

1 **‘The Nordic Female Fighter’**

2 **Exploring Women’s Participation in Mixed Martial Arts in Norway**  
3 **and Sweden**

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**Abstract**

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**Keywords**

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combat sport, gender, hegemony, inclusion and exclusion, masculinities, MMA

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## 40 **Introduction**

41 In contrast to most other traditionally organised sports, in Mixed Martial Arts (MMA)  
42 and other combat sports females and males train together and in many cases also spar  
43 with each other (Channon, 2014). This means that regardless of gender the athletes are  
44 coached by the same person and both male and female coaches are obliged to relate and  
45 interact with male and female athletes (Tjønnedal and Hovden, 2016). In this way, MMA  
46 and other combat sports break with the tradition of gender segregated sports activities and  
47 represent a unique training and coaching environment that is of particular interest for  
48 studies of gendered power relations in sport (Hovden and Tjønnedal, 2017). MMA and  
49 other full-contact combat sports, such as boxing and kickboxing, are often described as  
50 ‘hyper-masculine’ sports in which gender/power relations are still prominent. These  
51 factors make combat sports a particularly interesting and important study object when it  
52 comes to gendered aspects such as women’s participation, health and well-being, as well  
53 as athletes’ experiences and identity constructions.

54 By employing both quantitative and qualitative data, the purpose of this paper is to  
55 examine female participation in combat sports in the Nordic countries of Norway and  
56 Sweden. By combat sports we mean those that allow the outcome of fights to be  
57 determined by knock out, such as boxing or full-contact kickboxing.<sup>1</sup> However, in this  
58 paper the main focus is on Nordic Mixed Martial Arts (hitherto referred to as MMA). The  
59 research question investigated in the paper is:

60 *What characterises women’s participation in MMA in Norway and Sweden?*

61 Combat sports have been described as a male dominated arena in which identity  
62 expressions traditionally understood as masculine are produced and encouraged  
63 (Channon and Matthews, 2015; Messner, 1992, 2002; Messner and Sabo, 1990, 1994).

64 Indeed, combat sport involves characteristics such as strength, endurance, risk-taking,  
65 strategy, toughness, muscularity and competitiveness that, taken together, can be  
66 considered as core contents of a hegemonic (and dominant) masculinity (Connell, 2005).  
67 However, over the past decades both men and women have shown great interest in MMA  
68 and other combat sports (Channon and Matthews, 2015; Sánchez García and Malcom,  
69 2010). Since the late 1990s, combat sports have become increasingly popular amongst  
70 women in the Nordic region, with quantitative increases in female participation rates in  
71 both MMA, boxing and kickboxing (Stenius, 2015; Tjønndal and Hovden, 2016).

72 This change raises several questions, which at an overall level can be understood as a  
73 negotiation of the inclusion and exclusion of girls and women in combat sports. The aim  
74 of this study is to investigate this in MMA, both in terms of participation rates (e.g. how  
75 many women participate in MMA in Norway/Sweden) and women's experiences of  
76 inclusion/exclusion in MMA (e.g. how do women experience participating in the male  
77 dominated combat sport milieu of MMA in Norway/Sweden). Therefore, in this paper we  
78 examine the increased participation of females in combat sports from both a qualitative  
79 and quantitative perspective. More specifically, we use data from interviews and  
80 questionnaires to examine power and gender relations in today's Nordic MMA. The  
81 specific aim of the paper is to investigate how processes of inclusion and exclusion are  
82 (quantitatively) expressed and (qualitatively) experienced in MMA in the Nordic region.

### 83 **Context: MMA and combat sports in the Nordic countries**

84 Some of the main characteristics of organised sport in Norway, Sweden, Finland,  
85 Denmark and Iceland are its voluntary basis, autonomy and (relative) self-governance in  
86 relation to national and local authorities (Alsarve, 2014; Halldorsson et al. 2013;  
87 Halldorsson, 2017). In Norway all sport, both elite and grassroots sports, is organised  
88 under the Norwegian Olympic and Paralympic Committee and Confederation of Sports

89 (NIF), consisting of 54 national federations. In Sweden sport comes under the Swedish  
90 Sports Confederation (RF), consisting of 71 national federations. Compared to other  
91 western and non-western countries, Nordic culture is generally seen as being shaped by  
92 egalitarianism, a high degree of socialism and high levels of transparency in democracy  
93 and democratic processes (Lo, 2015). Additionally, the Nordic welfare states have been  
94 described as ‘champions of gender equality’ (Hovden, 2012; World Economic Forum,  
95 2016). This also applies to the organisation of sport in the Nordic countries. However, the  
96 focus of research on women in full-contact sports such as MMA has predominately been  
97 on other western countries outside the Nordic region and the welfare model. Therefore,  
98 we argue that this study provides an original contribution that adds to the international  
99 research field of women in MMA (and combat sports in general) by investigating the  
100 inclusion/exclusion of women in MMA in Norway and Sweden.

101 Of the Nordic countries, Iceland is the only one to consistently hire professional coaches  
102 for all levels of sport and to require that both coaches and PE. teachers should have a  
103 minimum of three years education in sport pedagogy. In Denmark, Finland, Norway and  
104 Sweden coaching positions are only paid at the highest level of sport<sup>2</sup>, leaving the  
105 majority of coaching positions to be filled by unpaid coaches working voluntarily for  
106 local and regional sport clubs (Alsarve, 2014; Andersson, 2002; Ibsen and Seippel, 2010).  
107 As in several other sporting contexts, male coaches dominate the paid positions (e.g.  
108 Norman, 2010).

