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Character Strengths Profiles of Musicians and Non-Musicians

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ABSTRACT

In the 1980s and 1990s a series of studies investigated musicians' personalities using Cattell's 16 personality factors, Eysenck's PEN super factors, and Costa and McCrae's Big Five. The findings hinted at some traits most musicians seemed to share, and highlighted differences between the personality traits of brass and string players. However, results were inconclusive and sometimes contradictory. The main aim of this study was to further investigate the topic using novel theoretical frameworks: Peterson and Seligman's (2004) VIA classification, and Güsewell and Ruch's (2012) responsiveness to the beautiful and good model. The character strengths and responsiveness to the beautiful and good profiles of classical and non-classical (i.e. jazz, rock, and pop) professional musicians, amateur musicians, and non-musicians were compared. In total, 324 participants equally distributed among these three subgroups completed the Values in Action Inventory of Strengths (VIA-IS; Peterson, Park, & Seligman, 2005), the Engagement with Beauty Scale (EBS; Diessner, Solom, Frost, Parsons, & Davidson, 2008), and the Appreciation of Beauty and Excellence Test (ABET; Güsewell & Ruch, 2012). Professional musicians scored significantly higher than non-musicians on self-regulation, appreciation of beauty and excellence, and responsiveness to artistic beauty; they scored significantly lower than amateurs on judgement and perspective, and lower than both amateurs and non-musicians on teamwork, fairness, and leadership. Professional classical musicians scored significantly higher than professional non-classical musicians on prudence. The latter, in turn, displayed significantly higher scores on creativity, bravery, and honesty. The two groups did not differ with respect to any of the responsiveness dimensions.

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1.0 Introduction

Stereotypes about the personalities of players of different instruments are numerous - both among musicians themselves and the public. Keillor (1989) addresses such connotations when he characterises the members of an orchestra in his "young Lutheran's guide to the orchestra": 'The English horn sounds so mournful, so plaintive. And so are English horn players. They all have incredibly complicated problems, they're all depressed. […] The bass is an extremely slow instrument, the plough-horse of the orchestra, and bass players tend to be a little methodical, not inventive, not quick, not witty or brilliant, but reliable. […] The cello section seems so normal, and cellists seem like such nice people. The way they put their arms around their instruments, they look like parents zipping up a child's snowsuit' (p. 31-32). In his memories, trumpet player Marsalis (1994), describes the classic trumpet persona as: 'Brash, impetuous, cocky, cool, in command. […] That's just how we are' (p. 11). And a manual for beginning jazz musicians seizes the 'live fast, die early' stereotype, explaining that jazz musicians are 'more liable than other professions to die early deaths from drink, drugs, women, or overwork' (Lindsay, 1958, p. 2).

Stereotypes about musicians' personal qualities raise the question whether or not they correspond to characteristics that can be measured and objectified. Different studies (Bell & Cresswell, 1984; Cribb & Gregory, 1999; Kemp, 1981a, 1981b, 1981c, 1996; Langendörfer, 2008; Martin, 1976) addressed this issue. However, results were not conclusive, sometimes even contradictory, putatively because the samples studied were too diverse, or because the characteristics considered were not related closely enough with musicians' professional reality. Recent empirical research demonstrated that a good person-job fit contributes to experiencing one's job as a calling (Harzer & Ruch, 2012a, 2012b), and is connected with personal well-being and job satisfaction (Littman-Ovadia & Davidovitch, 2010), or work performance (Dubreuil, Forest, & Courcy, 2013). Research on musicians' personalities thus is not only of theoretical, but also of practical interest – both for institutions involved in the professional training of musicians and for the professional field (i.e. employers, such as orchestras or music schools). The present study therefore aims at further investigating the topic by using new theoretical frames: Peterson and Seligman's (2004) VIA classification, and Güsewell and Ruch's (2012) responsiveness to the beautiful and good model.

2.0 Literature

2.01 Stereotypes

Empirical research confirms the existence and robustness of stereotypes concerning the differences between players of different instruments or styles. Davies (1976) conducted systematic interviews with professional orchestra musicians and showed that string players thought brass players were 'slightly coarse and unrefined, heavy drinkers, less intelligent, loud-mouthed, extraverted, the clowns of the orchestra' (p. 46). In turn, brass players described the strings as a 'flock of sheep, rather precious, oversensitive and touchy, who take music and themselves too seriously, delicate, and apprehensive of injuring their precious fingers' (p. 46). Builione and Lipton (1983) used open-ended questions to study a sample of high school musicians; the strings and woodwinds were described as intelligent, feminine and introverted, brass players and percussionists as masculine, extraverted and sexual. Lipton (1987) compared the stereotypes expressed by an international sample of professional classical orchestra musicians with previous findings and arrived at the conclusion that the data did converge, 'providing some evidence for cultural universals' (p. 90).

Stereotypes not only concern the musicians themselves, but also their listeners: Rentfrow and Gosling (2007) found that adolescents and young adults who were asked to characterise the prototypical fans of distinct music genres held consistent beliefs about the personalities, personal qualities and values of such fans. Ensuing research on the validity of these findings showed that fans, for their part, reported possessing many of the stereotypical characteristics. The authors concluded that 'individuals have robust and genre-specific stereotypes about the fans of different styles of music' and that some of the music stereotypes 'contain a kernel of truth' (p. 321).

2.02 Personality characteristics

Martin (1976), Kemp (1981a, 1981b, 1981c, 1996), and Bell and Cresswell (1984) addressed this "kernel of truth" in a series of studies on the personality characteristics of different samples of classical musicians, high school pupils, music students, professional performers and composers, comparing them with non-musicians and among each other (i.e., strings, woodwind, brass, keys, singers, composers, males and females) using Cattell's *16 Personality Factor Questionnaire* (16PF; Cattell, Eber, & Tatsuoka, 1970) and the High School Personality questionnaire (HSPQ; Cattell & Cattell, 1975). Overall, classical musicians, as a group, seemed to share a common core of personality traits: they were more autonomous, introverted, sensitive, and intelligent than non-musicians and displayed higher levels of anxiety and neuroticism. With respect to possible differences between the players of various instruments, data suggested that string players were more introverted (Kemp, 1981a), conscientious, conservative and emotionally oversensitive (Bell & Cresswell, 1984) than brass players who, in turn, were more extraverted (Kemp, 1981a), more expedient, showed greater undisciplined self-conflict and displayed less well developed super ego strength (Bell & Cresswell, 1984). Whereas these early findings converged and concurred with previous studies on stereotypes (Buillione & Lipton, 1983; Davies, 1976; Lipton, 1987), a more recent comparison by Cribb and Gregory (1999) of folk fiddle players and Salvation Army brass band members using the *Eysenck Personality Inventory* (EPI; Eysenck & Eysenck, 1964) arrived at the opposite conclusion, leading to the idea that personality differences might be determined more by the history and traditions of a group than by the instruments played. In a related vein, Langendörfer (2008) who studied orchestra musicians using the NEO-FFI (Costa & McCrae, 1992) hypothesised that differences in the working conditions of the instrumental groups might be the source of stereotypes, and not the instruments themselves.

