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Five-Factor Personality Profiles among Norwegian Musicians Compared to the General Workforce

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Abstract

The aim of the study was to investigate differences in personality traits between professional musicians and the general workforce. In addition, differences in personality traits across subgroups of musicians, such as employment forms and instrument groups, were investigated. In 2013, a total of 1,600 members of the Norwegian Musicians' Union, answered a questionnaire including demographic variables, form of employment, instrumental group and a shortened version of the personality questionnaire Big Five Inventory (BFI-20). The musicians were compared to a sample of the general Norwegian workforce (n=6,372) that answered the same personality questionnaire in the Norwegian generation and gender survey from 2007. Multivariable linear regression, adjusted for age, gender, marital status and education, showed that musicians display higher degrees of neuroticism and openness to experience, and lower degrees of conscientiousness, when compared to the general workforce. A higher degree of openness to experience was especially evident among freelance musicians and those who combined freelance and employment. Findings also differed between instrumental groups, i.e. with vocalists scoring higher on openness to experience and bowed strings higher on neuroticism and introversion. In sum, musicians display somewhat different patterns of personality traits compared to the general workforce. This might be relevant for the musical educational system, work environment and how to prevent psychological distress in a demanding job situation.

Keywords: Musicians, personality, personality traits, big five, instrumental group, form of employment

Recently, there has been an increasing interest in musicians' working conditions, health and health behavior (Dobson, 2010; Holst, Paarup, & Baelum, 2012; Paarup, Baelum, Holm, Manniche, & Wedderkopp, 2011; Schmidt et al., 2014; Vaag, Giæver, & Bjerkeset, 2014). Studies have pointed out that musicians seem to encounter demanding work conditions (Dobson, 2010; Holst et al., 2012; Vaag et al., 2014) and elevated states of distress, in terms of poor sleep (Vaag, Saksvik-Lehouillier, Bjørngaard, & Bjerkeset, 2016), anxiety and depression (Vaag, Bjørngaard, & Bjerkeset, 2016), when compared to the general workforce. While these results have been relatively consistent, research regarding personality traits, i.e. known to influence career choice (Martincin & Stead, 2015; Ng, Eby, Sorensen, & Feldman, 2005), the experience of job demands (Bakker et al., 2010), and psychological distress (Kotov, Gamez, Schmidt, & Watson, 2010; Malouff, Thorsteinsson, & Schutte, 2005) has shown somewhat conflicting results (i.e. Benedek, Borovnjak, Neubauer, & Kruse-Weber, 2014; Butkovic & Rancic Dopudj, 2016; Haller & Courvoisier, 2010; Kemp, 1996, 2000; Langendörfer, Hodapp, Kreutz, & Bongard, 2006), and is inconclusive.

Until the late 80s, the field of personality psychology and personality traits was lacking a common descriptive model (John, Naumann, & Soto, 2008; Kotov et al., 2010). Two of the best investigated models were Raymond Cattell's 16 personality factors (Cattell, Eber, & Tatsuoka, 1988) and Eysenck's (Eysenck & Eysenck, 1975) model, consisting of three major factors (extraversion, neuroticism and psychoticism). During the 80s and 90s, however, a common consensus of five high order personality traits was reached. Soon, research on this conceptual model outnumbered the before mentioned models (John et al., 2008); a series of theoretical and empirical research all arrived at five common factors for personality, referred to as the Big Five or the five-factor model of personality (Costa & McCrae, 1992; Goldberg, 1990; Matthews, Deary, & Whiteman, 2009). Goldberg (1990) and

Costa and McCrae (1992) were the two major proponents of the Big Five and five-factor model, respectively.

The most commonly used labels for these traits are extraversion (i.e. sociability, activity, positive emotionality and energetic approach towards the surroundings), agreeableness (i.e. includes altruism, tender-mindedness, trust and modesty), conscientiousness (i.e. following norms and rules, planning and organizing/prioritizing tasks), neuroticism (i.e. emotional stability vs. negative emotionality) and openness to experience (i.e. artistic interest, willingness to learn new things, attitude to new ideas and idea-making). Of note, openness to experience has also labeled as intellect and extraversion as surgency in the Big Five (Goldberg, 1990).