109 Historically, the Nordic countries have had restrictive policies for combat sports. For  
110 instance, while professional boxing is legal in all the Nordic countries today, both Sweden  
111 and Norway have a history of banning competitions in professional boxing and other  
112 combat sports. Professional MMA events are now also legal in Sweden, but still illegal  
113 in Norway<sup>3</sup>. Historically, Finland and Denmark have been the most liberal in terms of

114 regulating participation and competitions in combat sports amongst the Nordic countries.  
115 As MMA is illegal at a professional level in Norway, we have chosen to collect qualitative  
116 data (following the quantitative data collection) from the neighbouring country of  
117 Sweden. Even though the number of professional practitioners is few, their experiences  
118 are considered valuable, as these women can be said to represent one of the most included  
119 groups in the sport.

120 The combination of historically restrictive policies towards combat sports, the uniqueness  
121 of the Nordic welfare model and culture, and the high level of gender equality in Nordic  
122 sports and sport leadership compared to other western countries (in our opinion) makes  
123 the Nordic countries an interesting context in which to study the inclusion and exclusion  
124 of girls and women in combat sports such as MMA.

### 125 **Previous research on women in MMA and other knockout-based** 126 **combat sports**

127 While women in combat sports represent an established and growing field of research  
128 globally (e.g. Channon and Matthews, 2015; Matthews, 2015), gendered power relations  
129 in combat sports in the Nordic region are an under-researched area (Kavoura, Kokkonen,  
130 Chroni, and Ryba, 2018; Tjønndal and Hovden, 2016). In terms of women in non-  
131 knockout-based combat sports in the Nordic countries, Sisjord and Kristiansen (2009)  
132 have studied female wrestlers' experiences of bodily structure, muscles and the 'wrestler  
133 role'. In their study, Sisjord and Kristiansen (2009) demonstrate how Norwegian elite  
134 female wrestlers manage the increased muscle mass that results from elite sport and the  
135 social price that comes with it.

136 Another non-knockout-based combat sport that has received scholarly attention in the  
137 Nordic countries is judo. Kavoura et. al. (2018) highlight the identity construction of  
138 female judo athletes in Finland. Their study explores how women have adapted to an

139 identity as a ‘natural born fighter’ rather than ‘an ordinary woman’ in Finnish judo. It also  
140 argues that this identity construction does not advance gender equity in combat sports  
141 because it constructs ‘ordinary’ women as biologically inferior and incapable of  
142 participating in competitive judo (Kavoura et. al. 2018). Kavoura, Kokkonen and Ryba  
143 (2014) have studied female judokas<sup>4</sup> in Denmark (and Greece). Here, the authors argue  
144 that ‘the egalitarian Danish culture offers more space for gender performativity and young  
145 judokas seem to be comfortable with challenging the norms’ (p. 94). Using Kavoura,  
146 Kokkonen and Ryba’s research on judo as a starting point, one could hypothesise that  
147 women in Norwegian and Swedish MMA feel freer to challenge gendered norms and  
148 stereotypes than female MMA practitioners in other western countries.

149 Within the context of knockout-based combat sports, some work has been done on women  
150 in boxing in the Nordic countries, specifically in Norway. Hovden and Tjønnedal (2017)  
151 have investigated coach-athlete relationships between men and women in Norwegian  
152 boxing. Their study indicates that female boxing coaches gain less respect from their  
153 athletes compared to male boxing coaches. Additionally, their study reveals cases of  
154 power abuse between older male boxing coaches and young female boxers. Furthermore,  
155 Tjønnedal and Hovden (2016) have studied coach leadership among male and female  
156 boxing coaches in Norway. Their study reveals a gendered hierarchy in terms of what is  
157 viewed as ‘good coaching’, where traits associated with male coaches are given priority  
158 over ‘female leadership approaches’.

159

160 To our knowledge, only two studies of MMA in the Nordic countries touch on the subject  
161 of gender. In his ethnographic work of MMA in Sweden, Stenius (2015) argues that  
162 fighters (both men and women) are rewarded if they reproduce and protect the  
163 stereotypical image of femininity and masculinity. Simultaneously, Stenius highlights

164 that MMA opens spheres in which men and women can train together, thus making MMA  
165 an arena in which gendered norms could be challenged and expanded. Secondly,  
166 Tjønndal's (2018) study of participation patterns in Norwegian MMA shows that young  
167 men (aged 20-30) dominate as members of Norwegian MMA clubs.

168 As stated earlier, the focus on women in combat sports has predominantly been in other  
169 western countries rather than the Nordic region. For instance, Weaving (2015) shows how  
170 MMA (specifically the UFC<sup>5</sup>) represents a sporting environment shaped by hegemonic  
171 masculinity and male domination. International studies also underline how combat sports  
172 can serve as arenas in which women can contest and reject traditional norms of  
173 femininity. For instance, in a study of combat sports and gender, Channon (2014)  
174 highlights that the mixed-sex training groups in combat sports provide women with a  
175 sporting environment in which they can contest and reshape the dominant and traditional  
176 gender roles associated with women's sporting participation. Similar points have been  
177 made by Maclean (2015) in her study of gender dynamics amongst karate practitioners in  
178 Scotland. However, Channon and Phipps (2017) argue that female fighters often need to  
179 carefully negotiate 'feminine behaviours' in order to fit into the categories of 'woman'  
180 and 'fighter'. In their conclusion, Channon and Phipps (2017) underline the need for  
181 scholarly work on women in martial arts and combat sports in order to focus on the  
182 'manner in which the performance of alternative femininities by female fighters might  
183 work against the sexual hierarchies that their more orthodox counterparts are typically  
184 thought to preserve' (p. 33). One of our aims in writing this article is to build on this by  
185 adding to the current body of knowledge about women and femininity in combat sports.