Most research on musicians' personalities focused on classical performers, possibly because academically trained researchers feel closer to this music style (Woody, 1999) or because classical musicians working in well-organised contexts such as music schools or orchestras are easier to reach than their non-classical freelance counterparts. However, a few studies addressed musicians working in the popular field (e.g. jazz, rock, pop). Using the *Eysenck Personality Questionnaire* (EPQ; Eysenck & Eysenck, 1975), Wills (1984) evidenced that these musicians, most notably the guitarists, showed elevated psychoticism and neuroticism scores as compared to published norms. Dyce and O'Connor (1994), drawing on data collected with the *Interpersonal Adjective Scale – Big Five* (IASR-B5; Trapnell & Wiggins, 1990) arrived at the opposite conclusion, namely that 'popular performers tend to be significantly more extraverted, arrogant and dominant when compared to the population norm' (p. 172). Gillespie and Myors (2000) investigated a sample of rock and popular musicians who completed the *NEO Personality Inventory Revised* (NEO-PI-R; Costa & McCrae, 1992) finding they shared a common profile of high Neuroticism and Openness to Experience, average Extraversion, and low Agreeableness and Conscientiousness.

It appears from this short overview of relevant publications that (a) most research on musicians' personalities was conducted in the 1980s and 1990s, (b) studies addressed either classical or popular musicians but never compared both groups, and (c) the personality characteristics investigated were Cattell's 16 personality factors, Eysenck's PEN super factors, and Costa and McCrae's Big Five. The findings hinted at some traits most musicians seemed to share, and highlighted differences between the personality traits of brass and string players. However, results were sometimes contradictory,

possibly because the samples investigated were too diverse (e.g. high school pupils, college students, and professional musicians) or because the characteristics considered were not related closely enough with the actual reality and the requirements of the profession. These limitations call for new approaches and new theoretical frames to further study this topic.

2.03 Character strengths

Peterson and Seligman's (2004) Values in Action (VIA) classification with its focus on character strengths rather than on core personality dimensions (e.g. Big Five), might be such a new frame. This classification of 24 ubiquitously-recognised character strengths under six broader virtues (see Table 1) is 'one possible approach to good character' (Park, Peterson, & Seligman, 2004, p. 604). Character as a core concept of ancient Greek philosophy has a long history and tradition. However, in the context of the increasingly empirical orientation of personality psychology after World War II, positively valued characteristics were put aside as their measurement seemed compromised by social desirability. The concept of character was largely replaced by the concept of personality for decades and rediscovered as a legitimate topic of investigation for social sciences (McCullough & Snyder, 2000) only at the beginning of the 21st century, within the scope of positive psychology, an umbrella term for theories and research about emotions, traits, and institutions that make life worth living (Seligman & Csikszentmihalyi, 2000).

Peterson and Seligman (2004) conceived good character as multidimensional, as a unique profile of virtues and character strengths. They argued that virtues were universal, perhaps grounded in biology through an evolutionary process that selected these specific aspects of excellence because they were necessary for the survival of the species, and hypothesised that virtues had to be present in an individual in order to be described as possessing good character. Character strengths, in turn, were described as the psychological ingredients, processes, or mechanisms that define virtues, in other words as 'distinguishable routes to displaying one or another of the virtues' (Peterson & Seligman, 2004, p. 13). Although character strengths are seen as rather stable traits, it is also assumed that they are malleable and can be developed through context and life events. Nobody is expected to manifest all of them. It is rather assumed that someone has a good character if he or she displays one or two strengths within each of the virtue groups. Character strengths 'exist in degrees and can be measured as individual differences' (Park et al., 2004, p. 603). The standard instrument for the assessment of character strengths is the Values in Action Inventory of Strengths (*VIA-IS*; Peterson, Park, & Seligman, 2005).

According to Peterson and Seligman (2004), their classification of the 24 character strengths under six virtues is not a definitive one. Indeed, their first exploratory factor analyses on a scale level led to five factors similar to but not identical with the six virtues of the a-priori classification (Peterson & Seligman, 2004). The factors were labelled *emotional strengths* (i.e. zest, love, hope, bravery, social intelligence, humour), *interpersonal strengths* (teamwork, fairness, leadership, kindness, forgiveness, modesty), *strengths of restraint* (honesty, prudence, persistence, self-regulation, perspective), *intellectual strengths* (love of learning, creativity, curiosity, open-mindedness), and *theological strengths* (religiousness, gratitude, appreciation of beauty) and could be reproduced for the German VIA-IS (Güsewell & Ruch, 2012, 2013; Ruch et al., 2010).

Table 1: Classification of 6 core virtues and 24 character strengths (Peterson & Seligman, 2004, p.29-30).

Virtue I. Wisdom and knowledge: cognitive strengths that entail the acquisition and use of knowledge.	
(1)	creativity: thinking of novel and productive ways to do things
(2)	curiosity: taking an interest in all ongoing experiences
(3)	judgement: thinking things through and examining them from all sides
(4)	love of learning: mastering new skills, topics, and bodies of knowledge
(5)	perspective: being able to provide wise counsel to others
Virtue II. Courage: emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal.	

