not stutter (Blood et al., 2011). When SLPs begin to have future-oriented conversations with CWS, the honest dialogue could give clinicians a glimpse into how their clients see themselves and the mindset that may shape their particular thoughts and feelings (Caughter & Crofts, 2018). One of the ways in which I have used *AgingBooth* in therapy has been to pair it with the following prompt: “Let’s make some guesses about what you think the future might be like when you’re 100 years old.” In the past, this neutral prompt has generated responses that touched on the topic of stuttering, even if stuttering was not necessarily mentioned in the prompt.

For example, a 13-year-old boy who stutters shared the following response with me: “When I’m 100 years old, things will be very different. Computers and iPhones might be microscopic. Space travel might be so fast that we could get to Mars in a day. Skateboards might have rockets attached to them. Stuttering pills might exist to cure stuttering. Robots might be able to do my homework when I’m tired.” All these responses were more than appropriate, and they showed a 13-year-old boy who truly enjoyed imagining the potential technological advances that the future might hold for all humanity. However, the prediction about stuttering pills stood out, which showed me that stuttering was on the client’s mind.

Knowing that the client was thinking about stuttering pills was an excellent opportunity for me to transition to conversations with him about feelings, such as "How would you feel if there was a pill that could cure stuttering? Would you take it? Why or why not?" (adapted from Reitzes, 2006, p. 244). These are deep conversations for any person who stutters, let alone a 13-year-old child. However, the start of the therapy experience was filled with smiles and laughter as a result of creating and talking about funny photographs using *AgingBooth*. Therefore, it is my opinion that the client was far more willing to participate in these deep conversations that helped him and me better understand how stuttering impacted his perceived present and future life.

I have also used *AgingBooth* in therapy by pairing it with the following prompt: "Let's imagine that a time machine has been invented which allows you to talk to an older future version of yourself. How would that make you feel?" In the past, this science fiction–themed prompt has elicited unexpected conversations that had to do with the theme of feeling lucky. More specifically, a 14-year-old boy mentioned that he would "feel lucky because I would enjoy asking the older future version of myself lots of questions to see how I turned out." Some of the questions that he wanted to ask were whether he owned a "big house" and "met anyone famous."

After I had asked appropriate follow-up questions that allowed the client to understand what it means to feel lucky, I gave him ample opportunities to fully describe the house he hoped to own and to list the famous people he hoped to meet. Throughout this conversation where feeling lucky was the theme, I kept moving closer to the subject of communication as a whole. For example, I asked, "How might you introduce yourself to one of those famous people you hope to meet one of these days?" Perhaps this could be an ideal opportunity for me to begin to discuss various categories of communicative competence that might include learning about assertiveness and confidence in communication (Byrd et al., 2016; Chmela & Campbell, 2014).

As described by Chmela and Campbell (2014), CWS can choose to improve their communication abilities in many meaningful ways. For example, CWS can learn ways of being assertive that would help them feel comfortable with initiating conversations and participating in communicative interactions with familiar and unfamiliar listeners. Also, CWS can learn ways of being confident, which would entail understanding and intentionally using their body language and voice volume to clearly show their communication partners their desire to engage in a communication exchange.

After the conversation has come to a natural conclusion, the client and clinician could choose to revisit the theme of feeling lucky. One way that I have done this is to ask, "Do you ever feel lucky to be a person who stutters? If so, when?" Of course,

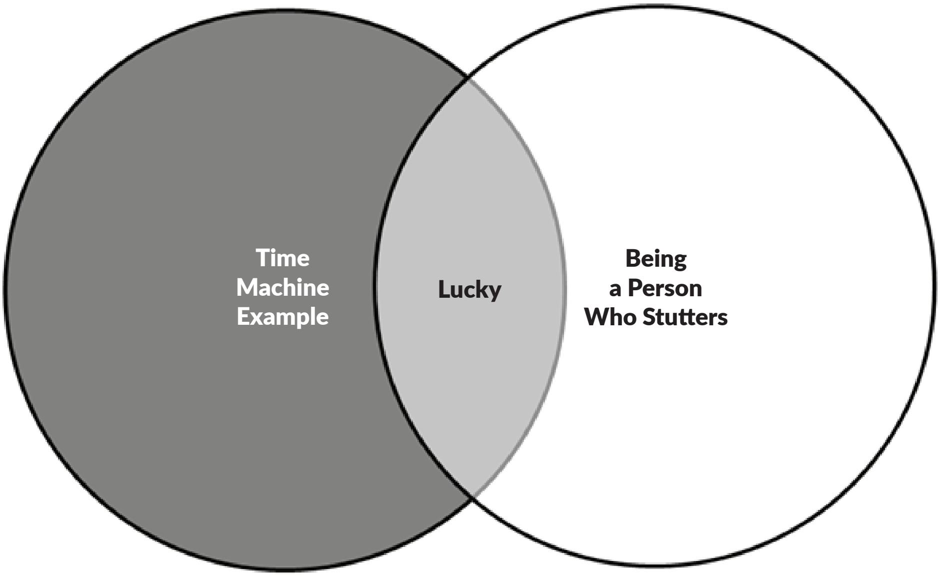


Figure 6: AgingBooth: *Fellings*

the ways in which CWS respond to that particular prompt is a strong indicator of where they are on their therapeutic journey, but on several occasions CWS have shared wonderful responses, such as the following one from a 12-year-old-girl who stutters. She said that she "feel[s] lucky to be a person who stutters because if it wasn't for stuttering, I would have never met or become friends with [her friend who also stutters]." This idea of feeling lucky and other examples of positive emotions directly related to being a person who stutters also appear in the literature (Klein & Hood, 2004; O'Dwyer et al., 2018).

To recap, SLPs might consider creating a funny photograph using *AgingBooth* to make the user's face look much older. That neutral photograph could be directly addressed in a manner that allows the client and clinician to speak broadly about the future. Then, as the session progresses, the clinician can consciously move the conversation closer to the subjects of communication and stuttering. For example, the client and clinician could discuss various feelings that connect to the future.

Conclusion

Today's technologically savvy generation of CWS deserve exciting and relevant therapeutic experiences filled with smiles and laughter. My opinion is that all the humor-based apps discussed in this chapter truly do allow fun and functional therapy to happen. As Pollak and Freda (1997) stated, "Students tend to remember teachers who take the trouble to express their messages in unusual ways" (p. 177). Some SLPs might consider these humor-based apps as unusual. However, embrace the unusual, and create unusual photographs with your CWS. Thank you to all the SLPs who are willing to become a space alien, a unique animal, or a time traveler, all in the hope of connecting with CWS. Your amazing clients will remember all of you amazing SLPs.

Questions

1. According to the Pew Research Center (2019), a little more than ______% of Americans 18 years of age and over <u>own tablet computers</u>.
   a) 27;
   b) 52;
   c) 72;
   d) 92.
2. The following is <u>not</u> part of the FIVES criteria for App selection
   a) Free or fairly priced;
   b) Visual;
   c) Covered by insurance;
   d) Interactive.
3. Which of the following is an app that allows users to take a photograph of themselves with their iPhone's or iPad's camera and alter their picture so that <u>they appear drastically different</u>.
   a) *Face Booth;*
   b) *Aging Booth;*
   c) *Mirror, mirror on the wall;*
   d) *Doodle Mirror.*
4. Which of the following is an app that allows users to take a photograph of themselves with their iPhone's or iPad's camera and alter the photograph so that their <u>face shows a plethora of new and often unusual details</u>.
   a) *Face Booth;*
   b) *Aging Booth;*
   c) *Mirror, mirror on the wall;*
   d) *Doodle Mirror.*
5. Which of the following is an app that allows users to take a photograph of themselves with their iPhone's or iPad's camera and alter the photograph so that their <u>face looks much older</u>.

a) *Face Booth;*
b) *Aging Booth;*
c) *Mirror, mirror on the wall;*
d) *Doodle Mirror.*

Suggested reading

Mobile apps for treatment of speech disorders in children: an evidence-based analysis of quality and efficacy: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6872533.