186 Since in our view muscularity and masculinity are closely linked to MMA and other  
187 knockout-based combat sports, we have reviewed some of the research on this topic.  
188 Research findings show that in order to be perceived and/or feel 'real' or 'masculine',

189 men in general should ideally have a muscular body. According to Morrison, Morrison,  
190 and Hopkins (2003), muscles *per se* tend to make men feel more manly and  
191 (heterosexually) attractive. Besides this, research has shown that in general women and  
192 girls often express a fear of becoming (too) muscular (Grogan, Evans, Wright, and  
193 Hunter, 2004). This is also reflected in Sisjord and Kristiansen's work on Norwegian  
194 female elite wrestlers (2009). However, these results are challenged by other research  
195 findings. The approach to muscularity can be said to vary with the kind of sport the female  
196 subject participates in (McCreary and Saucier, 2009), while research on the media, for  
197 example, shows that well-trained and fit female body ideals are now being increasingly  
198 embraced and accepted (Choi, 2003; Grogan et al., 2004).

199 Social notions of 'violence' from a gender perspective are also of importance for this  
200 paper in order to chisel out the cultural understandings of women in combat sports. It is  
201 debatable how far we can describe participation in combat sport as 'violent' *per se*, with  
202 international campaigns such as 'Love Fighting, Hate Violence'<sup>6</sup> arguing for a clear  
203 distinction between combat sports and acts of violence. Although this debate is not the  
204 focus of our article, research on social gendered perceptions of violence and violent acts  
205 may be helpful in explaining the stigmatisation and marginalisation of female  
206 practitioners of MMA and other combat sports. Gill (2007) has shown that violent,  
207 aggressive females are considered as one of the most stigmatised social groups in (Anglo-  
208 Saxon) society. This underlines why female participation in combat sports was for a long  
209 time perceived as a non-question and could explain why the inclusion of women in  
210 knockout-based combat sports has been slow, even in the Nordic countries. For instance,  
211 boxing was the last Olympic sport<sup>7</sup> to include female athletes when women's boxing was  
212 included in the programme for the 2012 Olympic Games in London. In contrast,  
213 aggressive and violent males in sports are not understood as a stigmatised or deviant



214 group, because throughout western history the connections between violence, and even  
215 war, men and masculinity have shown that aggression, physical courage, risk-taking and  
216 other acts of violence are essential components of masculinity (Hirose and Pih, 2009;  
217 Hutchings, 2008).

218 McCaughey (1997) employs ‘physical feminism’ as a perspective for understanding the  
219 expressions and political functions of women’s violence in general and self-defence in a  
220 male-dominated society in particular. Such ‘violent practices’ often rescript the female  
221 body and female fighters, thereby redefining the female body and feminine ideals and  
222 highlighting the importance of including corporeal dimensions in social and progressive  
223 change. McCaughey’s (1997) physical feminist perspective is applicable to combat sports,  
224 because the actions of self-defence and female fighting have the potential to challenge  
225 traditional views, create ‘new’ female bodies and deconstruct social norms of ‘violence’  
226 as a (hegemonic) masculine monopoly. McCaughey (1997) also links physical contact  
227 power to an emotional pleasure of hitting, screaming and kicking, which drastically  
228 challenges stereotypical, traditional and hegemonic ideals of women that shape ‘new’  
229 kinds of feminine ideals. Traditional hegemony has, namely, taught women to be  
230 subordinate, passive and beautiful objects (Connell, 2005).

231 To conclude, women in combat sports have challenged a cultural understanding of sport  
232 violence as a masculine monopoly. More precisely, these fighting females challenge the  
233 feminine stereotype of a passive, mouldable (heterosexual) female object that nurtures  
234 the *absence* of violence and aggressiveness to construct an ideal feminine identity (cf.  
235 Brandt and Carstens, 2005; Channon, 2014; Gill, 2007).

## 236 **Theoretical Framework**

237 The notion of hegemonic masculinity has had a huge impact on critical analyses of gender

238 (Connell, 2005; Connell and Messerschmidt, 2005). As a consequence of this influence  
239 the notion has also been frequently debated and problematised (Demetriou, 2001; Hearn,  
240 2004). In this paper we cannot fully enter into these theoretical discussions and therefore  
241 focus on our use of the term and the link between hegemonic masculinity and its  
242 consequences for individuals' participation in combat sports. We thus interpret hegemony  
243 as a power that 'produces' explicit and implicit 'rules' of inclusion and exclusion.  
244 Hegemony, in other words, signifies an ideology or worldview that, through social  
245 institutions and other powers, becomes an ordinary part of people's everyday practices  
246 (Connell, 1983; Gramsci, 1971).

247 In short, there are two central assumptions in Connell's theory. First, patriarchy is taken  
248 as a 'given' (but not natural or static) societal structure. This means that there is a  
249 hierarchical relation between men, in general, and women, that, at an overall level,  
250 supports men and masculinities. Second, there are power differences between  
251 women/men and other women/men as well as between ideals of  
252 femininities/masculinities. This means that some women/men and feminine/masculine  
253 ideals are superior to others and that in specific situations women's/men's sexuality,  
254 ethnicity, education, age, functionality and economic income may be significant and  
255 influence the subject's position in the social hierarchy. As a consequence of this,  
256 hegemony is something that is constantly done, alters and changes, especially if women  
257 or 'new' expressions of masculinity are able to challenge and change its content (Connell,  
258 1993, 2005).

259 Characteristics that are rewarded in many sports have been connected to hegemonic  
260 masculinity production and have, for example, emphasised strength, speed, toughness,  
261 risk-taking and durability (Alsarve, 2018). Connell (2000, 2005) argues that sport is one  
262 of the most influential social institutions for reproducing societal patriarchy and remaking

263 perceptions of the superiority of men and masculinities. That is, men's physical and  
264 'better' performances in sport can be seen as symbolic proof and legitimacy of men's  
265 hegemony in society in general. It is therefore important to make these hegemonic  
266 expressions and traditions in sports visible in order to discuss and, if desirable, challenge  
267 them.