(6)	bravery: not shrinking from threat, challenge, difficulty, or pain
(7)	persistence: finishing what one starts
(8)	honesty: speaking the truth and presenting oneself in a genuine way
(9)	zest: approaching life with excitement and energy
Virtue III. Humanity: interpersonal strengths that involve "tending and befriending" others.	
(10)	love: valuing close relations with others
(11)	kindness: doing favours and good deeds for others
(12)	social intelligence: being aware of the motives and feelings of self and others
Virtue IV. Justice: civic strengths that underlie healthy community life.	
(13)	teamwork: working well as a member of a group or team
(14)	fairness: treating all people the same according to notions of fairness and justice
(15)	leadership: organising group activities and seeing that they happen
Virtue V. Temperance: strengths that protect against excess.	
(16)	forgiveness: forgiving those who have done wrong
(17)	modesty: letting one's accomplishments speak for themselves
(18)	prudence: being careful about one's choices; not saying or doing things that might later be regretted
(19)	self-regulation: regulating what one feels and does
Virtue VI. Transcendence: strengths that forge connections to the larger universe and provide meaning.	
(20)	appreciation of beauty and excellence: noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life
(21)	gratitude: being aware of and thankful for the good things that happen
(22)	hope: expecting the best and working to achieve it
(23)	humour: liking to laugh and joke; bringing smiles to other people
(24)	religiousness: having coherent beliefs about a higher purpose

Until now, only one unpublished study has investigated the character strengths profiles of professional musicians, comparing them with the profiles of career officers (Eggimann & Schneider, 2008). The former scored significantly higher on appreciation of beauty and excellence and gratitude, that is on two of the *theological strengths*; the latter scored significantly higher on open-mindedness, perspective, bravery, persistence, honesty, zest, social intelligence, teamwork, leadership, forgiveness, modesty, prudence, self-regulation and hope, that is mainly on the *strengths of restraint*, *emotional strengths*, *interpersonal strengths*.

2.04 Sensitivity to beauty and goodness

Appreciation of beauty and excellence (or simply *appreciation*) seems to be a distinctive strength of musicians (Eggimann & Schneider, 2008). It is therefore of interest to examine in more detail. Appreciation denotes the ability to 'find, recognize, and take pleasure in the existence of goodness in the physical and social worlds' (Haidt & Keltner, 2004, p. 537). According to Haidt and Keltner (2004), beauty is experienced as a response to goodness in the physical world - that is to the visual and auditory environment - whereas excellence is experienced when faced with goodness in the social world: exceptional skills or talents of other people, and displays of virtue or moral goodness. Therefore, *appreciation of beauty and excellence* means sensitivity to three different types of goodness, namely (a) physical beauty, (b) skills or talent, and (c) virtue or moral goodness.

Diessner, Solom, Frost, Parsons, and Davidson (2008) proposed another model for sensitivity to beauty, labelled *engagement with beauty*. In this model, the difference between goodness and beauty, especially the difference between moral goodness and beauty, is crucial and lies in the emotional involvement of the observer. An act of moral goodness may be cognitively experienced as such, even without emotional involvement; however, it becomes an act of moral beauty if the observer feels moved and elevated. The act is the same, but the subjective, emotional reaction is different. According to Diessner et al. (2008), this distinction between goodness and beauty, may also be applied to human made objects or nature. Engagement with beauty comprises sensitivity to artistic, moral, and natural beauty.

Both models assume sensitivity to beauty in the physical world is linked with sensitivity to goodness or excellence in the social world, and hypothesise a second-order factor of general sensitivity to beauty and goodness. To examine whether one or both of these models could be empirically confirmed, Güsewell and Ruch (2012) conducted a structural equation modelling analysis in which they not only included the two already existing self-report instruments, namely the *Appreciation of Beauty and Excellence* (ABE) scale of the VIA-IS (Peterson et al., 2005), and the *Engagement with Beauty Scale* (*EBS*; Diessner et al., 2008), but also a newly-developed stimulus-based instrument, the *Appreciation of Beauty and Excellence Test* (*ABET*; Güsewell & Ruch, 2012). The resulting model, which integrated the two existing ones, was labelled *responsiveness to the good and beautiful*. It comprised a second-order factor of general sensitivity to beauty and goodness, and three distinct but related dimensions: responsiveness to nature and surroundings, responsiveness to artistic beauty, and responsiveness to non-aesthetic goodness.

Güsewell and Ruch (2013) found that *responsiveness to the good and beautiful* was related to the degree of involvement in musical practice (i.e. professionals, amateurs, non-musicians). In their sample, two kinds of individuals high on *responsiveness to the good and beautiful* could be distinguished: those who displayed an overall, generally heightened sensitivity to all types of beauty and goodness (i.e. amateur musicians, soloists) and those who displayed a specific, standalone sensitivity to artistic goodness (i.e. music teachers, and orchestra musicians).

2.05 Open questions and aims of the study

According to Peterson and Seligman (2004), character strengths not only represent what a person is or can do, but also express a person's values. Strengths are conceived as durable positive individual characteristics, but are also assumed to be acquired and developed throughout life. Finally, strengths have been shown to be relevant for work (Harzer & Ruch, 2012a, 2012b; Peterson, Park, Hall, & Seligman, 2009; Peterson, Stephens, Park, Lee, & Seligman, 2010; Ruch, 2008) - a substantial area of human life which provides opportunities for fulfilling individuals' potential and for achieving a sense of purpose and meaning in life. All of these characteristics seem particularly interesting when studying musicians who are deeply involved in their art, an art conceived as a calling, not as a profession. Studying musicians' character strengths instead of their basic personality dimensions allows for approaching their thoughts, feelings, and behaviours thereby coming closer to their reality.

Therefore, the first aim of the present research was to confirm and further extend Eggimann and Schneider's (2008) findings (i.e. significant differences between the character strengths profiles of professional classical musicians and career officers) in a sample that would include not only classical but also non-classical musicians (i.e. jazz, rock and pop), thus allowing for direct comparisons between these two sub-groups, and in which amateur musicians and non-musicians would serve as comparison groups. Amateur musicians are chosen because they spend numerous hours during childhood and adolescence developing their musical and technical skills (some of them reaching a near professional level) like professional musicians and might therefore share common characteristics with them; non-musicians as a group are expected to be more representative of the general population than career officers.

Güsewell and Ruch's (2013) findings that *responsiveness to the good and beautiful* were related to the degree of involvement in musical practice (i.e. professional musicians, amateurs, non-musicians) and to professional musicians' main occupational activity (i.e. orchestra musician teacher, soloist) raised the question of whether this would apply to the main style played as well. Therefore, the second aim was to compare the *responsiveness* scores of professional (classical and non-classical) musicians, of amateurs, and of non-musicians.