Quality of mobile phone and tablet mobile apps for speech sound disorders: Protocol for an evidence-based appraisal: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5155082.

Critical review: Is the integration of mobile device apps' into speech and language therapy effective clinical practice? https://www.uwo.ca/fhs/csd/ebp/reviews/2011-12/Sidock.pdf.

Mental health smartphone apps: Review and evidence-based recommendations for future developments: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4795320.

User experience of Cognitive Behavioral Therapy apps for depression: An analysis of app functionality and user reviews: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6010839.

The digital psychiatrist: In search of evidence-based apps for anxiety and depression: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6872533.

References

Addis, M. (2005). New technologies and cultural consumption–edutainment is born! *European Journal of Marketing*, *39*(7/8), 729–736.

Beilby, J.M., Byrnes, M.L., Meagher, E.L., & Yaruss, J.S. (2013). The impact of stuttering on adults who stutter and their partners. *Journal of Fluency Disorders*, *38*(1), 14–29.

Blood, G.W., Blood, I.M., Tellis, G.M., & Gabel, R.M. (2003). A preliminary study of self-esteem, stigma, and disclosure in adolescents who stutter. *Journal of Fluency Disorders*, *28*, 143–159.

Blood, G.W., Blood, I.M., Tramontana, G.M., Sylvia, A.J., Boyle, M.P., & Motzko, G.R. (2011). Self-reported experience of bullying of students who stutter: Relations with life satisfaction, life orientation, and self-esteem. *Perceptual and Motor Skills*, *113*(2), 353–364.

Brisk, D. J, Healey, E.C., & Hux, K.A. (1997). Clinicians training and confidence associated with treating school-age children who stutter: A national survey. *Speech, Language, and Hearing Services in Schools*, *28*(2), 164–176.

Byrd, C., Chmela, K., Coleman, C., Weidner, M., Kelly, E., Reichhardt, R., & Irani, F. (2016). An introduction to camps for children who stutter: What they are and how they can help. *Perspectives of the ASHA Special Interest Groups*, *1*(4), 55–69.

Caughter, S., & Crofts, V. (2018). Nurturing a resilient mindset in school-aged children who stutter. *American Journal of Speech-Language Pathology*, *27*(3S), 1111–1123.

Çelik, B., & Gündoğdu, K. (2016). The effect of using humor and concept cartoons in high school ICT lesson on students' achievement, retention, attitude and anxiety. *Computers & Education*, *103*, 144–157.

Chmela, K.A., & Campbell, J.H. (2014). *Working with school-age children who stutter: Basic principle problem solving*. Super Duper Publications.

Chmela, K., & Reardon, N. (2001). *The school-age child who stutters: Working effectively with attitudes and emotions: A workbook*. Stuttering Foundation of America.

Corcoran, J.A., & Stewart, M. (1998). Stories of stuttering: A qualitative analysis of interview narratives. *Journal of Fluency Disorders*, *23*, 247–264.

Crepeau, E.B., & Garren, K.R. (2011). I looked to her as a guide: The therapeutic relationship in hand therapy. *Disability and Rehabilitation*, *33*(10), 872–881.

Davis, K., & Sweeney, S. (2015). Reading, writing and AAC: Mobile technology strategies for literacy and language development. *SIG 12 Perspectives on Augmentative and Alternative Communication*, *24*(1), 19–25.

Dignazio, L.E., Kenny, M.M., Raj, E.X., & Pelkey, K.D. (2020). Stuttering-related podcasts: Audio-based self-help for people who stutter. *Perspectives of the ASHA Special Interest Groups*, *5*(5), 1131–1138.

Ekmekci, H. (2017). *Face Booth* (Version 1.3) [Mobile application]. https://apps.apple.com/us/app/create-a-new-face-face-booth/id1072356162

Fernández-López, Á., Rodríguez-Fórtiz, M.J., Rodríguez-Almendros, M.L., & Martínez-Segura, M.J. (2013). Mobile learning technology based on iOS devices to support students with special education needs. *Computers & Education*, *61*, 77–90.

Fletcher-Watson, S., Pain, H., Hammond, S., Humphry, A., & McConachie, H. (2016). Designing for young children with autism spectrum disorder: A case study of an iPad app. *International Journal of Child-Computer Interaction*, *7*, 1–14.

Fourie, R., Crowley, N., & Oliviera, A. (2011). A qualitative exploration of therapeutic relationships from the perspective of six children receiving speech-language therapy. *Topics in Language Disorders*, *31*(4), 310–324.

Fuse, A., & Lanham, E.A. (2016). Impact of social media and quality of life of people who stutter. *Journal of Fluency Disorders*, *50*, 59–71. https://doi.org/10.1016/j.jfludis.2016.09.005

Given, L.M., Winkler, D.C., Willson, R., Davidson, C., Danby, S., & Thorpe, K. (2014). Documenting young children's technology use: Observations in the home. *Proceedings of the American Society for Information Science and Technology*, *51*(1), 1–9.

Healey, E.C., Scott Trautman, L., & Susca, M. (2004). Clinical applications of a multidimensional approach for the assessment and treatment of stuttering. *Contemporary Issues in Communication Science and Disorders*, *31*, 40–48.

Heyman, N. (2020). Identifying features of apps to support using evidence-based language intervention with children. *Assistive Technology*, *32*(6), 306–316.

Hughes C.D., Gabel, R.M., Goberman, A.M., & Hughes S. (2011). Family experiences of people who stutter. *Canadian Journal of Speech-Language Pathology and Audiology*, *35*(1), 45–55.

Hussain, A., Mkpojiogu, E., & Babalola, E. (2020). Using mobile educational apps to foster work and play in learning: A systematic review. *International Journal of Interactive Mobile Technologies*, *14*(18), 178–194.

Irani, F., Gabel, R., Daniels, D., & Hughes, S. (2012). The long term effectiveness of intensive stuttering therapy: A mixed methods study. *Journal of Fluency Disorders*, *37*, 164–178.

Kabali, H.K., Irigoyen, M.M., Nunez-Davis, R., Budacki, J.G., Mohanty, S.H., Leister, K.P., & Bonner, R.L. (2015). Exposure and use of mobile media devices by young children. *Pediatrics*, *136*(6), 1044–1050.

Kavandi, E., & Kavandi, R. (2016). The effect of using humor on high school students' grammar performance and motivation. *Theory and Practice in Language Studies*, *6*(7), 1466–1475.

Kelly, E.M., Martin, J.S., Baker, K.E., Rivera, N.I., Bishop, J.E., Krizizke, C.B., Stettler, D.S., & Stealy, J.M. (1997). Academic and clinical preparation and practices of school speech-language pathologists with people who stutter. *Language, Speech and Hearing Services in Schools*, *28*, 195–212.

Klein, J.F., & Hood, S.B. (2004). The impact of stuttering on employment opportunities and job performance. *Journal of Fluency Disorders*, *29*(4), 255–273.

Lauricella, A.R., Cingel, D.P., Blackwell, C., Wartella, E., & Conway, A. (2014). The mobile generation: Youth and adolescent ownership and use of new media. *Communication Research Reports*, *31*(4), 357–364.

Mahdiloo, A., & Izadpanah, S. (2017). The impact of humorous movie clips on better learning of English language vocabulary. *International Journal of Research in English Education*, *2*(2), 16–29.

Mallard, A.R., Gardner, L.S., & Downey, C.S. (1988). Clinical training in stuttering for school clinicians. *Journal of Fluency Disorders*, *13*, 253–259.

Manning, W. (2006). Therapeutic change and the nature of our evidence: Improving our ability to help. In: N. Berstein Ratner and J.A. Tetnowski (Eds.), *Current issues in stuttering research and practice* (pp. 125–158). Lawrence Erlbaum.

Montgomery, K. (2015). Children's media culture in a big data world. *Journal of Children and Media*, *9*(2), 266–271.

O'Dwyer, M., Walsh, I.P., & Leahy, M.M. (2018). The role of narratives in the development of stuttering as a problem. *American Journal of Speech-Language Pathology*, *27*, 1164–1179.