268 Among others, Wachs (2002) has argued that Connell's theory is too abstract and that it  
269 mainly focuses on men and masculinities (Wachs, 2002, p 177). In our paper, the  
270 ambition is to be specific about what gender and hegemonic masculine power contains  
271 and how 'it' is experienced or challenged by sports participants. Our second ambition  
272 has been to involve both men and women in our analysis.

### 273 **Mixed methodological approach**

274 The quantitative data used in this paper is based on a Norwegian questionnaire, whereas  
275 the qualitative data was collected through interviews in Swedish MMA clubs. We argue  
276 that the mixed method approach is adequate, mainly due to the complexity of the studied  
277 phenomena. It also has the potential to nurture the respective strengths of the quantitative  
278 and qualitative approaches. However, the combination of these two approaches can be  
279 debated.

280 There are also challenges with this combination in terms of how to integrate the  
281 quantitative and qualitative findings. It has been argued that quantitative and qualitative  
282 methods stem from conflicting epistemological and ontological assumptions and  
283 therefore cannot be mixed or merged (Morgan, 2007; Östlund, Kidd, Wengström, and  
284 Rowa-Dewar, 2011). Critics of this posture argue that such a purist view poses a threat to  
285 scientific advancement (Onwuegbuzie and Leech, 2005).

286 In some cases one method is given priority over another, although here the (pragmatic)

287 ambition is to draw on the strengths of both. We thus perceive describing and discussing  
288 the quantifiable data that signals significant results in themselves to be a strength,  
289 although we also see a value in being able to complement these with qualitative data in  
290 order to add nuanced narratives to the numbers (which are also interesting *per se*). A  
291 metaphor used for this approach is ‘triangulation’, which aims to capture the complexity  
292 of the studied phenomenon or phenomena (Östlund et al., 2011). For instance, if the  
293 statistics show that women are in the minority, but that their numbers increase in MMA,  
294 it could indicate a progressive movement within the sport. By specifically asking  
295 questions about women’s experiences of MMA, a more nuanced image of these  
296 statistics can be portrayed.

297

### 298 ***The quantitative approach***

299 The quantitative results are based on an electronic survey distributed to members of the  
300 Norwegian MMA Federation (NMMAF). The aim of the survey was to map who  
301 participated in Norwegian MMA and their motives for participation. The sample  
302 consisted of a random group of members in Norwegian MMA clubs associated with the  
303 NMMAF. At the time of the data collection 67 clubs were registered in NMMAF, of  
304 which 43 clubs volunteered to participate in the survey. Five clubs declined to participate  
305 and 19 clubs never responded to the invitation to do so. The survey was conducted in the  
306 autumn of 2016. A total of 484 respondents were included in the analysis, making the  
307 response rate 74%, a fairly high rate for an electronic survey (Tufté, 2018). One of the  
308 reasons for the high response rate in this survey could be that Nordic MMA is an under-  
309 examined field, meaning that the members of Norwegian MMA clubs could be more  
310 positively inclined to participate in research/surveys than sports that are more commonly  
311 exposed to research activities.

312 The variable measuring of MMA participation is divided into days per week (survey  
313 question: *In an average week: how many days per week do you participate in MMA*  
314 *training?*), with the numbers 1-7 representing the number of days per week. The same  
315 applies to the variable measuring of the physical activity level in general (Survey  
316 question: *In an average week: how many days per week are you physically active or*  
317 *participate in sport continuously for 30 minutes or more?*). The age variable and the  
318 MMA experience (*How many years have you trained in MMA?*) variable are both  
319 measured in number of years. The response alternatives measuring education were  
320 divided in degrees to match the Norwegian education system, with the higher education  
321 variable (table 1) coded with two values, where 1 = *academic degree at university level*  
322 and 0 = *no education above secondary school*. There are four naturally dichotomous  
323 variables in the quantitative analyses: 1) mixed-sex training group variable, 2) the  
324 competitive athlete variable, 3) the previous combat sport experience variable and 4) the  
325 gender variable. The mixed-sex training group variable is coded with 1 = *My MMA club*  
326 *trains in mixed sex training groups*, and 0 = *My MMA club trains in gender separated*  
327 *training groups*. The competition/competitive variable is coded with the values 1 = *I*  
328 *compete in MMA*, and 0 = *I do not compete in MMA/I only train recreationally*. The  
329 combat sport experience variable has the values 1 = *Yes, I have experience from other*  
330 *combat sports*, 0 = *No, I have no experience from other combat sports*. Lastly, the gender  
331 variable is coded with 1 = men and 0 = women.

332 The respondents were recruited through email lists provided by the MMA clubs. Each  
333 respondent was sent an email with information about the purpose of the study and a  
334 personalised link to the survey itself. The survey is registered with the Norwegian Centre  
335 for Research Data (NSD) and follows the ethical guidelines for survey research in  
336 Norway.

337

338 *The qualitative approach*

339 A total of 12 female fighters were interviewed in four individual interviews and two focus  
340 groups (with four participants in each). The focus group interviews lasted approximately  
341 two hours and the individual interviews about an hour each. Most of the interviews except  
342 one, which was conducted by telephone, were conducted face-to-face in office milieus.  
343 One focus group was held in a combat clubhouse and the other at a café next to the combat  
344 sports club. All the conversations were semi-structured and included questions about the  
345 informants' sporting experiences, reasons for choosing a combat sport as a sporting  
346 activity, responses from family members and friends and whether they had any  
347 experience of gender discrimination. The informants were between 18-55 years of age  
348 and the oldest women was no longer an active fighter, but involved at an organisational  
349 level and as a leader in a club.