3.0 Methods

3.01 Participants

In total, 324 participants equally distributed among three subsamples took part in this research. Subsample 1 consisted of 108 (76 women, 32 men) German-speaking (i.e. living in Switzerland, Germany or Austria) professional musicians aged 18 to 65 years (M = 38.51; SD = 10.64) of whom 88% reported to be working, 6% to be retired, and 6% to be studying. Subsamples 2 (amateur musicians) and 3 (non-musicians) were composed by matching each of the professional musicians with one amateur and one non-musician of the same age, sex, and employment status selected randomly from a pool of N = 842 amateur musicians and non-musicians who had taken part in the study.

Professional musicians. This sample consisted of persons who indicated (a) having completed professional musical training and (b) presently earning their principal income as a musician, respectively being retired or studying music on a professional level. Most musicians (84%) held a University degree[3]; the rest had achieved a baccalaureate (10%) or a professional apprenticeship (i.e. vocational training, 6%). Regarding their main instrument, 21% indicated string instruments, 27% woodwinds, 6% brass, 22% piano or organ, 16% voice, and 8% other instruments. With respect to music style, 73% (N = 79) primarily concerned themselves with classical music (i.e. early and baroque, classical and romantic, contemporary music), 27% (N = 29) primarily with non-classical music (i.e. jazz, rock, pop)[4]. Teaching was the principal source of income (46%), followed by playing in an orchestra (18%), and playing in concerts as a soloist (11%). The remaining musicians indicated composing, arranging, leading a band, managing concert tours, being the principal of a music school or conductor or choir director as their main job (13%), were retired (6%) or still studying (6%). With respect to marital status, 52% indicated being married or living with their partner, 48% being single, divorced, or widowed.

Amateur musicians. This sample consisted of persons musically active in their leisure time who indicated practicing their instrument (or voice) more than once per week. With respect to the highest (professional, not musical) achieved qualification, 4% indicated compulsory education, 31% professional apprenticeship[5], 13% a high-school diploma[6], and 52% a University degree (i.e. Master's and PhD). With respect to music style, 63% (N = 68) primarily concerned themselves with classical music, and 37% (N = 40) primarily with non-classical music. Regarding marital status, 57% reported being married or living with their partner, and 43% living alone (i.e. single, divorced, or widowed).

Non-musicians. This sample comprised persons who neither played an instrument nor sang. Of these, 4% achieved compulsory education, 33% an apprenticeship, 14% a baccalaureate, and 49% a University degree; 49% indicated being married or living with their partner, 51% living alone.

3.02 Instruments

The *Values in Action Inventory of Strengths* (*VIA-IS*; Peterson et al., 2005) consists of 240 items on a 5-point rating scale (from 1 = *very much unlike me* to 5 = *very much like me*) for the self-assessment of 24 character strengths (10 items per strength). Sample items include: 'I experience deep emotions when I see beautiful things' (appreciation of beauty and excellence) or 'I know that I will succeed with the goals I set for myself' (hope). For the German adaptation of the VIA-IS, Ruch et al. (2010) reported internal consistencies (Cronbach's alphas) ranging from .71 (honesty) to .90 (religiousness). In this

[3] In Switzerland, Germany, and Austria, music is studied at University, College or Conservatory, that is on a tertiary level.

[4] Although these styles are different in conventions, most musicians do not play solely jazz, or rock, or pop, but are on the move between these (and possibly other) styles. Consequently, most jazz departments run ateliers and courses dealing not only with classical jazz, but also with other styles, and encourage their students to develop an individual musical identity integrating different styles and inspirations. Therefore, jazz, rock, and pop are meaningfully grouped together in the context of this research. Single musicians indicating techno, reggae/hip hop/rap, folk music, chanson, broadway/musical, or film music as their main area of musical activity were not included in the sample.

[5] In Switzerland and Germany: usually after completion of compulsory schooling

[6] Matura in Switzerland, Abitur in Germany and Austria

sample, internal consistencies ranged from .65 (appreciation of beauty and excellence) to .90 (religiousness)[7].

The *Engagement with Beauty Scale (EBS;* Diessner et al., 2008) consists of 14 items on a 7-point scale (ranging from 1 = *very much unlike me* to 7 = *very much like me*) for the self-assessment of Engagement with Natural Beauty (4 items), Engagement with Artistic Beauty (4 items) and Engagement with Moral Beauty (6 items). A sample item is: 'When perceiving beauty in nature I feel changes in my body, such as a lump in my throat, an expansion in my chest, faster heartbeat, or other bodily responses' (Natural Beauty). Diessner et al. (2008) reported reliabilities (Cronbach's alpha) of .80 for Natural Beauty, .87 to .88 for Artistic Beauty and .85 to .89 for Moral Beauty. In the present sample, reliabilities ranged from .72 (Natural Beauty) to .80 (Moral Beauty).

The *Appreciation of Beauty and Excellence Test (ABET;* Güsewell & Ruch, 2012) is a stimulus-based online test designed to assess sensitivity to physical beauty (i.e. music, paintings, and poems), skills or talent, and virtue or moral goodness; it therefore comprises three subscales, namely, ABET Art, ABET Talent, and ABET Moral. The extent to which each of the 30 ABET items (i.e. pictures, musical excerpts, texts, and video clips) elicits the experience of beauty or excellence was rated on a 5-point Likert scale (ranging from 1 = *not at all* to 5 = *absolutely*). Güsewell and Ruch (2012) reported Cronbach's alphas ranging from .69 (ABET Talent) to .88 (ABET Art). In this sample, the alphas ranged from .63 (ABET Talent) to .86 (ABET Moral).

3.03 Procedure

Data collection. Volunteers were recruited via flyers on billboards, Internet sites on popular and professional psychological or musical journals, short articles about positive psychology published in different Swiss and German magazines, and emails sent to various educational (e.g. music schools or conservatoires) or cultural (e.g. orchestras) institutions. The study was promoted as research on the sensitivity to beauty and there was no specific recruitment strategy for the professional musicians. Respondents completed the survey from their own computers. They were told they could discontinue participation at any time and their participation would be unpaid, but that they would receive standardised feedback about their individual character strengths profile and be placed in a raffle upon completion of the questionnaire. After, participants had to click an "informed consent" box before they could proceed.