Orr, A.C., & Mast, M. (2014). Tablet-based communication and children with multiple disabilities: Lessons from the clinical setting. *Procedia-Social and Behavioral Sciences*, *141*, 138–142.

Pew Research Center. (2019). *Mobile fact sheet*. https://www.pewresearch.org/internet/fact-sheet/mobile/

PiVi & Co. (2020). *AgingBooth* (Version 5.0) [Mobile application]. https://apps.apple.com/us/app/agingbooth/id357467791

Plexico, L.W., Manning, W.H., & Levitt, H. (2009). Coping responses by adults who stutter: Part I: Protecting the self and others. *Journal of Fluency Disorders*, *34*, 87–107.

Pollak, J.P., & Freda, P.D. (1997). Humor, learning, and socialization in middle level classrooms. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *70*(4), 176–178.

Prensky, M. (2006). *Don't bother me, Mom, I'm learning!: How computer and video games are preparing your kids for 21st century success and how you can help!* Paragon House.

Raj, E.X., & Daniels, D.E. (2017). Psychosocial support for adults who stutter: Exploring the role of online communities. *Speech, Language and Hearing*, *20*(3), 144–153. https://doi.org/10.1080/2050571X.2016.1253533

Ramsberger, G., & Messamer, P. (2014). Best practices for incorporating non-aphasia-specific apps into therapy. *Seminars in Speech and Language*, *35*(1), 17–24.

Reitzes, P. (2006). *50 Great activities for children who stutter: Lessons, insights, and ideas for therapy success*. Pro-Ed.

Rieger, A. (2004). Explorations of the functions of humor and other types of fun among families of children with disabilities. *Research and Practice for Persons with Severe Disabilities*, *29*(3), 194–209.

Sánchez, J.C., Echeverri, L.F., Londoño, M.J., Ochoa, S.A., Quiroz, A.F., Romero, C.R., & Ruiz, J.O. (2017). Effects of a humor therapy program on stress levels in pediatric inpatients. *Hospital Pediatrics*, *7*(1), 46–53.

Santus, N., Tellis, G., & Kong, F. (2019). Are graduate students receiving adequate education and training in fluency disorders? *Clinical Archives of Communication Disorders*, *4*(3), 236–251.

Sheehan, J.G. (1970). *Stuttering: Research and therapy*. Harper and Row.

Sheehan, J.G. (1997, January 12). *Message to a stutterer*. http://www.mnsu.edu/comdis/kuster/Infostuttering/sheehanmessage.html

Simmons-Mackie, N., & Schultz, M. (2003). The role of humour in therapy for aphasia. *Aphasiology*, *17*(8), 751–766.

Stuber, M., Hilber, S.D., Mintzer, L.L., Castaneda, M., Glover, D., & Zeltzer, L. (2009). Laughter, humor and pain perception in children: A pilot study. *Evidence-Based Complementary and Alternative Medicine*, *6*(2), 271–276.

Sweeney, S. (2010). *The FIVES criteria: For evaluating and integrating simple technology resources in speech and language therapy interventions*. http://www.scribd.com/doc/44503715/Fives-Booklet

Tellis, G.M., Bressler, L., & Emerick, K. (2008). An exploration of clinicians' views about assessment and treatment of stuttering. *Perspectives on Fluency and Fluency Disorders*, *18*(1), 16–23.

Tichenor, S.E., & Yaruss, J.S. (2019). Stuttering as defined by adults who stutter. *Journal of Speech, Language, and Hearing Research*, *62*(12), 4356–4369.

Toki, E.I., & Pange, J. (2010). E-learning activities for articulation in speech language therapy and learning for preschool children. *Procedia-Social and Behavioral Sciences*, *2*(2), 4274–4278.

Trend L. (2020). *Doodle Mirror (Kingdom of Fun)* (Version 9.9.5) [Mobile application]. https://apps.apple.com/us/app/doodle-mirror-kingdom-of-fun/id401513041

Trichon, M., & Raj, E.X. (2018). Peer support for people who stutter: History, benefits, and accessibility. In: B.J. Amster & E.R. Klein (Eds.), *More than fluency: The social, emotional, and cognitive dimensions of stuttering* (pp. 187–214). Plural.

Trichon, M., & Tetnowski, J. (2011). Self-help conferences for people who stutter: A qualitative investigation. *Journal of Fluency Disorders*, *36*(4), 290–295. https://doi.org/10.1016/j.jfludis.2011.06.001

Walsh, I.P. (2007). Small talk is "big talk" in clinical disclosure. *Topics in Language Disorders*, *27*(1), 24–36.

Weitkamp, E., & Burnet, F. (2007). The Chemedian brings laughter to the chemistry classroom. *International Journal of Science Education*, *29*(15), 1911–1929. https://doi.org/10.1080/09500690701222790

Yaruss, J.S., & Quesal, R.W. (2016). *Overall Assessment of the Speaker's Experience of Stuttering*. Stuttering Therapy Resources, Inc.

Yaruss, J.S., Quesal, R.W., Reeves, L., Molt, L.F., Kluetz, B., Caruso, A.J., McClure, J.A., & Lewis, F. (2002). Speech treatment and support group experiences of people who participate in the National Stuttering Association. *Journal of Fluency Disorders*, *27*(2), 115–134. https://doi.org/10.1016/S0094-730X(02)00114-6

Chapter 16

Joseph Agius

Creativity and Humour: The Fun of Building Confidence in Children and Adults Who Stutter

Introduction: it is OK to be different!

It is OK to be different. That is precisely why I will be using a different style of writing to share this chapter with you. Picture this: I am going to relax and enjoy a friendly conversation with you over a cup of coffee. Capture my passion whilst sharing my clinical experience and reflecting upon what I have learnt from children and adults who stutter.

My roadmap for this chapter will be:

- *Stuttering is a gift: turn the elephant in the room to a butterfly on a flower*
- *The Smart Intervention Strategy … with a twist!*
- *Good-natured teasing and people who stutter: permission to laugh!*
- *Humour is fashion: know it and use it!*
- *Re-shaping stuttering modification: would Dr Van Riper be amused?*
- *Planting the seeds of creativity: the secret of success*
- *Upgrade yourself and start living: public speaking training*
- *Conclusion: it is OK to reflect and be thirsty for knowledge.*

"Thank you for changing my life. I am proud of who I am," wrote Chloe, a sixteen-year-old girl who stutters. My passion for dealing with people who stutter flourished when I received that particular letter of thanks. During that same week, I was moved when a child's mum shared with me that when her boy who stutters was asked what he would like to become when he grew up, his response was "I want to be like Joseph" adding that "Joseph understands how I feel". My highest ambition in my profession since has always been to 'make a difference'.

My journey in the field of stuttering continued with my deep desire to understand stuttering and find ways to inspire children and adults who stutter. The eventual development of an iOS application for speech language pathologists to use with children who stutter was a major breakthrough. Using creativity and humour, speech pathologists can help a child who stutters to enjoy the fun and pleasure of speaking. This chapter therefore discusses the importance of creativity and humour in stuttering and describes the application *Smart Intervention Strategy* (SIS). It also highlights the value of public speaking skills in training to improve communication skills, build confidence and become 'wow' speakers. Let us first start with the concept: stuttering as a gift.

Stuttering is a gift: turn the elephant in the room to a butterfly on a flower

A while ago, I was sitting on a bench besides this very elderly fisherman. We soon began chatting and he mentioned that he had eight nephews and nieces. Then he pulled a photograph out of his pocket and with a twinkle in his eye whispered "and you know what? She is my favourite". It was a photograph of this young, pretty little girl, curly hair, big blue eyes with a lovely smile. He remarked that whenever he spent time with her, he felt in heaven. He was able to appreciate the pleasant smell of flowers and listen to the soft waves of the sea while enjoying the cool, crisp breeze. He learnt so much from her and it was so much fun. He just loved it. Then, he said with a smile "she is blind and I really enjoy her company." I reflected upon this. He could easily have said, "I have eight nephews and nieces. They are all 'normal' but we have a problem with one of them". What he actually said on the other hand was that he enjoyed her company the most. Grandpa chose to talk about his niece being blind as a positive thing. So if we turn our focus to people who stutter, are there any particular strengths that an individual who stutters has, in comparison to someone who does not stutter?