Personality traits among musicians; instrumental groups and form of employment

As previously mentioned, research regarding personality traits among musicians has provided somewhat conflicting results. In the book "The Musical Temperament", Kemp (1996, 2000) proposed that introversion was especially prevalent among musicians, and that this personality trait manifested itself in a reserved and introspective temperament that could help musicians to be comfortable in solitude during long periods of practice (Kemp, 1996, p. 49). While some research has supported introversion being prevalent among musicians (Marchant-Haycox & Wilson, 1992), more recent studies have reported that introversion is not a typical trait, reporting either average (Gillespie & Myors, 2000; Haller & Courvoisier, 2010) or lower degree of introversion among musicians (Butkovic & Rancic Dopudj, 2016).

Kemp (1996) did also describe the musician as independent and with a heightened degree of trait anxiety, which in terms of the Big Five taxonomy of personality traits would relate the most to openness to experience and neuroticism (John & Srivastava, 1999).

Dependent on groups of reference, openness to experience has shown to be heightened among musicians when compared to the general population (Butkovic & Rancic Dopudj, 2016), but not different or lower when compared to psychology students (Buttsworth & Smith, 1995; Haller & Courvoisier, 2010). Neuroticism has shown to be either at the same level (Butkovic & Rancic Dopudj, 2016; Haller & Courvoisier, 2010) or lower (Buttsworth & Smith, 1995), dependent upon groups of comparison.

With regard to personality differences between (sub)groups of musicians, a recent Croatian study did not find evidence for personality differences between male classical (n=113) and heavy metal (n=136) musicians (Butkovic & Rancic Dopudj, 2016). Another recent study, comparing 51 classical, 25 jazz and 21 folk musicians, did not either find evidence of genre differences in personality traits, except for higher scores on extraversion among folk musicians (Benedek et al., 2014).

With regard to instrument group, a German study (Langendörfer, 2008) compared bowed string, woodwind and brass players, and reported negative findings as well,. The only exception was that bowed string players were more conscientious. In keeping with this observation, a study of 255 Australian musicians reported that brass players (n=27) tend to be more extroverted than bowed string musicians (n=45) (Buttsworth & Smith, 1995). Cribb and Gregory (1999), however, suggest that this difference is not due to the choice of instrument, but more due to history and traditions within an orchestra.

Permanent employment is possible for some musicians, yet many decide to, or are bound to, engage in freelance work in order to make an affordable income. Meta-analytical research suggests that the decision to become a self-employed entrepreneur is often associated with personality traits such as openness to experience, conscientiousness, emotional stability (low neuroticism) and extraversion (Zhao & Seibert, 2006; Zhao, Seibert,

& Lumpkin, 2010). The same personality factors have shown to be related to success as entrepreneurs (Zhao et al., 2010). To our best knowledge, little or no research has been done on possible personality differences between musicians with different forms of employment, using the Big Five taxonomy of personality.

Even though there has been conducted a fair amount of research on personality traits among musicians, major concerns with previous studies are the variation in use of groups of comparison, the use of different instruments of measurements and small sample sizes, which reduces the internal and external validity, and generalizability. Thus, we wanted to examine personality traits among a large representative sample of Norwegian musicians, compared to the general workforce, also comparing musicians based on form of employment and type of instrument.

Methods

Participants and setting

Sample of musicians

A total of 4,168 members of the Norwegian Musicians' Union were invited to an online survey between 1st of February and 1st of April, 2013. Both members listed as musicians and/or music teachers were invited. Three e-mail reminders were sent, with two-week intervals. A total number of 2,121 (50.8%) members responded and completed the personality questionnaire. Of these, 1,600 confirmed that they had been working as professional musicians in the last 12 months, and were included in our analysis. Gender distribution and mean age in both samples are provided in table 1.