Data analysis. To verify whether Güsewell and Ruch's (2012) *responsiveness to the good and beautiful* model would fit the results of this sample, a structural equation modelling analysis was computed using SPSS Amos (Version 18; Arbuckle, 2007). Three measurement instruments entered this analysis, namely the appreciation of beauty and excellence (ABE) subscale of the VIA-IS (Peterson et al., 2005), the EBS (Diessner et al., 2008), and the ABET (Güsewell & Ruch, 2012). The model to be tested consisted of a second-order factor of general *responsiveness,* and three distinct, but related dimensions: sensitivity for beauty in nature and surroundings, sensitivity for artistic beauty, and sensitivity for non-aesthetic goodness. Additionally, the model included a method factor representing the systematic variance introduced by the fact that the ABET is a stimulus based test, whereas the two other measurement instruments were self-report questionnaires. Finally, as the specific emotional and bodily component of the EBS might have an impact on the rating-behaviour of participants, and consequently the residuals belonging to its three subscales would co-vary in a specific way, the corresponding error terms were allowed to correlate.

The fit of this model was tested using the p-value of the chi-square (χ^2; Hair, Anderson, Tatham, & Black, 2006), the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the root-mean-

[7] The lower internal consistencies found in this sample could be due either to respondents' errors (length of the survey, unfamiliarity with online questionnaires), or to reduced variance in the sample (amateur and professional musicians sharing some traits or characteristics), or to both.

square error of approximation (RMSEA; Hu & Bentler, 1998). A GFI and an AGFI equal or higher than .90 indicated a good-fitting model while values equal or higher than .95 an excellent-fitting model. A RMSEA equal or lower than .08 was interpreted as acceptable.

4.0 Results

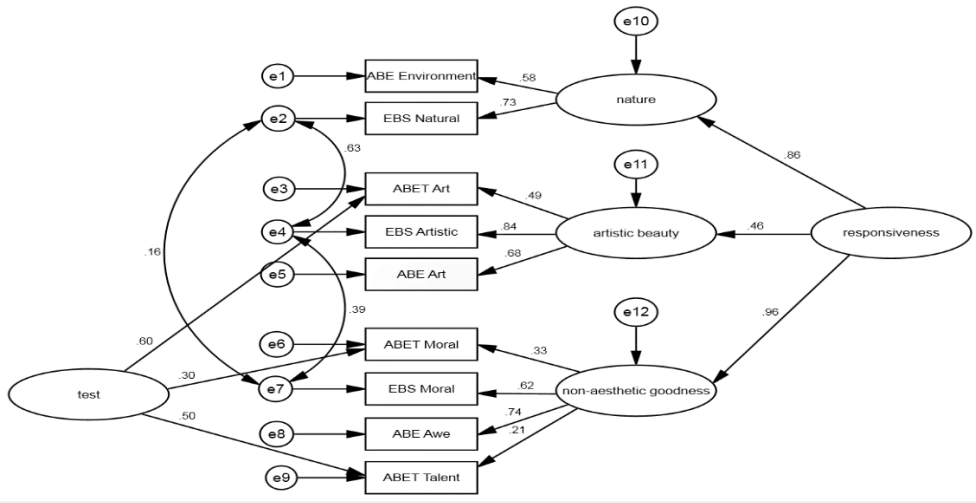
4.01 Primary analyses

VIA-IS. As comparisons between professional musicians, amateur musicians, and non-musicians were planned, descriptive statistics for all VIA-IS scales were computed separately for each of these groups. Skewness and kurtosis indicated normal distribution for all scales, except for prudence that was peaked for professional musicians and non-musicians, and hope that was peaked for amateur musicians.

Strength factors. To check whether the five strength factors described in Ruch et al. (2010) could be reproduced in this sample, a varimax rotated principal component analysis at a scale level was computed for the VIA-IS. Six eigenvalues exceeded unity, but the scree test suggested the extraction of 2, 3 or 5 factors (eigenvalues were: 8.02, 2.32, 1.78, 1.49, 1.24, 1.08, and .87). The corresponding factor solutions were computed and examined. The 5-factor solution approximated the one reported in Ruch et al. (2010). The resulting factors explained 61.87% of the variance; Tucker's phi coefficients were .96 for the interpersonal and intellectual strengths, .95 for the strengths of restraint, .92 for the emotional strengths and .85 for the theological strengths. Values equal to and above .95 can be interpreted as very good and values above .85 as acceptable; the 5-factor solution was thus considered satisfying and included in subsequent analyses. Skewness and kurtosis indicated a normal distribution.

Responsiveness model. To verify whether the *responsiveness to the good and beautiful* model could be reproduced, the structural equation modelling analysis described in the methods section was run. The resulting model is shown in Figure 1.

Figure 1: Responsiveness to the good and beautiful model (Güsewell & Ruch, 2012), standardised solution for this sample.



In this sample, the model had a fit of χ^2 (19, N = 324) = 60.1, $p < .001$; GFI = .962, AGFI = .909, RMSEA = .082, which according to the criteria set forth in the methods section was considered satisfactory. Consequently, scores were imputed for the four latent variables the model included (i.e. responsiveness, nature, artistic beauty, and non-aesthetic goodness). Skewness and kurtosis of these variables indicated a normal distribution.

Correlations with demographics variables. Pearson correlations were computed to check for correlations of the character strengths, the strength factors and the responsiveness dimensions with age and sex. In

the subsample of professional musicians, being female was correlated with gratitude, $r(106) = .23$, $p < .05$, overall responsiveness, $r(106) = .26$, $p < .01$, responsiveness to non-aesthetic goodness, $r(106) = .25$, $p < .01$, and responsiveness to nature, $r(106) = .26$, $p < .01$; being male was correlated with the strengths of restraint, $r(106) = .21$, $p < .05$. In the subsample of amateur musicians, being female was associated with overall responsiveness, $r(106) = .19$, $p < .05$, and responsiveness to non-aesthetic goodness, $r(106) = .19$, $p < .05$, whereas age was correlated positively with higher scores on self-regulation, $r(106) = .25$, $p < .01$, and negatively with emotional strengths, $r(106) = .20$, $p < .05$. Finally, in the subsample of non-musicians, being female was linked with love, $r(106) = .28$, $p < .01$, kindness, $r(106) = .27$, $p < .01$, social intelligence, $r(106) = .26$, $p < .01$, gratitude, $r(106) = .22$, $p < .05$, honesty, $r(106) = .21$, $p < .05$, humour, $r(106) = .20$, $p < .05$, and emotional strengths, $r(106) = .35$, $p < .01$, whereas age correlated positively with theological strengths, $r(106) = .21$, $p < .05$, and negatively with humour, $r(106) = .26$, $p < .01$.