When we launched the Stuttering Association of Malta (SAM) a few years back, we invited the founder of the College of Public Speaking, London, Mr Vince Stevenson, as a guest speaker. Internationally renowned, he is known as 'the fear doctor'. At the launch, we introduced the concept of the 'gift' of stuttering, prompting newspaper articles to celebrate this notion. The following is an excerpt from an article by Calleja (2015) in *The Times of Malta* entitled "The 'gift' of stuttering". The journalist shared the experience of The President of the SAM, a nurse who stutters:

> I went home after a lecture and started crying. I thought: I cannot even say my name. I have to do something about it". She made an appointment with speech pathologist Joseph Agius who told her that 'stuttering is a gift'. She continued, "I remember thinking: he has no clue what he is saying!" However, she later realised something which changed her outlook for the rest of her life. She was sen-

> sitive to others, a good listener, humble and creative. “When I sat for my nursing exam, I started talking fluently – but I wanted them to know that I stuttered. So, I made an effort to get stuck. I got stuck and I thought ‘OK now I’m back’. This is who I am. I did not want them to see me without my stuttering.

I was speaking at an international conference in Paris and a young lady who stutters came up to me and claimed she had just graduated as a lawyer, and wanted to apply for a particular job with the most prestigious law firm in her country. She told me that as a guru in stuttering and creativity I could help her secure the post. We drafted her curriculum vitae, and in the language section included: ‘English plus’ and ‘French plus’. When she went for the interview the first question they asked was to clarify what she meant by her ‘English plus’. She answered that she knew how to stutter in English but also in French. She told them that even Vice President Joe Biden is a person who stutters. She was so comfortable with the stuttering that she was selected, and she remains one of the firm’s best lawyers to date.

A question we need to ask is what are the benefits of stuttering? Most people who stutter can honestly state ‘I am a good listener’, ‘I am caring’, ‘I am sensitive’, ‘I am a better communicator’, ‘I am good in public speaking’, ‘I am creative and have a good sense of humour’, ‘I make people smile’, ‘I am a positive thinker’, ‘I am humble’ and much more. Stuttering has the power to develop these characteristics: creativity, good listening skills, wittiness, humaneness and humility.

This can also be used as an asset during interviews. Some time ago, I met an ex-student of mine from Ireland. She told me that the week before, her brother who stutters had had an IT interview. At the end of the interview, the interviewer asked, “What will you do if we do not choose you?” His reply was, “I will get a guitar and start rapping.” Sometime later, this same manager phoned him up and said: “Do you know why we chose you? Well, the 130 applicants before you were so boring. You were unique, you were different. We like you.”

Another example was a young man who had just graduated as a teacher, yet was working as a waiter. He claimed that no one wanted to employ him as a teacher. He had just applied for two teaching vacancies – at primary and secondary levels – with a particular school. He went for one interview but received a message that he had not been chosen for the post. I asked him whether he had mentioned that he stuttered during the interview. He said, “of course not”! I suggested that next time he should try a new strategy, which was to tell them that he stuttered, and to explain about the benefits of stuttering. The week after, he was invited, purely by mistake, to a second interview with the same school and there happened to be the same interviewers. They had not expected the same person. During the interview he stated that he stuttered. He also dared ask the Head of School, “How many fluent teachers do you have who do not bore kids to death?" The Head laughingly responded, "almost all of them!" The client stated that he, on the other hand, would never make children sleep in class. He was also being trained in public speaking. He related that he had been stuttering since he was three years old and had developed a sensitivity thanks to this, and that just by looking at the children's eyes he could immediately identify those children who were having problems and those children who wanted to ask questions. Just by looking at their eyes. This is what stuttering had thought him. He also recognized that he was a good listener, very caring and sensitive. A few hours after the interview, the Headmaster phoned him to say that he had been chosen to teach at both primary and secondary levels. He is now considered to be one of the best teachers in this school.

David Seidler, screenwriter of *The King's Speech*, also remarked that "the greatest gift that I have received from stuttering is being a stutterer." How can we help people who stutter change their perception of stuttering? Both creativity and humour can broaden perception and can help in looking at exactly the same thing in a different way. One shoe salesman said: "This is a terrible market! No one wears shoes." The other salesman said: "This is a wonderful market! No one wears shoes." Using creativity and humour, we can change the way we look at situations. The iOS application Fluency Smart Intervention Strategy uses both creativity and humour to make speaking pleasant and fun.

The *Smart Intervention Strategy*… with a twist!

What inspired me to research the relationship between stuttering, creativity and humour? I was inspired by a client of mine, Kyle, who was a lively ten-year-old boy who actively and joyfully participated in my fluency group therapy sessions. He was full of fun and wit, and was always smiling. He was truly an inspiration to his friends. He also stuttered severely in a variety of situations. Student clinicians were impressed by his charm, confidence, wit and popularity. Eight years later, now a young man aged 18 years, he was referred again for stuttering intervention. This time he presented as a serious young man, anxious, tense and having lost his smile. When I asked what happened he quickly retorted, "I lost the younger Kyle." He had lost his zest for life, his wit and his excitement. If only our intervention could bring back the harmony, serenity and wit of the 'younger Kyle'. I wondered how essential and important it is to include working on positive attitude with children who stutter. How can we broaden people's perception, to look at things differently and in a positive way?

I decided to run a study to seek preliminary evidence of a treatment effect from a thinking skills program titled *Think Smart, Feel Smart Program* (Agius, 2007). The study explored changes and aimed to investigate shifts in the feelings and attitudes of thirty school-age children who stutter in clinical real-life situations, following a ten-week thinking skills program based on creativity activities. The results of this study led to the development of the *Smart Intervention Strategy* (SIS). This model provided a framework that can be used with school-age children who stutter.

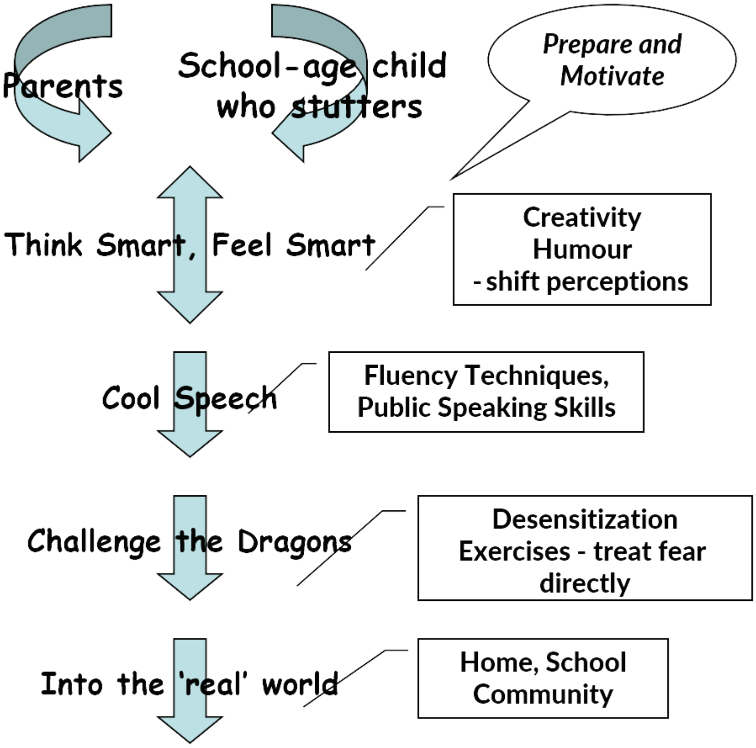


Figure 1: Overview of the SIS or school-age children who stutter (Agius, 2012)

The *Fluency SIS iOS* application (Agius, 2013) is designed as a tool to be used by speech language pathologists and students when working with children who stutter aged eight to twelve years. It provides a framework for a program which encourages creativity and humour during intervention sessions. Using creativity and humour, speaking becomes fun and enjoyable. Intervention aims to develop confidence in speaking and give permission to stutter. The goal is to become an efficient, confident communicator. The application includes activities to encourage change in perceptions. Creativity and humour are used as therapeutic techniques to shift perceptions, such as perceiving stuttering as a gift. The most creative aspect of language is humour, and it is one of the most important topics in the study of communication. Pedagogical trends in recent decades have also shifted toward the promotion of a more relaxed learning environment which focuses on making learning fun. The SIS consists of four components containing different activities. The four components of the SIS are:

a) Think smart, feel smart
b) Cool speech
c) Challenge the dragons
d) Into the 'real' world.