Workforce sample

The workforce sample was based on 24,830 people (aged 18-79), who were randomly drawn from the Norwegian population register and invited to participate in the Norwegian Life course, Generation and Gender study (LOGG 2007/2008) (Lappegård & Veenstra, 2010). The initial data collection was done using telephone interviews. Next, participants were invited to fill in a postal or web-based questionnaire. A total of 14,892 were interviewed (61.0%), while 10,749 subjects (73.0% of the eligible) completed the questionnaire. Of these, 6,372 were listed as workers with an ISCO-coded workforce category, and had also answered the questions regarding personality.

Measures

Demographics

Data on marital status (married/cohabitant; not married/cohabitant), age, sex and education (primary/secondary/high school; lower university level; higher university level) were collected in both samples. In addition, musicians reported their current form of employment (employed (men: 160 / women: 146) ; freelance (men: 420 / women: 303); both employed and freelance (men: 329 / women: 242)); and primary instrument group (vocals (men: 92 / women: 229), bowed strings (men: 116 / women: 143), plucked strings (men: 231 / women: 19), woodwind (men: 96 / women: 106), brass (men: 142 / women: 74), key instrument (men: 125 / women 102), percussion (men: 92 / women 10) and other (men: 25 / women: 8)).

Personality traits

Personality traits were measured using a Norwegian short version of the BFI44 (Big Five Inventory 44) (Engvik & Føllesdal, 2005; John & Srivastava, 1999) named the BFI-20-N (Engvik & Claussen, 2011). The scale consists of 20 items, of which each five of the personality traits are measured using four items on a Likert scale from one to seven ("does not fit" to "fits completely"). As a result, the scores range from 4 to 28 on each personality factor. 6 of the 20 items used in LOGG (Lappegård & Veenstra, 2010) did have some minor differences in phrasing compared to the validated version of the instrument. In order to compare our results, we chose to use identical phrasing as used in LOGG. Indices were made for the factors extraversion (α=.78), agreeableness (α=.57), conscientiousness (α=.57), neuroticism (α=.74) and openness to experience (α=.69), with similar alpha-values as obtained in the validation of BFI-20-N (Engvik & Claussen, 2011).

Statistics

We initially compared the five factor outcomes and other covariates between the musician sample and the workforce sample by means of independent samples *t*-test and χ^2 – tests (two-tailed). In the main analysis we specified multivariable linear regression models to study differences in personality traits between our main predictors of interest; (1) musicians and the workforce, (2) between musicians' form of employment and workforce, and (3) between musicians' instrument groups and workforce. More specifically, in separate models we regressed each of the five factor outcomes on our main predictors of interest. Models were built sequentially by first adjusting the main predictors of interest for age (model 1), then adding: sex (model 2), marital status (model 3) and finally adding education (model 4). We report unstandardized regression coefficients with 95 per cent confidence intervals (95% CI) which gives the estimated difference in the average value for musicians (and groups of musicians) compared to the workforce. Negative estimates implies that musicians (or groups of musicians) on average scores lower than workers on the five factor outcomes whereas positive estimates means they score higher than the workers. All analyses were conducted in Stata 13.1 (StataCorp, 2014).

Results

Table 1 displays the distributions of independent and dependent variables in the total sample of Norwegian musicians and the general workforce. The sample of musicians had a higher level of education and there were a higher representation of men than in the general workforce.

INSERT TABLE 1

In the initial model (age adjusted), we found differences between musicians and the general workforce on four of the five personality factors (openness to experience, neuroticism, agreeableness and conscientiousness) (table 2). In the final model (adjusted for age, sex, marital status and educational level), three factors remained statistically different from the general workforce. The most substantial difference was found in the high level of openness among the musicians. Further, musicians reported a higher degree of neuroticism and a lower degree of conscientiousness.