Although the correlations with age and sex were overall numerically low and significant only in a few cases, subsequent analyses (i.e. ANCOVAs and correlations) controlled for a potential impact of these two demographic variables to take differences between the correlational patterns of the three subsamples into account.

4.02 Character strengths and responsiveness profiles of professionals, amateurs, and non-musicians

To examine whether professional musicians, amateur musicians, and non-musicians would show significant differences with respect to their character strengths profile and to *responsiveness*, univariate ANCOVAs were performed with musical practice as the independent variable (3 groups), the 24 VIA-IS scales, the five strength factors, and the *responsiveness* dimensions as dependent variables. Age and gender were entered as covariates. Partial η^2 was computed as an effect size index, with scores between .01 and .05, between .06 and .13, and higher than .14 indicating small, medium, and large effects respectively (Cohen, 1988). Planned contrasts (musicians against the other two groups) were carried out whenever ANCOVAs showed a significant main effect (see Table 2).

Table 2: Comparison between professional musicians, amateur musicians, and non-musicians on the VIA-IS scales, VIA-IS factors, and responsiveness dimensions.

	groups			test		
	musician	**amateur**	**no practice**	**F**	***p***	η^2
VIA-IS scales						
creativity	**3.61**	3.54	3.57	.32	.728	<.01
curiosity	**4.03**	4.02	3.96	.81	.445	<.01
judgement	3.68[b]	**3.84[a]**	3.78	3.72	.025	.02
love of learning	3.80	**3.89**	3.79	1.44	.238	.01
perspective	3.37[b]	**3.55[a]**	3.52	5.58	.004	.03
bravery	3.51	**3.58**	3.52	.64	.526	<.01
perseverance	**3.53**	3.48	3.42	1.03	.358	<.01
honesty	3.78	**3.86**	3.79	1.26	.286	<.01
zest	**3.70**	3.65	3.66	.30	.743	<.01
love	**3.90**	3.83	3.77	2.08	.127	.01
kindness	3.84	**3.88**	3.78	1.82	.163	.01
social intelligence	3.59	**3.70**	3.67	1.84	.160	.01
teamwork	3.40[b]	**3.70[a]**	3.61[a]	15.63	<.001	.09
fairness	3.82[b]	**3.99[a]**	3.90[a]	4.82	.009	.03
leadership	3.45[b]	**3.70[a]**	3.60[a]	9.55	<.001	.06
forgiveness	3.54	**3.57**	3.44	1.85	.159	.01
modesty	3.17	3.28	**3.30**	1.71	.182	.01
prudence	3.28	**3.39**	3.34	1.16	.314	<.01
self-regulation	**3.34[a]**	3.29	3.18[b]	3.01	.050	.21
ABE	**3.81[a]**	3.70	3.63[b]	4.82	.009	.03
gratitude	**3.86**	3.83	3.72	2.54	.080	.02

hope	3.57	**3.58**	3.53	.295	.745	<.01
humour	3.61	**3.70**	3.60	.965	.382	<.01
religiousness	2.95[b]	**3.18[a]**	2.79[c]	5.77	.003	.04
VIA-IS factors						
strengths of restraint	-.15	.02	.04	1.23	.293	<.01
interpersonal strengths	-.24[b]	.21[a]	-.00	5.82	.003	.04
theological strengths	.23[a]	-.06	-.29[b]	7.53	.001	.05
emotional strengths	-.13	.10	.05	1.71	.182	.01
intellectual strengths	.07	.00	-.08	.60	.554	<.01
Model						
responsiveness	2.27	**2.31**	2.25	1.64	.196	.01
artistic	**1.57[a]**	1.46	1.40[b]	10.44	<.001	.06
non-aesthetic	2.30	**2.34**	2.28	1.63	.198	.01
nature	2.61	**2.68**	2.60	1.83	.162	.01
N	**108**	**108**	**108**			

Note. N = 324. ANCOVAs were performed and, where significant, followed by planned contrasts (musicians against the other two groups). Bold indicates the highest score on each of the dimensions or scales. Means after correction for age and sex. Significant differences between conditions ($p \leq .05$) are coded with different letters.

Table 2 shows a significant main effect of musical practice on judgement, perspective, teamwork, fairness, leadership, self-regulation, appreciation of beauty and excellence, the interpersonal strengths, the theological strengths, and responsiveness to artistic beauty at the $p < .05$ level. Planned contrasts showed that professional musicians scored significantly higher on self-regulation and appreciation of beauty and excellence than non-musicians. Professional musicians scored significantly lower than amateur musicians on judgement and perspective, and significantly lower than both amateurs and non-musicians on teamwork, fairness, and leadership. Amateur musicians scored higher on religiousness than professional musicians, who in turn scored higher than non-musicians. Significant differences were found between professionals and amateurs on interpersonal strengths, and between professionals and non-musicians on theological strengths and responsiveness to artistic beauty.

4.03 Differences between classical and non-classical musicians

In the next step, possible significant differences between professional classical and popular musicians with respect to their character strengths and *responsiveness* profiles were assessed via T-tests for independent samples. Results showed that classical musicians scored significantly higher than non-classical musicians only on one of the 24 character strengths, namely, prudence, $t(106) = 3.12$, $p = .002$. The latter, in turn, displayed significantly higher scores on honesty, $t(106) = -1.99$, $p = .049$, bravery, $t(106) = -2.61$, $p = .011$, and creativity, $t(106) = -2.68$, $p = .009$. The two sub-groups showed significant differences on interpersonal strengths, $t(106) = 2.08$, $p = .040$, and on emotional strengths, $t(106) = -2.83$, $p = .006$. They did not differ with respect to any of the *responsiveness* dimensions.