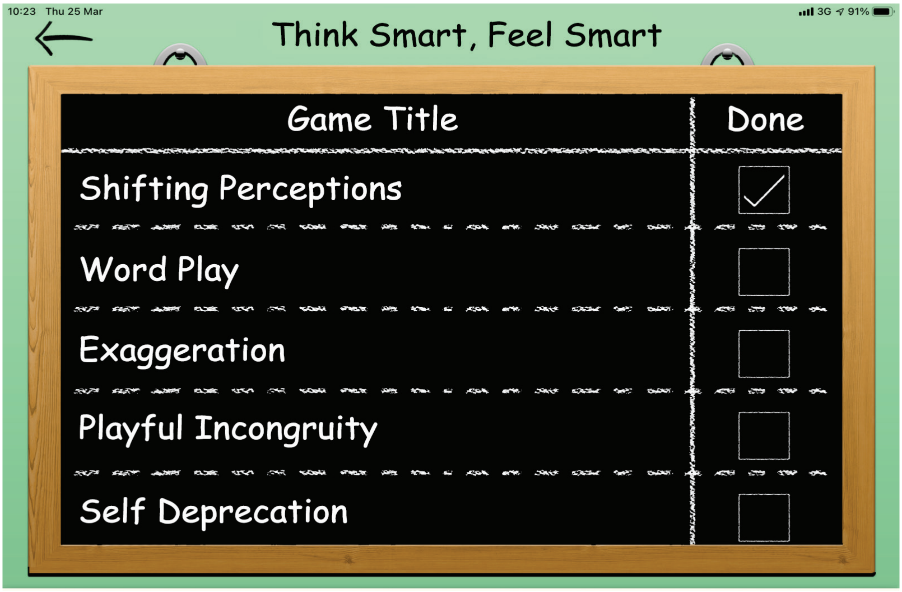
The *Smart Intervention Strategy* is based on the following premises (Agius, 2015):

- Stuttering is a multidimensional and complex condition (Harrison, 2004).
- Activities need to be fun, and children need to be motivated.
- Creativity and humour can help children broaden their perceptions, and improve their attitude towards communication (Agius, 2007).
- Public speaking skills needs to be addressed (Agius, 2007).
- Activities need to focus directly on the specific feared situations of each individual.
- Speaking skills then need to be generalized in the home, school, and community situation.

The following components are included within the iOS application: *Think smart*, *feel smart*.

Think smart, feel smart

Humour and creativity are first introduced. Both can broaden perceptions to shift attitudes towards positive communication and the self (Agius, 2018). Sections on a blackboard type screen include 'shifting perceptions', 'word play', 'exaggeration', 'playful incongruity' and 'self-deprecation'. Each section has a variety of fun exercises such as 'create a crazy story', 'nicknaming pals', 'sense of non-sense' and 'goofy sketch'. These exercises encourage children to be creative without the fear of being wrong or seeming ridiculous. During the specific exercise on 'nicknaming pals', clinicians are encouraged to discuss with the child, highlighting that pro-social teasing can be beneficial. As will be discussed later on in this chapter, teasing can in fact be both playful and affectionate.



Game Title	Done
Shifting Perceptions	☑
Word Play	☐
Exaggeration	☐
Playful Incongruity	☐
Self Deprecation	☐

Figure 2: Screen shot of the blackboard type screen

Cool speech

Public speaking skills are also offered in the programme. Sections include 'practice in low battery speech', 'reading words and jokes', and presenting 'the wow speech'. Via the use of jokes and funny stories, children start associating public speaking with fun.

Make up an exaggerated story out of these random pictures

Prepare and act this goofy sketch

You just bought a box of chocolates from
a supermarket. The cashier did not give
you a receipt. You go out of the door
and the alarm goes on.
The security calls you in
and tells you that it seems
that you have not paid for an item...

Figure 3: Screen shots of 'public speaking' exercises

Challenge the Dragons

Desensitization exercises focus directly on the specific speaking-situation fears of children. Through the repeated pairing of a humourous response with exposure to a feared stimulus, there is a gradual diminishment of the feelings of anxiety evoked by the stimulus (Martin, 2007). Sections include 'phone-a-mate', 'un-secret your secret' and 'the yummy experience'. During these exercises, children are encouraged to use the telephone, speak about their stuttering, and buy food items from different shops.

I am a Brilliant Speaker!!!

Figure 4: Encouraging the student when task is completed

Into the 'Real' world

Children are encouraged to use thinking tools and fluency techniques in specific situations at home, school and in the community. Parents at home and teachers at school are pillars of support for successful experiences. The sections include 'humour and laugh times' and 'the final frontier'. Finally, with the help of the clinician, the child experiences being an expert speaker by preparing a presentation on stuttering for his classmates. The child is then certified as 'Young Consultant of the Smart Intervention Strategy and Expert Teacher on Stuttering'.

Think Smart, Feel Smart

This is to certify that

Is a 'Young Consultant' of the
SMART INTERVENTION STRATEGY
Expert teacher on Stuttering

Speech Pathologist

Dr. Joseph Agius,
Author: Smart Intervention Strategy

Figure 5: Certificate: Young Consultant of the Smart Intervention Strategy and Expert Teacher on Stuttering

The application uses a motivational cartoon character to encourage children during the activities. Ah-ha Diamond guides the children to uncover the joy and fun of speaking. Diamond symbolizes being unbreakable with the potential to shine. Diamonds are also made under pressure and move from rough to brilliant. Eventually the child can also become a 'brilliant speaker'. After each section, the child can save a screen shot of Ah-ha Diamond, stating 'I am a Good Speaker!' A very important pillar of this application is humour and the importance of having fun with permission to laugh.

Figure 6: Ah-Ha Diamond

Good-natured teasing and people who stutter: permission to laugh!

According to Mahr and Torosian (1999), people who stutter avoid social situations because of the fear of stuttering, not because of social anxiety. However, could it be that people who stutter avoid social situations due to being over-sensitive when laughed at? Gelatophobia is the fear of being laughed at. This particular phobia also blurs the range of emotional responses to ridicule versus good-natured teasing (Platt, 2008). Platt, Agius and Ruch (2012) surveyed 189 participants over 18 years of age: 66 people who stuttered and 123 people who did not. The instruments used were the PhoPhiKat 30 (Ruch & Proyer, 2008) and the *Ridicule and Teasing Scenarios Questionnaire for Stuttering* (Platt & Agius, 2010). This questionnaire consists of a 23-item self-report instrument. Four scenarios on general ridicule exist such as: ‘When you were in school, a teacher picked up a piece of your work and showed it to the class as an example of how NOT to do the work and the other kids all laughed at it.’ Four scenarios on general teasing are included, such as: ‘After lunch with a group of friends, one tells you that you have your jumper on inside out. All of the group laugh and make joking comments to you.’ Five scenarios on non-social laughter follow such as: ‘You are reading the local newspaper comic section and see a cartoon of people laughing.’ Five scenarios on stuttering specific ridicule are presented such as: ‘You are speaking to a friend and you get stuck. A stranger passes by and mimics you.’ And finally, five scenarios on stuttering-specific teasing are presented, such as: ‘You are reading in front of your friends. You get stuck, and one of your friends tells you to ‘get it out’ and you all laugh’. After each scenario, seven emotions: joy, sadness, anger, disgust, surprise, shame and fear are presented and rated on an 8-point Likert scale from 0 (least intense) to 8 (most intense).