350 The informants had different backgrounds. Two were born outside Sweden in another  
351 Nordic country and had moved to Sweden to study, one as a student teacher and the other  
352 as a medical student. Another informant was a law student. One informant worked as a  
353 social worker, one worked for a sports organisation, one was unemployed and another  
354 had taken time out from her work to focus on becoming a professional fighter. The other  
355 informants worked as physiotherapists, administrators, office workers and consultants.  
356 The informants were also differently merited as fighters: one was as relative a newcomer  
357 with only a few months of experience, while other informants were experienced at a high  
358 national and international level. Most of the informants had also tried other combat sports,  
359 such as Brazilian jiu-jitsu or submission wrestling.

360

361 In the analytical process the overall ambition of using qualitative data has been to find  
362 and make visible norms and perceptions of the ideal combat athlete or fighter and what  
363 they ought to be, feel and look like etc. Inspired by the work of Wetherell and Edley,  
364 different ideals and norms were identified and, with Connell's work in mind, the idea was  
365 to critically analyse their 'inherent' dilemmas and contradictions (Connell, 1983, 2005;  
366 Edley, 2001a; Wetherell and Edley, 1999). Of special interest in this paper is how the  
367 informants' narratives can be linked to terms of gendered power and processes of  
368 inclusion/exclusion. Therefore, the qualitative results are focused on 'positive' and  
369 'negative' factors for participation in, or dropout from, the combat sports milieu.

370

## 371 **Results and findings**

372 Our mixed method approach navigates the layout of the results and the following  
373 discussion. The results/findings and the discussion revolve around three areas: First,  
374 which qualitative and quantitative results point in the same direction, i.e. what common  
375 or convergent conclusions can be drawn from the respective data? Second, how does the  
376 data complement each other? Third, does the qualitative and quantitative data contradict  
377 each other, and if so how? (cf. Östlund et al., 2011).

378

### 379 *Participation patterns in MMA*

380 The quantitative results are presented in three tables (tables 1, 2 and 3). Table 1 presents  
381 some general characteristics about who participates in Norwegian MMA, while tables 2  
382 and 3 analyse the characteristics of female and male participants separately.

383

<b>Variable</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std.dev.</b>
Age	484	14	57	27.24	1.47

MMA participation	484	1	7	4.12	.995
MMA experience	484	1	26	3.66	3.37
Physical activity	484	1	7	5.93	.765
<b>Dummy variables</b>	<b>N</b>	<b>Obs. 0</b>	<b>Obs. 1</b>	<b>Percentage 0</b>	<b>Percentage 1</b>
Gender	484	45	439	9.3	90.7
Higher education	484	293	191	60.6	39.3
Mixed-sex training	484	21	463	4.45	95.5
Competitive	484	396	88	82.1	17.9
Experience combat sport	484	156	328	32.3	67.7

384 *Table 1: Descriptive statistics MMA participation in Norway*

385

386 9.3% of the MMA participants in the survey are women (n = 45), while 90.7% of the  
387 participants are men (n = 439). The low participation rate of women concurs with  
388 previous studies of combat sport in the Nordic countries (Stenius, 2015; Hovden and  
389 Tjønnndal, 2017). The results also reflect the findings of studies of participation in combat  
390 sports in other geographical locations (Channon and Jennings, 2013; 2014). Furthermore,  
391 table 1 indicates that the youngest participant is 14 years of age, while the oldest is 57.  
392 The average age amongst the Norwegian MMA participants is 27 years of age (min = 14,  
393 max = 57, mean = 27.24). The MMA participation variable indicates that participants in  
394 Norwegian MMA clubs train MMA on average 4 days a week (min = 1, max = 7, mean  
395 = 4.12) and are physically active on average 5 days a week (min = 1, max 7, mean = 5.93).  
396 The MMA experience variable shows that the participants range greatly in experience,  
397 from 1 year to 26 years, with the average experience being 3.6 years (mean = 3.66). The  
398 education variable demonstrates that 60.6% of the participants have no academic degree  
399 above secondary school (n = 293), while 39.3% (n = 191) have completed some level of  
400 higher education. The competition/competitive variable shows that only 17.9% of the  
401 participants compete actively in MMA (n = 88), while 82.1% train MMA for recreational,  
402 social or health reasons (n = 396). The mixed-sex training variable shows that the majority  
403 train in mixed-sex training groups (95.5%). Lastly, the experience with combat sports  
404 variable demonstrates that 67.7% had experience of other combat sports before they



405 started training in MMA (n = 328), while 32.3% had no previous experience with combat  
 406 sports (n = 156).

407

<b>Variable</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std.dev.</b>
Motivation: Health	45	3	5	4.12	.649
Motivation: Social	45	2	5	3.36	.859
Motivation: Intrinsic/fun	45	4	5	4.57	.501
Motivation: Performance	45	2	5	3.78	1.02
<b>Dummy variable</b>	<b>N</b>	<b>Obs. 0</b>	<b>Obs. 1</b>	<b>Percentage 0</b>	<b>Percentage 1</b>
Higher education	45	23	22	51.1	48.8
Competitive	45	42	3	95.0	5.0
Experience combat sport	45	24	21	52.5	47.5

408 *Table 2: Descriptive statistics female MMA participants*

409

410 Looking at the female participants (n = 45), 48.8% have a higher academic degree (n =  
 411 22), while 51.1% have no higher education (n = 23). Only three of the female participants  
 412 compete in MMA (5%). 47.5% of the female participants have previous experience of  
 413 other combat sports (n = 21).

414 In the gender separated analysis we included four motivation variables from the survey.  
 415 These variables represent questions related to the respondents' motivations for  
 416 participating in MMA. The motivation variables were based on a variety of statements in  
 417 which the respondents were asked to rate their agreement on a scale from 1 = *I disagree*  
 418 *strongly*, 2 = *I disagree*, 3 = *neither disagree nor agree*, 4 = *I agree*, 5 = *I agree strongly*.  
 419 The statement used for the health motivation variable was *I participate in MMA to keep*  
 420 *in shape, stay fit and healthy* and the statement for the social motivation variable was *I*  
 421 *participate in MMA because it's a place for me to meet and socialise with my friends*.  
 422 The statement used for the intrinsic motivation variable was *I participate in MMA*  
 423 *because it is fun!* Finally, the statement for the performance motivational variable was *I*  
 424 *participate in MMA in order to develop as a fighter, compete and win fights and titles*.