INSERT TABLE 2

In our analysis of form of employment (table 3), we found that even though a higher level of openness to experience was found among employed musicians, musicians working freelance or both doing freelance and employed work were even higher on this trait. For the other personality factors, there were no noticeable differences in terms of form of employment among the musicians.

INSERT TABLE 3

In our final analysis, based on instrument type (table 4), we found that all instrumental groups were significantly higher than the workforce on level of openness to

experience. Within the sample of musicians, those playing bowed strings were lower on openness to experience than voice/vocals and key instrument players. With regard to neuroticism, voice/vocals, bowed strings, plucked strings and key instrument players scored significantly higher than the general workforce. In addition, bowed strings scored higher than woodwind players. On agreeableness, there were no significant differences between the musicians and workforce. On conscientiousness, voice/vocals, bowed strings and plucked strings scored significantly lower than the workforce. Finally, voice/vocals were more extraverted, while bowed strings were more introverted, than the general workforce. There were also a difference between voice/vocals and bowed strings, plucked strings, brass and key instrument players, with voice/vocals scoring higher on extraversion.

INSERT TABLE 4

Discussion

In this study of 1,600 Norwegian musicians, we found a higher degree of neuroticism and openness to experience, and a lower degree of conscientiousness compared to the Norwegian workforce. Previous research has shown that a combination of high neuroticism and low conscientiousness is related to psychological distress (Kotov et al., 2010; Malouff et al., 2005), and could thus provide some explanation to our previous finding from the same sample (Vaag et al., 2016). Nevertheless, it is important to make note that even though the differences in neuroticism were seen across several instrumental groups, the lower degree of conscientiousness was only seen among vocalists, bowed and plucked strings. Thus, the notion that musicians playing bowed strings are more conscientious than other musicians (Langendörfer, 2008) was not supported by our results.

In keeping with both Kemp (1996) and Butkovic & Dopudj (2016), we found openness to experience to be the highly distinguishable personality factor between musicians and the general workforce, with musicians scoring significantly higher on this personality dimension than the general workforce. This was seen across all instrumental groups, and was especially evident among voice/vocals and key instrument players. To the contrary, we did not find support for Kemp's (1996) findings that musicians score higher on introversion, except for a higher degree of introversion among musicians playing bowed strings. Nevertheless, as musicians playing bowed strings (especially violinists) are known to be the instrumental group that practices the most (Jørgensen, 1997), our findings may support Kemp's notion that introversion, for this group of musicians, may be an advantage in order to be able to practice in solitude over long period of time.

The recent results presented by Butkovic & Dopudj (2016), which showed that extraversion (not introversion) is more prevalent among classical and heavy metal musicians than in the general population were not either supported in our analysis. One exception is the higher degree of extraversion among voice/vocals. Butkovic and Doudj (2016) also found a higher degree of agreeableness among their musicians, which was not confirmed by our results.

With regard to form of employment, we found that openness to experience was higher among musicians engaging in freelance work. This is in keeping with the observation that openness to experience is related to entrepreneurial intent and the decision to enter self-employment (Caliendo, Fossen, & Kritikos, 2014; Zhao & Seibert, 2006; Zhao et al., 2010). A likely explanation for this is the need of being open, creative and imaginative when creating musical work that would be commercially successful, and also to find ways to promote their work to people of interest. There is also a possibility that people that prefer tradition and stability, versus openness and new ideas, feel more comfortable when having a secure

employment. Alternatively, it could also be that these differences are better explained by differences in genre, i.e. differences between classical music and pop/jazz, as employed musicians play mostly classical music in orchestras, while musicians within other genres often must rely on self-employment.

One of the most commonly reported differences between musicians, regarding personality traits, is the difference between the bowed string and brass musician; the brass musicians are often characterized as more extroverted and less neurotic than the bowed string musicians (Buttsworth & Smith, 1995; Marchant-Haycox & Wilson, 1992). Our results show the same tendency, yet show even larger differences between woodwind and bowed strings musicians. According to our findings, the two most distinguishable instrumental groups, compared to the general workforce, are the vocalists (higher on extraversion and openness to experience) and bowed strings (higher on introversion and neuroticism).