Correlations for level of gelotophobia, were separated for non-stutterers and stutterers in three different types of scenario: general ridicule and teasing, stutter specific ridicule, and teasing and non-social laughter. In general ridicule, the more gelotophobic a person is, the more they experience the range of negative emotions such as fear, anger, disgust, sadness, shame, as well as surprise, which can have both positive and negative valance. This is not the same for those gelotophobic stutterers where general ridicule does not correlate with any emotion. In general teasing (pro-social, playful) of non-stuttering gelotophobes, the higher their gelotophobia, the lower their level of joy, as well as higher levels of fear, anger, sadness, disgust, shame and surprise. The correlation for the lack of experiencing joy in playful scenarios is the same, but more so, for stutterers, meaning that they do not see teasing as enjoyable or playful, but rather as something shameful and fearful. Non-stuttering gelotophobes experience only negative emotions. This shows that non-stuttering gelotophobes have an overall sensitivity to all laughter-related scenarios, surprisingly even ones that are not specifically directed at them. However, those who stutter experience feelings of shame when they are being ridiculed, and low joy and shame in the stutter-specific teasing. What we found most interesting is that it seems that people who stutter experience low joy emotions in both non-social laughter and playful teasing. Could it be that people who stutter do not experience laughter and smiling from their interaction partners as something positive, but as something others do in order to put them down?

This is why I included an exercise ‘nicknaming friends’ in my application. In this section, clinicians are encouraged to discuss with the child, highlighting that pro-social teasing can be beneficial. Teasing can be playful and affectionate. It is playful interaction during which both teaser and teased laugh! Ridicule on the other hand is laughing at someone in a mean-spirited way, and is negative.

Humour is fashion: know it and use it!

Humour is universal and, as a creative aspect of language, it is one of the most important topics in the study of communication (Levey & Agius, 2019). Just imagine if I had to ask these questions to a hall full of people: “How many of you wish the people you work with had a better sense of humour? How many of you wish your partner had a better sense of humour? Are you interested in being more attractive to others?” I have no doubt that almost all the people would answer in the affirmative. Therefore, it is clear that laughter is not just OK – it is essential. What appears to be an important set of skills for getting through our daily life has not always been considered important enough for researchers to study in a serious fashion. It was not until the 1980s that researchers began to systematically look at the ways in which humor contributes to both physical and emotional health and well-being. Research on humour mainly started in the 1980s when Norman Cousins published the book *Anatomy of an Illness as Perceived by the Patient: Reflections on Healing and Regeneration* (1979). Cousins had very severe and painful arthritis and wanted to be discharged from hospital. He later realised that when he watched comedies such as the Marx brothers or Candid Camera, he did not need medicine to reduce his pain, and he subsequently published the book about his experience. Researchers started looking seriously at whether humour really has benefits. During the same time, the movie *Patch Adams* was released. This is the true story of a medical student who used humour and fun in hospitals. Humour is one coping technique that has been used in dealing with people with job burnout in various professions. Humour is also an ideal teaching tool (Friedman & Weiser Friedman, 2019), and has the ability to bring the teacher closer to his or her students (Berk, 1998).

Just imagine that I ask another set of questions: How many of you use fun and humour with your clients? What type of humour do you use – is it mild teasing, making fun of yourself, or making fun of a therapy task?

Now let me share with you some interesting data on humour and stuttering therapy which I gathered some years ago. It was 2014, and I had asked 21 speech-language pathologists from all over Europe whether they used humour in stuttering therapy, and 95% claimed to use it. This was followed by asking their clients who stutter whether the speech-language pathologists did actually use humour in therapy. Results indicated that only 17% of clients thought that humour was being used. What happened to the other 68% who claimed that they use humour in therapy? It is interesting to note that 94% of clients who stutter wanted humour to be used in stuttering therapy. They mostly wanted speech-language pathologists to make fun of themselves and also make sessions fun.

Humour can be viewed as a catalyst for change in stuttering intervention (Manning & DiLollo, 2017). Agius and Levey (2019) describe a number of child and adult stuttering intervention programmes which use fun, humour and play. Humour also enables an individual to better cope with life when dealing with serious communication problems, while allowing individuals to gain insight and objectivity regarding the disorder.

Humour and fun are used by Schneider (2008) during identification/desensitisation in the treatment of preschoolers and children. Within this programme, the focus is on decreasing tension, shame and guilt, increasing tolerance concerning mistakes, and increasing self-esteem as a speaker. Play schemas are used in treatment.

Waelkens (2018) notes that play and fun are central, and can provoke a feeling in the child that can act as compensation to the experience of stuttering. In Greece a current structured therapy program for children who stutter is '*Lexipontix*'. Fourlas and Marousos (2015) developed a fun programme that addresses the needs of the whole family. It is an artful masterpiece in which complex therapeutic concepts translate into child-friendly language.

Re-shaping stuttering modification: would Dr Van Riper be amused?

Would Dr. Charles Van Riper have agreed to include 'creativity' and 'humour' in stuttering modification therapy? Van Riper (1973) used the following stages: identification, desensitization, modification and stabilization. We could easily also include creativity and humour. Picture this: if Van Riper was alive today, he would certainly have watched the film *The King's Speech*. I think he would have enjoyed it so much that he would also have watched the film *Harry Potter*, in which there is a curse to make people think about their most feared object. And then there is a counter curse, the 'ridiculum curse', which changes this most feared object into something ridiculous. In psychological terms, 'the repeated pairing of a humour response with exposure to a feared stimulus gradually diminishes the feelings of anxiety evoked by the stimulus' (Martin, 2007, p. 339). Therefore, my main notion in this chapter is the use of humour as a desensitization technique. The *Smart Intervention Strategy* is a re-shaped stuttering modification approach, in which intervention aims to develop confidence in speaking and permission to stutter, rather than change the way the child speaks. The goal is to become an efficient, confident communicator. Using creativity and humour, speaking becomes fun and enjoyable.

Planting the seeds of creativity: The secret of success

Why is creativity so essential in life? One of my clients, a science professor, was reflecting on his life as a child. He said 'If only I had had love, compassion, [...] and fun-loving experiences, I would have grown up believing myself to be as equally valid as my fellow human beings'. My initial research was mainly about the use of creativity in stuttering treatment. Einstein claimed that creativity is intelligence having fun. However, unfortunately, creativity is inhibited. Why? It is because we have a fear of being wrong, and we fear seeming ridiculous. The basis of creative potential is developing and generating original ideas. In my study (Agius, 2007), I recruited thirty participants aged between eight and twelve years. Fifteen children who stutter were randomly placed in the experimental group while another fifteen children who stutter were placed in the control group. For ethical reasons, the programme was administered to the control group at a later stage that year. I also invited two ‘young consultants’ to participate in the programme. These were two young children who stuttered, who had been on my caseload for some years. They participated in the research study by giving me feedback after each session. Interestingly, one of the ‘young consultants’ graduated as a lawyer earlier this year. I developed a ten-week programme using thinking skills and creativity. Direct attention thinking tools by Edward de Bono (1986, 1994) were used during the sessions. These were simple, practical, clear and focused activities to broaden perception, so that in any thinking situation we can see beyond the obvious, immediate and egocentric. Results from the creativity programme indicated a more positive attitude to communication, as measured by the *Communication Attitude Test* (CAT) developed by Gene Brutten (2004).

Upgrade yourself and start living: public speaking training

The European Union Programme Agency (EUPA) is an agency that supports Maltese individuals and entities in availing themselves of funding under the various educational programmes provided by the European Commission. At the beginning of every summer, the EUPA randomly selects thirty children aged between eleven and thirteen who are following a national summer school programme. I am then assigned to deliver a twelve-hour public speaking skills training programme. During the first week of September, the children are then invited to the Maltese Parliament for a debate with the Speaker of the House and other members of Parliament. During the final presentation, one twelve-year-old boy spoke of his dream to attend an Ed Sheeran concert. His father had taken him to an Ed Sheeran Concert the weekend before at the O2 stadium in London. They were standing at the back of the stadium. Then, he claimed “I remembered what Dr Agius always tells us: believe in yourself. I pulled at my father’s trousers and he lifted me on his shoulders. Then I started screaming Ed Sheeran, Ed Sheeran, Ed Sheeran.” And suddenly Ed Sheeran called him on stage and sang two songs with this child sitting next to him. When he concluded the presentation, I asked if he had any proof of what he was saying. He said “Yes of course! I have lots of photos, but I will only show them to you. I am embarrassed to show them to my friends because I was crying throughout the whole two songs.” Do we realize how powerful our words can be? Why is teaching public speaking so important?