425 The female participants scored highest on the intrinsic/fun variable (mean = 4.57) and the  
 426 health variable (mean = 4.12), and lowest on the social variable (mean = 3.36), meaning  
 427 that health and fun represent the most two important reasons for engagement in  
 428 Norwegian MMA clubs, while socialising/meeting friends appears to be the least  
 429 important reason for participation.

<b>Variable</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std.dev.</b>
Motivation: Health	439	1	5	4.18	.751
Motivation: Social	439	1	5	3.46	1.04
Motivation: Intrinsic/fun	439	1	5	4.56	.701
Motivation: Performance	439	1	5	4.16	.945
<b>Dummy variable</b>	<b>N</b>	<b>Obs. 0</b>	<b>Obs. 1</b>	<b>Percentage 0</b>	<b>Percentage 1</b>
Higher education	439	330	109	75.1	24.9
Competitive	439	354	85	80.61	19.39
Experience combat sport	439	130	309	29.61	70.39

430 *Table 3: Descriptive statistics for male MMA participants*

431

432 Comparing the male participants to the female participants there is a substantial difference  
 433 in terms of education. Only 24.9% of the male participants have an academic degree (n =  
 434 109). There is also a difference in terms of competitive participation. Amongst the men,  
 435 19.39% actively compete in MMA (n = 85). A greater proportion of the male participants  
 436 have also had previous experience of combat sports (70.39%, n = 309). In terms of  
 437 motivation, the male and the female participants are fairly similar. The male participants  
 438 also score highest on health and intrinsic motivation, while social motivation has the  
 439 lowest score. However, the male participants score higher on performance motivation  
 440 than the women.

#### 441 *Voicing women's experiences of MMA as a heterogenic milieu*

442 We now turn to the qualitative data of our study, where the focus is on female fighters'  
 443 experiences. These results confirm that the MMA milieu is a heterogeneous area with  
 444 women (in a minority position) and men of different ages from different ethnic and

445 educational backgrounds training and sparring either against each other or side by side.  
446 The females described male co-members as helpful, that they all felt welcome and that  
447 the club's board and coaches also supported initiatives to attract more women to the club.  
448 Some informants described the clubroom as a second home, which they visited at  
449 lunchtime for gym training (e.g. weight lifting) or in the afternoon for a training session.  
450 The sport as such is described as individualised, where people can practise and compete  
451 at their own level. Even though MMA is an individual sport, the informants said that their  
452 training partners became 'team-mates' and that the MMA club was a community in which  
453 they spent a lot of time and travelled to competitions together.

454 When asked what a typical fighter was like, the informants all said that there was no such  
455 thing as a 'typical' practitioner. Prejudice about the 'crude fighter' was not confirmed and  
456 those who 'just wanted to fight', which emerged in one of the focus groups, usually  
457 disappeared after about 6 months or a year. The initial training sessions focused on  
458 somersaults, tumbling techniques and other physical exercises that did not involve  
459 violence or fighting but were more about safety and smoothness. This meant that the  
460 female fighters had different body sizes and were committed to the sport for different  
461 reasons. According to the informants, one reason for this diversity was that MMA was a  
462 relatively cheap sport to participate in compared to other sports. These narratives  
463 complement our quantitative data, which indicates that the majority of MMA  
464 practitioners are either students or have low levels of education and are therefore likely  
465 to have limited economic resources for leisure activities such as sport (see table 1).

466 Despite these narratives of combat sports as a heterogenic and inclusive milieu with men  
467 and women sparring and practising side by side, more critical voices exemplified how the  
468 male version of the sport, i.e. the sport as practised by men, was regarded as a norm. The  
469 females narrated, for example, that men's MMA was conceived as more valued than

470 women's and that a hierarchy was apparent both in the media and in competitions. For  
471 example, the prize money was higher for men due to the fact that there were more contests  
472 and weight classes for men to choose from.

### 473 ***Motives for participating in MMA***

474 The informants' reasons for involvement in MMA nuances our statistic data. At a general  
475 level, MMA was perceived as fun and increasing self-esteem. One informant expressed  
476 that she wanted to win and be the best, and how '*lovely it is to see when the opponent*  
477 *grimaces and writhes in pain*'. Another participant said that '*it is lovely to sweat*' and that  
478 the training resulted in a better posture and stronger body. Some of the participants had  
479 chosen MMA because they did not like team sports. Another reason that some of the  
480 informants talked about was that combat sports enabled them to experience their own  
481 strengths and weaknesses and showed them how important it was to have respect for an  
482 opponent's and your own psyche and body.

483 The qualitative findings reveal a more nuanced image of women's motives for  
484 participating in MMA. While these quotes illustrate that health and fitness are important  
485 motives for MMA participation, as is the case with the quantitative results (see table 1),  
486 they also highlight that some women are motivated by performance and competition  
487 goals; something that was not prevalent in the quantitative results.

488 The informants also seem to relate to stereotypes of women and femininity. As one  
489 informant puts it, '*I don't wear make-up or earrings, it's good, because then I don't have*  
490 *to remove these things before the training sessions, they are just in the way anyway*'. This  
491 could be interpreted as indicating that the MMA (or combat sports) *per se* breaks with or  
492 challenges certain types of imagined femininity (with earrings and make-up), as other  
493 scholars have noted in earlier research (e.g. Stenius, 2015; Kavoura et. al. 2018). Later

494 during the interview the same informant returned to the make-up topic and repeated that  
495 she did not use it and did not care what others thought about that. She continued by saying,  
496 *'but then, at the closing ceremony I used make-up and everybody reacted and said "wow,*  
497 *damn you are looking good!"*'. This exemplifies how female MMA practitioners have to  
498 balance femininity (e.g. expectations of being a woman) with their role as a fighter  
499 (athlete) and navigate their 'alternative' femininity (Channon and Phipps, 2017).