Strengths and limitations

To our best knowledge, this is the first study to investigate the big five personality dimensions among a large sample of musicians, compared to the general workforce. This offered better opportunities to improve internal and external validity, as well as generalizability of the findings, compared to previous studies. It is important to note that our study only investigated the major five personality dimensions, using a shortened personality inventory. Even though this instrument is validated (Engvik & Claussen, 2011), a more thorough investigation of personality traits is warranted, using one of the more fine-meshed personality inventories such as NEO PI-3 (McCrae, Costa Paul T, & Martin, 2005); as it may be that more interesting personality differences between musicians and the workforce exist in the sub-dimensions of the major five personality factors. Also, our findings are based on

cross-sectional data, and do not allow for explanations of causal relationships. And even though personality traits have proven to be relatively stable over time (Roberts, Walton & Viechtbauer, 2006; McCrae et. al, 2000), prospective designs is needed in order to investigate personality, work affiliation and the choice of being self-employed.

Another concern is the reliability of instruments measuring personality traits using self-report. Self-report is influenced by the respondents self-conception, which may be greatly influenced by the contextual circumstances and social arenas in which the respondent has drawn her or his experiences from.

Conclusion

Previous research investigating personality trait patterns among musicians have reported conflicting results. In our study of a large representative sample of Norwegian musicians, we found that openness to experience was the most distinguishable personality trait, found across all different groups of musicians, compared to the general workforce. Further, a higher degree of neuroticism in musicians was also evident, with an exception for percussionists, woodwind and brass players. With regard to the other personality factors, vocalists were more extroverted; bowed strings more introverted; and vocalists, plucked and bowed string players less conscientious than the general workforce.

Combined with our recent results showing heightened levels of psychological distress (Vaag, Bjørngaard, et al., 2016), sleep difficulties (Vaag, Saksvik-Lehouillier, et al., 2016) and use of healthcare services (Vaag, Bjørngaard, & Bjerkeset, 2016) among musicians, the heightened level of neuroticism among musicians should underline the importance of establishing good preventive systems and treatment in both music education and healthcare.

Even though we have seen differences between musicians and workforce in specific traits, our results do also show that some of the previously withheld notions of a specific distinguishable personality structure of the musician (with regard to introversion/extraversion and agreeableness) is not supported when examining a large sample of Norwegian musicians. The major distinguishable trait of the musician is, understandably, a heightened degree of openness to experience, manifesting itself in a higher interest in new ideas, artistic and cultural activities.

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Table 1. Descriptive table of the musician and workforce sample, dependent variables and covariates

		Musician sample		Worker sample		Difference
		Mean/N	*SD/%*	*Mean/N*	*SD/%*	*p-value*
Personality traits						
	Extraversion	18,9	5,2	19	4,8	0,579
	Openness to experience	21,7	4,2	17,8	4,7	0,000
	Neuroticism	13,3	5,2	12	4,5	0,000
	Agreeableness	21,8	3,6	22,2	3,4	0,000
	Conscientiousness	20,1	3,9	20,5	3,6	0,000
Predictors						
Age (years)		43,1	10	43,0	12,6	
Sex						
	Females	691	43,2	3383	53,5	
	Males	909	56,8	2944	46,5	0,000
Marital status						
	Married/cohab.	1226	76,6	4697	74,2	
	Not married/cohab.	374	23,4	1630	25,8	0,050
Education level						
	Primary & secondary	126	7,9	3487	55,1	
	University low	722	45,1	2143	33,9	
	University high	752	47	697	11	0,000
Labor market affiliation						
	Permanent or temporary	*306*	*19,1*			
	Freelance or self-employed	*723*	*45,2*			
	Both	*571*	*35,7*			
Instrument						
	Vocals	*311*	*19,4*			
	Bowed strings	*259*	*16,2*			
	Plucked strings	*250*	*15,6*			
	Woodwind	*202*	*12,6*			
	Brass	*216*	*13,5*			
	Key instrument	*227*	*14,2*			
	Percussion	*102*	*6,4*			
	Other instrument	*33*	*2,1*			
Respondents		1600	100	6327	100	