Some people trained to speak in public are taught to use blocks and pauses as it gets people listening, sounds eloquent and keeps the speaker concentrated. Some years ago, I was asked to deliver a workshop during a national congress in Portugal.

There was no simultaneous interpretation, so I asked whether there was someone who stuttered who could act as interpreter at the back of the room. This young lady who stutters and who had followed 'interpreter training' but had never used her skills in public, came forward and offered to do so. She did it perfectly and I congratulated her. Sometime later she wrote on her Facebook page:

> *Joseph Agius delivered a presentation in my country last year during our national congress, which I enjoyed very much. He said that people who stutter could really have the ability to become successful public speakers. I had never thought of stuttering in that way. I was a speaker at that congress and he even said all the people had been interested and attentive to my speech. This had a tremendous impact on me and the way I saw my problem. Being a person who stutters, I never in my life would have thought I would actually be good at speaking in public. Thank you for everything. Probably he will not react to this comment, but I am very grateful for having met him.*

In France, Mounah Bizri and Juliette Blondeau, together with the Association Parole Bégaiement (APB) (French Stuttering Association) organise an 'eloquence competition' for people who stutter (Bizri & Blondeau, 2019). Their vision is 'to leave our comfort zone to evolve, to do what seems impossible' (Bizri, 2019). People who stutter are trained for six weeks, followed by a competition. The training is composed of masterclasses delivered by eloquence specialists as well as speech therapists. The participants learn how to build an argument, as well as how to use body language and voice variations to express a message more effectively

Public speaking skills improve self-esteem and self-confidence. Practice makes perfect. People who stutter can join Toastmasters Clubs and practice public speaking, improve communication and build leadership skills. Interestingly, the winner of the 2015 World Championship of Public Speaking was a person who stutters. Mohammed Al-Qahtani 'ignored his stuttering obstacle with courage and went to deliver one good speech after another' (Al-Husein, 2015). With over 30,000 participants from 100 countries, the title of his speech was 'The Power of Words'. I rest my case!

Conclusion: it is OK to reflect and be thirsty for knowledge

The role of humour, fun, creativity and training in public speaking is essential in stuttering therapy. Through the use of humour, people are able to form relationships and celebrate life through laughter. Learning thrives in environments filled with joy, laughter, fun and enthusiasm. Both humour and creativity can be an effective and valuable therapeutic tool. Desensitization strategies in treatment can help children and adults overcome their fears about stuttering. Desensitization involves exposing people to the things they fear. Some approaches include training in public speaking skills. It might seem ironic that people who stutter can become 'wow' public speakers. However, it is amazing how developing these skills can increase self-esteem and improve quality of life.

I am delighted at this opportunity to share my thinking, my reflections and my findings on the importance of creativity and humour in fluency intervention. I am convinced of the impact we have on the children and adults who stutter. We all have a moral obligation to help them live their dreams and improve their quality of life. Your coffee has gone cold. Sorry about that, but I notice your deep reflection and a desire to 'make a difference'. In this era when we have Google, Wikipedia, online journals and libraries, education cannot just be about teaching facts. It is about generating questions, reflecting, and having a thirst for knowledge. According to W.B. Yeats "Education is not filling buckets; it is lighting fires." I hope you enjoy iced coffee. The bill is on me!

Multiple Choice Questions

1. Which one of the following is not a strength of people who stutter:
   a) Creative
   b) Good listeners
   c) Gossipers
   d) Sensitive
   e) Quick thinkers
2. *Fluency SIS* stands for:
   a) Stuttering Intervention Strategy
   b) Smart Intervention Strategy
   c) Systematic Intervention Strategy
   d) Stammering Interaction for Students
3. Van Riper techniques include which of the following:
   a) Desensitization
   b) Decreasing ability to avoid stuttering
   c) Increasing ability to avoid stuttering
   d) Decreasing tension associated with stuttering

Suggested Reading

Alda, A. (2017). *If I understood you, would I have this look on my face?* Random House.

Anderson C. (2016). *TED talks – The official TED guide to public speaking*. Headline Publishing Group, UK.

Carnegie, D., & Hill, N. (2006). *Public speaking and pleasing personality*. BN Publishing.

Crystal, D. (2016). *The Gift of the Gab – How eloquence works*. Yale University Press.

Nihill, D. (2016). *Do you talk funny?* BenBella Books, Inc.

Rogers, N. (1982). *How to speak without fear*. Ward Lock Limited.

References

Agius, J. (2007). *Un-cemented words: School age children who stutter: Feelings and attitudes following a thinking skills programme*. Unpublished doctoral manuscript. University of Sheffield.

Agius, J. (2012). The 'Smart Intervention Strategy' for school age children who stutter. *Themanummer Logopedie: Special Issue Speech Fluency*, 4(July-August), 4–11.

Agius, J. (2013). Application: Fluency Smart Intervention Strategy. Category: Education, Language: English. Retrieved from: https://apps.apple.com/us/app/fluency-sis/id629966836.

Agius, J. (2014, April 5). *Clinical application of creativity and humour in stuttering intervention*. [Congress Keynote Speaker]. Senate, Palais du Luxembourg organized by L'Association Parole Bégaiement, Paris, France.

Agius, J. (2015). Fluency FIS: Smart Intervention Strategy. *Procedia – Social and Behavioural Sciences*,*193*, 7–12.

Agius, J. (2018). Shifting perceptions: Using creativity and humour in fluency intervention. *Forum Logopedyczne*, *26*, 49–61.

Agius, J. & Levey, S. (2019). Humour intervention approaches for children, adolescents and adults. *The Israeli Journal of Humour Research*, *8*(1), 8–28.

Al-Husein, M. (2015). Mohammed Al-Qahtani…from stuttering to …*Toastmasters District 58*. Retrieved from https://www.facebook.com/d58tm/posts/what-an-inspirational-story-about-our-2015-toastmasters-world-champion-of-public/871655172925944/.

Berk, R.A. (1998). *Professors are from Mars and students are from Snickers*. Mendota Press.

Bizri, M. & Blondeau, J. (2019). The eloquence of stuttering: Summary of an odyssey. *Redefining Stammering*. Retrieved from https://www.redefiningstammering.co.uk/the-eloquence-of-stuttering-summary-of-an-odyssey/

Brutten, G.J. (2004). *Communication attitude test*. *Behavior assessment battery (BAB)*. Associates, University of Central Florida.

Calleja, C. (2015, July 28). The 'gift' of stuttering. *The Times of Malta*. Retrieved from https://timesofmalta.com/articles/view/the-gift-of-stuttering.578319.

Cousins, N. (1979). *Anatomy of an illness as perceived by the patient: Reflections on healing and regeneration*. W.W. Norton.

de Bono, E. (1986). *The CoRT thinking program.* Advanced Practical Thinking Training, Inc.

de Bono, E. (1994). The teaching of thinking. In: S. Dingli (Ed.) *Creative thinking: A multifaceted approach* (pp. 7–15). Malta University Press.

Friedman, H. & Weiser Friedman, L. (2019). Laughing matters: When humour is meaningful. *Journal of Intercultural Management and Ethics*, *2*(4), 55–72.

Fourlas, G. & Marousos, D. (2015). A report on the development and clinical application of Lexipontix, a new therapy program for school age CWS. *Procedia Social and Behavioural Sciences*, 193, 92–107.

Harrison, J. (2004). *How to conquer your fears of speaking before people*. 10th Edition. National Stuttering Association.

Levey, S., & Agius, J. (2019). Humour processing: The factors that play a role in understanding humour. *Forum Lingwistyczne*, *6*, 159–167.

Mahr, G.C. & Torosian, T. (1999). Anxiety and social phobia in stuttering. *Journal of Fluency Disorders*, *24*(2), 119–126.