5.0 Discussion

In the continuation of the studies conducted during the 1980s and 1990s, this research aimed at investigating musicians' personal qualities using Peterson and Seligman's (2004) VIA classification, as well as Güsewell and Ruch's (2012) responsiveness to the beautiful and good model as novel theoretical frameworks.

The first objective was to examine the character strength profiles of professional musicians, as compared to amateurs and non-musicians. In this study, professional musicians displayed significantly

higher self-regulation and appreciation of beauty and excellence scores than non-musicians; however, they were not distinct from amateurs with respect to these two characteristics. Self-regulation and appreciation of beauty and excellence seemed therefore to be linked to musical practice - whether on a professional level or not. The finding that persons regularly involved with art - in this case, music - display a 'specific emotional responsiveness' to beauty and excellence (Haidt & Keltner, 2004, p. 539) fits with theoretical expectations. In line with the idea that character strengths should lead to observable behaviour in specific contexts, persons highly sensitive to beauty and goodness would be expected to engage in activities related to physical beauty or to non-aesthetic goodness; and in line with the idea that character strengths may be changed through life-experiences, persons musically active would be expected to further develop their sensitivity to beauty and goodness.

Self-regulation addresses 'how a person exerts control over his or her own responses so as to pursue goals and live up to standards. These responses include thoughts, emotions, impulses, performances, and other behaviors' (Peterson & Seligman, 2004, p. 500). Both professionals and amateurs practice regularly to pursue their musical and instrumental goals, and to develop or maintain their instrumental (or vocal) level. From childhood, they are accustomed to spending numerous hours with concentrated and for the most part solitary work, which requires and further develops self-regulation. However, the "amateur" and "professional" realities represent different experiences of music making. For amateurs, it takes place during their leisure-time and is always a free choice; self-regulation stands for the realisation of their personal goals, dreams, desires, and thus has a fundamentally positive emotional connotation. For professionals, music making is also related to pleasure and vocation, but takes place during their work time and thus may have additional connotations such as duty, the need to reach perfection, the pressure of performing up to external standards, or competition; self-regulation may then mean to act contrary to one's thoughts, emotions, and impulses.

Professional musicians scored significantly lower than both amateurs and non-musicians on fairness, teamwork, and leadership. In their handbook on character strengths and virtues, Peterson and Seligman (2004) make an interesting distinction between the strengths of humanity (i.e. love, kindness, and social intelligence) and the strengths of justice (i.e. fairness, teamwork or citizenship, and leadership). The strengths of humanity are assumed to be interpersonal, that is most relevant in one-to-one relationships (i.e. "strengths between", Peterson & Seligman, 2004, p. 357), as opposed to the strengths of justice conceived as social, that is brought to bear in one-to-many relationships (i.e. "strengths among", p. 357). What does this distinction mean in the case of professional musicians? In a classical chamber music ensemble, in a jazz band, or in an orchestra section, the hierarchy is flat and the leader a primus inter pares, not an authority. Marsalis (1994) describes the secret of leadership in a professional musical context: 'The leader of a jazz band has to exert the control of no control. Each musician in the band has to feel free to be creative and reach for unusual corners in their personalities. I try to provide a context for every man to develop his potential and feel as relaxed and expressive as possible. [...] The hardest part of leading is understanding how to make the expression of differing viewpoints sound harmonious' (p. 20). This means that professional musicians mostly need the strengths of justice. They need love (a strength that not only subsumes romantic love and friendship, but also the 'emotional bonds between teammates and coworkers' (Peterson & Seligman, 2004, p. 293), and social (or emotional or personal) intelligence (that is the ability to 'process signals concerning motives, feelings, and other psychological states directly relevant', (Peterson & Seligman, 2004, p. 299). On the contrary, leadership as defined by Peterson and Seligman (2004), namely 'directing group activities or dictating the activities of group followers' (p. 365), is not needed as it could prevent the full unfolding of other musician's (or pupils') artistic and creative personalities. Past research showing that professional musicians scored lower than amateurs and non-musicians on the two other strengths of justice, namely social responsibility ('a sense of identification with and obligation to the larger community', Peterson & Seligman, 2004, p. 357) and fairness ('giving everyone a fair chance and becoming committed to the idea that the same rules apply to everyone', Peterson & Seligman, 2004, p. 361), is consistent with the fact that professional musicians (at least in Switzerland, Germany, and Austria) are for the most part politically inactive, not willing to unionize or to contribute time to social causes.

Finally, professional musicians scored significantly lower than amateurs on judgement and perspective. Judgement, also labelled open-mindedness or critical thinking, is described as 'the willingness to search actively for evidence against one's favored beliefs, plans, or goals, and to weigh such evidence fairly when it is available' (Peterson & Seligman, 2004, p. 144); a person low on judgement would thus stick to his or her habits, beliefs and normative models, and not readily be changed or influenced by external factors. Perspective, in turn, represents a 'superior level of knowledge, judgment, and capacity to give advice, and allows the individual to address important and difficult questions about the conduct and meaning of life' (Peterson & Seligman, 2004, p. 182).Taken together, the relatively low judgement and perspective scores professional musicians displayed in this sample indicate that they might not be used, or inclined, to careful thinking about the meaning of life, addressing important questions, or reconsidering their habits and beliefs.

The differences between classical and non-classical professional musicians were not numerous. Classical musicians displayed significantly higher prudence (i.e. 'cognitive orientation to the personal future, a form of practical reasoning and self-management that helps to achieve the individual's long-term goals effectively', Peterson &Seligman, 2004, p. 478) than non-classical musicians. This outcome suggests that classical musicians might be particularly anxious about their artistic and professional future. Non-classical musicians, in turn, displayed significantly higher scores than classical musicians on creativity, bravery and honesty, which, according to Peterson and Seligman's (2004) handbook, denotes their disposition to 'think of novel and productive ways to do things' (p. 110), to 'take risks that are reasonably appraised and considered' (p. 214), and to 'consider it more important to be themselves than popular and live according to their feelings and code of values' (p. 250). Whereas in the field of classical music there is a long tradition of systematic, well-structured training, a more or less predefined route leading from the first instrumental lessons in early childhood to professional training in adolescence or young adulthood, such training and such routes did not exist until recently in the non-classical context. First professional jazz departments were created in Switzerland, Germany and Austria (the countries considered in this study) only in the 1970s and 1980s, but most of the non-classical musicians who took part in this research still belong to an older, self-educated generation. These musicians had to find their own way into a musical career, to fight for their dreams, to devise jobs that were non-existing. Only outstandingly creative, brave, and honest musicians had a chance to make the scene in this context. However, given the gradual academization of all artistic professions, the differences between classical and non-classical musician are expected to decrease and gradually disappear among younger generations.