Table 2. Differences (regression coefficients) and 95 confidence intervals (95% CI) in personality traits between musicians (n=1,600) and a sample of the Norwegian workforce (n=6,327) (reference category).

	Model 1		Model 2		Model 3		Model 4	
	b	*99% CI*	*b*	*99% CI*	*b*	*99% CI*	*b*	*99% CI*
Extraversion	-0,08	(-0.45, 0.29)	0,08	(-0.29, 0.44)	0,07	(-0.29, 0.43)	-0,01	(-0.40, 0.39)
Openness	**3,90**	(3.58, 4.21)	**3,85**	(3.54, 4.16)	**3,86**	(3.55 - 4.18)	**3,29**	(2.94 - 3.64)
Neuroticism	**1,31**	(0.95, 1.67)	**1,44**	(1.08, 1.80)	**1,45**	(1.09, 1.81)	**1,46**	(1.06, 1.85)
Agreeableness	**-0,33**	(-0.59, -0.08)	-0,19	(-0.45, 0.06)	-0,20	(-0.45, 0.05)	0,02	(-0.26, 0.30)
Conscientiousness	**-0,40**	(-0.68, -0.12)	-0,25	(-0.53, 0.02)	-0,26	(-0.54, 0.01)	**-0,49**	(-0.80, -0.19)

Model 1=Adjusted for age, Model 2=Model 1 + Sex, Model 3=Model 2 + Marital status, Model 4=Model 3 + Education level
Estimates in **bold** are significantly different from the reference category at
$p<0.01$

Table 3. Differences (regression coefficients) and 95 confidence intervals (95% CI) in personality traits between musicians' work affiliation and a sample of the Norwegian workforce (n=6,327) (reference category).

	Model 1		Model 2		Model 3		Model 4	
	b	*99% CI*	*b*	*99% CI*	*b*	*99% CI*	*b*	*99% CI*
Extraversion								
Permanent or temporary	-0,40	(-1.19, 0.38)	-0,33	(-1.11, 0.44)	-0,34	(-1.12, 0.43)	-0,45	(-1.24, 0.34)
Freelance or self-employed	0,15	(-0.36, 0.67)	0,33	(-0.18, 0.84)	0,32	(-0.19, 0.83)	0,24	(-0.29, 0.76)
Both	-0,20	(-0.77, 0.38)	-0,02	(-0.60, 0.55)	-0,02	(-0.60, 0.55)	-0,09	(-0.69, 0.51)
Openness								
Permanent or temporary	**2,60**	(1.93, 3.27)	**2,58**	(1.91, 3.25)	**2,61**	(1.94, 3.27)	**2,02**	(1.34, 2.70)
Freelance or self-employed	**4,29**	(3.87, 4.70)	**4,24**	(3.82, 4.65)	**4,26**	(3.84, 4.67)	**3,73**	(3.29, 4.17)
Both	**4,09**	(3.62, 4.56)	**4,04**	(3.57, 4.51)	**4,05**	(3.57, 4.52)	**3,43**	(2.92, 3.93)
Neuroticism								
Permanent or temporary	**1,60**	(0.82, 2.38)	**1,66**	(0.88, 2.44)	**1,68**	(0.89, 2.46)	**1,70**	(0.90, 2.50)
Freelance or self-employed	**1,31**	(0.79, 1.82)	**1,45**	(0.94, 1.97)	**1,47**	(0.95, 1.98)	**1,48**	(0.94, 2.01)
Both	**1,16**	(0.59, 1.72)	**1,30**	(0.74, 1.86)	**1,30**	(0.74, 1.86)	**1,30**	(0.71, 1.88)
Agreeableness								
Permanent or temporary	-0,34	(-0.88, 0.20)	-0,27	(-0.81, 0.27)	-0,28	(-0.82, 0.26)	-0,07	(-0.63, 0.48)
Freelance or self-employed	**-0,40**	(-0.75, -0.04)	-0,23	(-0.59, 0.12)	-0,24	(-0.59, 0.11)	-0,04	(-0.41, 0.33)
Both	-0,26	(-0.65, 0.14)	-0,10	(-0.49, 0.29)	-0,10	(-0.49, 0.29)	0,16	(-0.26, 0.57)
Conscientiousness								
Permanent or temporary	-0,14	(-0.78, 0.50)	-0,07	(-0.69, 0.55)	-0,09	(-0.70, 0.53)	-0,30	(-0.93, 0.32)
Freelance or self-employed	**-0,63**	(-1.00, -0.25)	**-0,46**	(-0.84, -0.08)	**-0,47**	(-0.85, -0.09)	**-0,68**	(-1.07, -0.29)
Both	-0,25	(-0.68, 0.18)	-0,09	(-0.52 - 0.34)	-0,093	(-0.52, 0.34)	-0,35	(-0.81, 0.10)