500 This episode is interesting because the informant challenges a femininity norm but also  
501 confirms it (make-up on a woman makes you look nicer and attractive, in this case to  
502 young men). Being 'attractive' to the (heterosexual) male gaze can also be said to be a  
503 central aspect of the hegemony of masculinity (Connell, 2005). Another informant took  
504 a more radical position and emphasised that she *never* wore any make-up or earrings.  
505 This positioning, which complements and broadens the complexity of women's MMA,  
506 is developed in the section below.

### 507 ***The 'freak' – notions from the surroundings***

508 We asked for experiences from the 'surroundings' and how, for example, friends reacted  
509 when they heard that the informant was involved in combat sports. In one of the focus  
510 groups, one of the women, who was also a medical student, opened up and talked about  
511 her experiences of breaking with the more traditional norms of femininity: *'There's so*  
512 *many things, my tattoos, that I'm living with another woman, my body language, my*  
513 *clothes, my ethnic background... (pause)... I think the other students regard me as a*  
514 *'freak'.*' As the informant tells the story, another says that many of her acquaintances are  
515 surprised when she describes her sporting activity: *'They say things like "oh, not you!?*  
516 *Why are you doing that? It's dangerous!" But I like the sport and when we go to town I*  
517 *sometimes act as a bodyguard for my friends'.*

518 Not all, but some of the informants' experiences reveal some kind of negotiation between  
519 different ideals or norms of femininity. Previous research has also highlighted this  
520 phenomenon, for example when the sporting female in an attempt to develop a strong and  
521 successful body 'risks', or as a result of the training, shapes a body that challenges the  
522 normative perceptions of what a female body should look like and how it should perform  
523 (Sisjord and Kristiansen, 2009; Choi, 2003; Gill, 2007; Grogan et al., 2004).

524 Another thing that relates to this theme, and that was discussed in one of the focus groups  
525 and two of the individual interviews, is the feeling of being able to do things with your  
526 body that you were unable to do before taking up combat sport. Somersaults, tumbles and  
527 different kinds of flexibility, such as doing the splits, were mentioned, but also the joy of  
528 sweating without caring what others thought. However, on the other hand, one informant  
529 said in the interview that she was not comfortable with sweating in front of men or  
530 practising with them, but preferred the club's female training sessions. This leads us to  
531 the final section on the qualitative results.

### 532 ***The contradictory content of mixed-sex training sessions***

533 Several of the women articulated that in general their experiences of practising combat  
534 sports with men were positive. As sparring partners men gave them tips and tricks about  
535 how to improve their skills, minimise injuries through better falling techniques and  
536 thereby become better and more successful as competitive fighters. But some informants  
537 did not agree with this. An informant in one of the focus groups said that she was not  
538 comfortable with sweating or letting men grab or throw her and that initially she had the  
539 same feeling about other women touching and grabbing her body during training: '*I don't*  
540 *know, it was just a strange feeling with another women lying on me, grubbing around*  
541 *(laughter), but now I'm used to it*'.

542 The informants were conscious about this and that the sport's character of close physical  
543 contact did not appeal to everybody. They had all seen many women as well as men  
544 dropping out, presumably due to this uncomfortable body contact. Some informants also  
545 related to the borders of the comfort zone in relation to the mixed-sex training sessions  
546 and said that there was always a risk that men would access 'parts' of the body, but that  
547 during training they just 'saw a body' without any other intentions.

548 Some of the informants thus perform a counter-hegemonic action as fighting females that  
549 challenges men's monopoly of being aggressive, fighting, sweating etc. However, as  
550 mentioned above, all the informants were not comfortable about performing such  
551 activities and the mixed-sex (progressive) session seemed to include a dropout factor.  
552 This can also be linked to the quantitative results, which indicate that male practitioners  
553 of MMA are far more engaged in competing in MMA than female practitioners. The  
554 results from the quantitative survey indicate that while only 5% of the female respondents  
555 compete in MMA, almost 20% of the male participants are engaged in competitive MMA  
556 fighting (see tables 2 and 3).

## 557 **Discussion and conclusion**

558 Our quantitative results indicate that women represent a small minority and a  
559 marginalised group of MMA participants in the Nordic countries. Amongst the  
560 Norwegian survey participants, only 9.3% were women. Gender balance in sport  
561 participation in the Nordic countries is similar, which gives us reason to hypothesise that  
562 there may be similar trends in MMA participation rates in Sweden, Denmark, Finland  
563 and Iceland. However, quantitative data on MMA participation in the other Nordic  
564 countries is needed to confirm (or debunk) this hypothesis. Additionally, women in MMA  
565 have less experience of other combat sports compared to male MMA practitioners. Of the  
566 female MMA practitioners, 47.5% had experience with other combat sports, while 70.4%

567 of the men had combat sport experience. The women also have a far higher level of  
568 education than the men. Amongst the women in the sample, 48.8% had a university  
569 degree, compared to only 25% of the men.

570 Furthermore, the quantitative data shows that women participating in MMA compete less  
571 and are less motivated by performance enhancement (developing as fighters, winning  
572 fights/tournaments/titles) than male participants. However, both male and female  
573 participants value health and fun as the most important reasons for their participation in  
574 MMA training groups. Contrary to this data, which in a way confirms a stereotypical  
575 image of women as less competitive and more socially oriented than men, one of the  
576 informants expressed a strong commitment to becoming a professional MMA fighter.  
577 She, like other women in her training group, participated in ‘big’ international  
578 competitions with prize money and had, at the time of the interview, chosen to invest  
579 wholeheartedly in earning a living from MMA. This informant can be interpreted as a  
580 representative of the 5% of women (in the quantitative data) who are competitive MMA  
581 athletes.