The comparison of group mean scores on the 24 character strengths revealed a couple of significant and meaningful differences between the subsamples investigated (i.e. professional classical and non-classical musicians, amateurs, and non-musicians), and thus seems to be a promising approach. Although these initial results would need to be further examined and confirmed, they appeared to fit with Eggimann and Schneider's (2008) finding that orchestra musicians scored significantly higher than career officers on appreciation of beauty and excellence. Additionally, they were in accordance with some of the main outcomes of earlier research on musicians' personalities (Bell & Cresswell, 1984; Kemp, 1981a, 1981b, 1981c, 1996; Martin, 1976), according to which classical musicians, as a group, seemed to display high levels of neuroticism. Neuroticism is a Big Five dimension known to be significantly and negatively related to teamwork, fairness, and leadership (Jónsdóttir, 2004; Littman-Ovadia & Lavy, 2012), the three interpersonal strengths on which the professional musicians in this study scored significantly lower than both amateurs and non-musicians. Similarly, Gillespie and Myors' (2000) finding that rock and popular musicians were high on the Big Five dimension Openness to Experience, more specifically on the facet Openness to aesthetics - both evidentially related to appreciation of beauty and excellence (Jónsdóttir, 2004; Littman-Ovadia & Lavy, 2012; West, 2006) - corresponds with the outcome that appreciation, together with responsiveness to artistic beauty, was found to distinguish professional musicians from non-musicians in our sample.

The second objective concerned the comparison of the *responsiveness* scores of classical and non-classical musicians, of amateurs, and of non-musicians. Taken as a group, professional musicians scored significantly higher on responsiveness to artistic beauty than non-musicians, but not amateurs, which corroborates the findings reported in Güsewell and Ruch (2013). As anticipated, the two sub-groups of professional musicians, classical and non-classical did not differ with respect to any of the responsiveness dimensions, thus giving further support to the assumption that sensitivity to beauty and goodness is a central characteristic of the musician's profile, regardless of the style played.

6.0 Conclusion and Policy Implications

6.01 Limitations and open questions

What are the limitations of this study and open questions or ideas for ongoing research? First, as the participants were self-selected, the possibility that those who took part might be different from those who did not (i.e. non-response bias) - and are therefore not representative of their respective populations - should be taken into account. The title of the study, 'Der Sinn für das Schöne' (i.e. appreciation of beauty), may have attracted specific participants, for example persons who assumed themselves to be highly sensitive to beauty and goodness or persons with a particular interest in beauty and art, although, at first sight, the different samples seemed to be well-balanced with respect to age, sex, profession, educational level, and occupational status. A more systematic sampling strategy should therefore be considered in the future. Second, the fact that only two groups of professional musicians were compared, classical and non-classical, raises the question of whether this aggregation is differentiated enough. Various, finer grained groupings according to different music styles would need to be examined and compared, but this, in turn, would require considerably larger samples. In addition, alternative grouping criteria could advantageously be tested, such as number of concerts a year, or hours spent practicing a week, or ratings of the level of musicianship by experts. Third, although a larger sample with an equal number of professional classical and non-classical musicians was targeted, approaching musicians and convincing them to participate proved difficult. Numerous musicians were not willing to spend hours away from their instrument, filling out a survey on their computer; additionally, the length and the technical challenges of the online-survey probably discouraged specific categories of participants - elderly musicians for example, who are over-average unfamiliar with the computer; finally, some musicians, mainly non-classical, were sceptical about scientific research in general, the contents and the types of questions asked in particular, and thus discontinued filling out the survey after a few items. Taken together, these difficulties highlight a need for revision and shortening of the survey in order to achieve the aim of a larger and more equal sample. Finally, the correlational nature of this study is worth the mention: comparing means allows for the establishment of significant differences between groups, but does not allow for any assertions regarding causality. Do musicians display higher self-regulation scores than non-musicians because they developed this strength through their musical activity, or did they successfully study their instruments and develop their musicianship because they brought along pronounced a self-regulation? Do professional musicians' judgment and perspective decrease over the course of their professional life, or are people lower in judgment and perspective more likely to become professional musicians? To address these and similar questions, it would be necessary to assess the long-term evolution of character strengths, from childhood through musical studies, and throughout life.

6.02 Implications

The fact that professional musicians, as a group, were distinct from amateurs and non-musicians with respect to some of the 24 character strengths, more in particular to three out of the six interpersonal strengths (i.e. fairness, teamwork, leadership) raises the question of whether musicians working as teachers in a music school or as instrumentalists in an orchestra can bring their strengths to work. As already mentioned in the introduction, there is empirical evidence that character strengths are related to job satisfaction across different occupations (Peterson et al., 2010; Ruch, 2008) and that a good

person-job fit (i.e. the number of signature strengths that are beneficial at work) contributes to the experience of one's job as a calling (Harzer & Ruch, 2012a, 2012b). Character strengths usage was connected with personal well-being and job satisfaction (Littman-Ovadia & Davidovitch, 2010) as well as work performance (Dubreuil, Forest, & Courcy, 2013). Do the personality profiles of young musicians match the requirements of their job at the beginning of the 21st century? Classical musicians playing in the orchestra or jazz musicians teaching at music school are no longer solely lone fighters, but more often than not members of a team. Social competences are increasingly important, not only for the instrument teacher who has to take into account and reconcile the expectations of the music school director, the pupils and the parents, but also for the orchestra musician who is part of an ensemble depending on the optimal interplay of every single member, and even for the soloist who has to collaborate with concert promoters and agents if he or she wants to be successful and earn his or her living with gigs. Therefore, the question of what can be done or improved in the selection and the training of young musicians to foster their optimal adaptation to a changing profession and the difficult situation in the employment market is crucial for music education in general, and for Conservatoires or music colleges entrusted with the professional training of young musicians in particular.

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