Model 1=Adjusted for age, Model 2=Model 1 + Sex, Model 3=Model 2 + Marital status, Model 4=Model 3 + Education level

Estimates in **bold** are significantly different from the reference category at $p<0.01$

Table 4. Differences (regression coefficients) and 95 confidence intervals (95% CI) in personality traits between instrumental groups and a sample of the Norwegian workforce (n=6,327) (reference category).

	Extraversion		Openness		Neuroticism		Agreeableness		Conscientiousness	
	b	*95% CI*	*b*	*95% CI*	*b*	*95% CI*	*b*	*95% CI*	*b*	*95% CI*
Vocals	**1,44**	(0.68, 2.20)	**4,16**	(3.51, 4.82)	**1,54**	(0.73, 2.34)	0,09	(-0.46, 0.63)	**-0,89**	(-1.44, -0.33)
Bowed strings	**-1,51**	(-2.33, -0.68)	**2,11**	(1.38, 2.84)	**2,35**	(1.52, 3.18)	-0,28	(-0.86, 0.30)	**-0,76**	(-1.40, -0.11)
Plucked strings	-0,56	(-1.42, 0.31)	**3,44**	(2.77, 4.10)	**1,29**	(0.49, 2.08)	-0,26	(-0.85, 0.33)	**-0,74**	(-1.35, -0.12)
Woodwind	0,36	(-0.59, 1.32)	**2,93**	(2.10, 3.76)	0,61	(-0.29, 1.52)	-0,05	(-0.71, 0.61)	-0,40	(-1.12, 0.33)
Brass	-0,31	(-1.25, 0.64)	**2,58**	(1.80, 3.35)	0,89	(-0.08, 1.86)	0,35	(-0.30, 0.99)	0,21	(-0.52, 0.94)
Key instrument	-0,3	(-1.23, 0.64)	**3,87**	(3.15, 4.59)	**1,77**	(0.84, 2.70)	0,57	(-0.05, 1.19)	-0,23	(-0.92, 0.47)
Percussion	0,76	(-0.41, 1.92)	**3,49**	(2.41, 4.56)	1,00	(-0.19, 2.19)	0,10	(-0.84, 1.04)	-0,02	(-1.13, 1.09)
Other	0,69	(-1.31, 2.70)	**4,86**	(3.18, 6.53)	**3,43**	(0.92, 5.93)	1,64	(-3.39, 0.10)	-1,15	(-2.74, 0.43)

All models adjusted for age, gender, marital status and education

Estimates in **bold** are significantly different from the reference category at $p<0.01$