582 Our qualitative results confirm the quantitative, but can also be seen as complementing  
583 and nuancing them. MMA women have the potential to act as female role models through  
584 their counter-hegemonic negotiation of norms and views of ‘traditional’ femininity and,  
585 more specifically, the perception of femininity as something fragile and passive (cf. Gill,  
586 2007). Individual’s emotions of being comfortable with sweating, grabbing, punching,  
587 kicking and throwing with other women (and men) are examples that complement and  
588 nuance our quantitative data. These dimensions of MMA can also be regarded as  
589 emancipative and progressive, in that they broaden the traditional views of females and  
590 femininity.



591 Both the quantitative and qualitative data show MMA's progressive potential for women.  
592 However, our qualitative data complements this image with women's experiences of  
593 practising MMA in everyday life. Men and masculinities dominate in different ways, but  
594 exclusion and inclusion seem to go hand in hand, representing two sides of the same coin.  
595 Here it is also important to emphasise, which is rarely mentioned in previous research,  
596 that women taking part in an activity (such as MMA) that is permeated by men and  
597 masculinities as hegemonic can still develop self-confidence, personal development and  
598 express 'alternative' femininities. Thus, the hegemonic 'system' can be said to contain  
599 both progressive and destructive aspects. In other words, if we consider the Nordic MMA  
600 arena as a male hegemony, our results can be interpreted in terms of what Connell (2005)  
601 calls the contradictive content or inherent dilemma of hegemony. This means, that being  
602 marginalised or subordinated does not necessarily mean an exclusive  
603 marginalisation/subordination, but could imply simultaneous aspects of emancipation and  
604 progression. At least some of the female informants' narratives indicate this.

605 The most important contribution of the qualitative data that our quantitative survey did  
606 not capture is how women negotiate their femininity between the female stereotypes of  
607 sport on the one hand and society on the other. It was possibly the male interviewer who  
608 raised the narratives about earrings, make-up, clothes and tattoos and how others  
609 perceived these MMA women, but their narratives express how MMA offers a comfort  
610 zone for developing an athletic femininity in which femininity is never questioned but  
611 where bodily competence is in focus. This dilemma has been identified by previous  
612 research and is in line with McCaughey's (1997) 'physical feminism', which claims that  
613 women should engage more extensively in physical activity, employ more physical  
614 contact power and appreciate the emotional pleasure of hitting, screaming and kicking.  
615 Such physical feminism challenges traditional ideals of women that, for example, teach

616 women to be passive and beautiful objects.

617 An interesting finding from the qualitative analysis, which (at least to our knowledge) has  
618 not come to light in the previous research on MMA, is how the mixed training sessions  
619 build on women's trust in their male training partners. The interviewed women argue that  
620 there is *always* a risk that men (and women) will touch and access 'sensitive' parts of  
621 their bodies during exercising, and that familiarising yourself with the way you touch  
622 others and how others touch you during MMA training sessions represents a unique  
623 learning process, since people do not normally touch each other in this way in modern  
624 society. In this sense, a negotiation of the woman's body occurs as either a kind of  
625 sexualised object or an active and 'neutral' training partner. Here it would be interesting  
626 to follow up with interviews of men's experiences of these training situations in mixed-  
627 sex training groups in MMA and other combat sports.

628 The purpose of this paper has been to examine female participation in MMA in the Nordic  
629 countries with the specific aim of investigating how processes of inclusion and exclusion  
630 are expressed and carried out in knockout-based combat sports. A clear limitation of the  
631 present study is that the analysed data only represents two of the five Nordic countries.  
632 However, the study represents a first step towards acquiring more knowledge about  
633 Nordic women's experiences of MMA and other combat sports. As highlighted earlier in  
634 the paper, there is a gap in the established field of women and combat sports concerning  
635 participation in MMA in the Nordic countries.

636 By employing a mixed method approach, the paper shows a broad image of this  
637 phenomenon and the complexity of its progressive and problematic aspects. Although  
638 Norway and Sweden can be considered as relatively gender equal countries, this study  
639 shows that men still dominate combat sports and MMA. However, this does not seem to

640 prevent (some) women from participating and growing in self-confidence and self-  
641 esteem, which the combat sporting activities seem to contribute to. The perceived reasons  
642 for exclusion are that combat sports are not for everyone, especially those who are not  
643 comfortable with hard physical contact that involves touching sensitive parts of the body.  
644 The study has further shown that some informants negotiate between a 'societal'  
645 femininity ideal and a combat sport femininity ideal, which to a large extent confirms the  
646 findings of previous research outside the Nordic region.

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## 787 **NOTES**

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<sup>1</sup> The authors acknowledge that there are other types of combat sports that do not regularly feature knockouts as a determinant of victory (e.g. taekwondo, judo, BJJ, etc.). In this paper, the use of the term ‘combat sports’ refers to full-contact, knockout-based combat sports.

<sup>2</sup> Such as national team coaches, men’s professional football leagues.

<sup>3</sup> As of November 2018, MMA practitioners in Norway can train in clubs organised by the Norwegian MMA Federation (NMMAF). NMMAF and local clubs can host practice/demonstration matches and amateur fights (within a restrictive set of rules). Professional MMA fights are however, illegal in Norway.

<sup>4</sup> Term used to describe judo athletes.

<sup>5</sup> Abbreviation for the Ultimate Fighting Championship.

<sup>6</sup> See the LFHV website for more information: <http://lfhv.org/>

<sup>7</sup> Referring to the Summer Olympics.