Manning, W.H. & DiLollo, A. (2017). *Clinical decision making in fluency disorders* (4th Ed.). Plural Publishing.

Martin, R. (2007). *The psychology of Humour: An Integrative Approach*. Academic Press.

Platt, T. (2008). Emotional responses to ridicule and teasing: Should gelotophobics react differently? *Humour: International Journal of Humour Research*, *21*(2), 105–128.

Platt, T., & Agius, J. (2010). *The ridicule and teasing scenarios questionnaire for stuttering (RTSq stuttering).* Unpublished instrument. Department of Psychology, Zurich University.

Platt, T., Agius, J. & Ruch, W. (2012, May). *Fear of being laughed at and adults who stutter*. Poster session presented at the LiMaDoKo -Lizentianden, Master und Doktoranden Kongress des Psychologischen Institutes der Universität Zürich.

Ruch, W. & Proyer (2008). Who is gelotophobic? Assessment criteria for the fear of being laughed at. *Swiss Journal of Psychology*, *67*(1), 1–9.

Schneider, P. (2008). Stuttering Modification with the young stuttering child Mini-KIDS. Session held at the European Clinical Specialization Course in Fluency Disorders, Intensive Course, Antwerp, Belgium.

Van Riper, C. (1973). *The Treatment of Stuttering*. Prentice Hall.

Waelkens, V. (2018). Mini-KIDS: Direct therapy for children who stutter. Retrieved from https://www.lulu.com/shop/veerle-waelkens/shop/veerle-waelkens/mini-kids-direct-therapy-for-young-children-who-stutter/paperback/product-1kwqnr99.html.

Answers to the Control Questions

Chapter 1: Kirsten Costain & Hilda Sønsterud

The Gap between Research and Clinical Practice: Towards an Integrated Speech-Language Therapy

Answers: 1: a, 2: c, 3: a, 4: b

Chapter 2: Kurt Eggers

Becoming an Effective Clinician Specialized in Fluency Disorders

Answers: 1: ab, 2: c, 3: cd, 4: acd

Chapter 3: Mary Weidner & Kenneth O. St. Louis

Changing Public Attitudes toward Stuttering

Answers: 1: c, 2: a, 3: c, 4: d, 5: d

Chapter 4: Rachel Everard & Carolyn Cheasman

Acceptance and Stuttering

Answers: 1: b, 2: c, 3: b, 4: d

Chapter 5: Martine Vanryckeghem

Assessment of Stuttering-Related Affective, Behavioral and Cognitive Components Leading the Way to Differential Diagnosis and Treatment Objectives

Answers: 1: d, 2: b, 3: c, 4: d, 5: e

Chapter 6: Sabine Van Eerdenbrugh & Sue O'Brian

The *Camperdown Program*

Answers: 1: c, 2: b, 3: c, 4: c, 5: b

Chapter 7: Peter Schneider, Anke Kohmaescher & Patricia Sandrieser

KIDS: A Modification Approach in Stuttering Therapy for School Children

Answers: 1: abde, 2: acd, 3: a, 4: bcde, 5: bde

Chapter 8: George Fourlas & Dimitris Marousos

Integrating Clinical Practices to Address the Overall Stuttering Experience of the School Age Child. The *Lexipontix Programme* Paradigm

Answers: A.1: c, A.2: a, B.1: d, B.2: cd, C.1: a, D.1: bc, D.2: ab.

Chapter 9: Hilda Sønsterud

Multidimensional Individualized Stuttering Therapy (MIST): An Effective Approach for People Who Stutter

Answers: 1: b, 2: c, 3: b, 4: c

Chapter 10: Stine Brubak

Clinical Reflections on Group Treatment

Answers: 1: d, 2: b, 3: c, 4: e

Chapter 11: Marta Wesierska, Marilyn Langevin & Katarzyna Węsierska

Bullying Experienced by Children Who Stutter: Coping Responses and Preventive Work

Answers: 1: c, 2: b, 3: c, 4: a

Chapter 12: Hilda Sønsterud

The Role of the SLT in the Application of ACT in Stuttering Therapy

Answers: 1: c, 2: a, 3: c, 4: b

Chapter 13: Aleksandra Krawczyk & Selma Saad Merouwe

Stuttering and Bilingualism in Children and Adults: Current Research and Future Developments

Answers: 1: c, 2: a, 3: bd, 4: bc

Chapter 14: Kirsten Howells & Jenny Packer

Acquired Stuttering: Differential Diagnosis, Therapeutic Considerations and Support Options

Answers: 1: d, 2: b, 3: a, 4: b

Chapter 15: Erik X. Raj

Laughter in Stuttering Therapy: Using Humor-Based Apps to Begin Meaningful Discussions

Answers: 1: b, 2: c, 3: d, 4: a, 5: b

Chapter 16: Joseph Agius

Creativity and Humour: The Fun of Building Confidence in Children and Adults Who Stutter

Answers: 1: c, 2: b, 3: a

Title: *Dialogue without barriers: A Comprehensive approach to dealing with stuttering*
Editors: Hilda Sønsterud and Katarzyna Węsierska
Publisher: Agere Aude Foundation for Knowledge and Social Dialogue
City/year: Chorzów, 2023
ISBN: 978-83-951069-8-9

Summary

The book *Dialogue without barriers: A Comprehensive approach to dealing with stuttering* is the result of Norwegian-Polish cooperation undertaken in the project *LOGOLab – Dialogue without barriers*. Three partners have been involved in this project, namely: the University of Silesia in Katowice, the UiT Arctic University of Norway in Tromsø, and the Agere Aude Foundation for Knowledge and Social Dialogue. The project was implemented under the Education program financed by the EEA Grants (EEA/19/K1/D1/W/0031). The EEA Grants represent the contribution of Iceland, Liechtenstein, and Norway towards a green, competitive and inclusive Europe. The most important goal of the *LOGOLab* project was to raise the standards of speech-language therapy in stuttering in Poland by adjusting them to the principles of *Evidence-based practice*, taking into account the assumptions of inclusive education and community-based model of intervention. An essential strategy for achieving this goal has become the dissemination of reliable and up-to-date knowledge about stuttering and the development of appropriate social attitudes towards stuttering. Regarding *LOGOLab* goals, the improvement of the quality of academic education for Polish speech-language therapy students and of vocational training for certified speech-language therapists should also be mentioned. An additional aim was to provide reliable information among the leaders of the self-help movement, who support people with fluency disorders non-institutionally. This book is the fruit of the collaborative efforts of researchers, practitioners, and professionals, some of whom have personal experience with stuttering. In addition to authors from Norway and Poland, other experts from Australia, Belgium, Canada, United Kingdom, Greece, Germany, Lebanon, Malta and the United States have contributed. The authors of the chapters present a holistic approach to speech therapy intervention in stuttering, taking into account the multifaceted nature of the phenomena that concern them and the consequences for the speech therapist's work. They consider effective prevention strategies, multi-dimensional diagnosis, and *Evidence-based treatment* methods. The volume describes in detail topics related to the change of social attitudes towards stuttering and *Evidence-based practice*.

Foundation for Knowledge and Social Dialogue Agere Aude
www.agereaude.pl

The book *Dialogue without barriers: A comprehensive approach to dealing with stuttering* is the result of Norwegian-Polish cooperation undertaken within the project *LOGOLab – Dialogue without barriers*. Three partners have been involved in this project, namely: the University of Silesia in Katowice, the UiT Arctic University of Norway in Tromsø, and the Agere Aude Foundation for Knowledge and Social Dialogue. The project was implemented under the Education program financed by the EEA Grants (EEA / 19 / K1 / D1 / W / 0031).

This is a unique book. The authors emphasize the importance of focusing on people and their experiences and implementing a community-based model of intervention. This publication intends to help its readers to see the person who stutters, not just the stuttering itself. It enables readers to fully understand that the main task of speech therapy intervention in stuttering is to improve people's confidence in communication and then – the quality of their life.

Hilda Sønsterud (Oslo/Tromsø)
and Katarzyna Węsierska (Katowice)

ISBN 978-83-951069-8-9