

# Psychological Perspectives on Musical Experiences and Skills

Research in the Western Balkans  
and Western Europe



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## 12. Motivation and Personality as Factors of Musical Accomplishments: A Developmental and Cultural Perspective

*Blanka Bogunović*

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### Introduction

Musical and cognitive capacities, motivation, and personality represent the core ingredients of long-term musical development encompassing musical, personal, and professional accomplishments. But ‘after a certain point, ability plays a less important role than personality and motivational factors’ (Winner, 1996, p. 283), which suggests the importance of these psychological factors for long-term musical development towards excellence. Motivation is of great interest to researchers and educators because ‘understanding motivation is vital for addressing questions of how and why people take up learning a musical instrument, how they persist through the challenges of learning and practice, and how they become successful or why they quit’ (Evans, 2015). Numerous studies have addressed motivation issues, mainly in music education research (e.g., O’Neill & McPherson, 2002), since its impact can be critical for pursuing proactive musical involvement or dropping out.

The extensive research into motivation contrasts with the far fewer studies investigating the relationship between personality and musical accomplishments, especially at a younger age. Many questions are still to be answered. Nevertheless, it has been confirmed that personal attributes firmly sustain musical development and motivation and that their specific profile contributes to the level of performance and educational achievements (Kemp, 1996). Research into musicians’ personality

mostly refers to the cutting-edge study of Kemp (1996) based on Cattell's Personality Factor Model (16 PF Model; Cattell et al., 1970). In the 1990s, the new personality research paradigm, the Five-Factor Model (FFM; Costa & McCrae, 1995), gradually took over in music-related research too (e.g., Corrigan et al., 2013; Corrigan & Schellenberg, 2015).

The international literature review shows that investigation into the degree and quality of the contributions of motivation and personality to music achievements is a challenge that needs to be responded to, since it is influenced by a multifactor matrix where internal and external settings play a role. This chapter intends to fill this gap and provide new insights into the individual and joint contributions of motivation and personality to learning and performance achievements in subsequent stages of development, which is rare in the international literature.

### *Aims*

The chapter opens with questions about the role of motivation and personality in achieving musical excellence. At the beginning of the main discussion, I shall present a condensed review of the pertinent international research and then the series of research projects from Serbia which I either led or co-authored. Originally, they were not published in English and hence were not accessible to the broader international public. The series of studies addresses a developmental perspective of the individual and the joint impact of motivation and personality on music accomplishments from early school up to the start of a young adult professional career, rather than the final-outcome perspective. This approach will enable the following up of the specific profile of psychological attributes at each of the three stages of specialist education for the musically gifted that has existed in the Western Balkans region (WB) for around 70 years (see Chapter 1 in this volume). The intention is to make conclusions about the relevance and differential contributions of motivational features and personality traits to achievements, and to discover possible developmental changes. Attention will be given to the nexus of psychological and environmental factors where they strongly impact musical outputs at each developmental stage. The studies from the WB will be highlighted to evaluate cultural perspectives and variations.

## Main discussion

### *Motivation as a factor of musical competence*

Intrinsic motivation, as a prevailing driver of musical activities, is associated with advanced performance levels when a high level of skill and challenge are matched (Csikszentmihalyi, 1990). Extrinsic forms of motivation, sometimes enhanced by teaching in a controlling and prescriptive way or by damaging levels of competitiveness, are likely to be ineffective (Evans, 2015). In contrast, a social environment that fulfils basic psychological needs enables experiences that are closely associated with health and well-being (Evans, 2015). Thus, external motivation could be beneficial in reinforcing activities that can enhance the process of advancing competencies. Lack of, or weak motivation is one of the critical factors associated with (under)achievements and dropouts (e.g., Costa-Giomi, 2004), and can be accompanied by feelings of low competence, relatedness, and autonomy, as well (e.g., Evans et al., 2013).

Evans and McPherson (2015) carried out a 10-year longitudinal study which suggested that learners (aged 7–9) whose personal identity included a long-term perspective of themselves as musicians were better positioned to succeed and sustain their instrumental learning. The authors stated that long-term practice and self-regulation strategies were essential for forming a musical identity, as one of the precursors of higher achievements. McPherson and McCormick (2000) showed that students (children and adolescents) attributed success to effort rather than ability, although many also attributed examination results to nervousness or luck. The most important predictor of success was the student's self-efficacy.

McCormick and McPherson (2007) used an Expectancy-value cognitive approach and found that beliefs that students hold (aged 9–19) about their musical capabilities are potent predictors of their achievement in music performance examinations. Furthermore, when the achievement criteria were graded instrumental music examinations (Hallam et al., 2021), students aged 6–19, the impact of expertise level, enjoyment of performing, and self-belief in musical ability, among others, were confirmed. Those who failed were most likely to have adopted ineffective practice strategies and were less likely to enjoy

performing, playing, having lessons, or practising. Personal beliefs and attitudes were examined in a qualitative study with secondary school students from different academic backgrounds in Hong Kong, with high marks and outstanding achievement in music extracurricular activities as criteria for success (Leung & McPherson, 2011). Those who pursued music rated highly aesthetic feelings, self-recognition, sense of achievement, music preference, and enjoyment. Relevant environmental factors related to pursuing music were: parental support, teacher and school influence, peer support, or being inspired by the success of others.

With Self-Determination Theory (SDT) (Ryan & Deci, 2018) as a background, based on an international sample of adult musicians, it was shown that internalised regulation correlated more strongly with music-related variables than extrinsic forms (MacIntyre et al., 2018). Intrinsic motives, developed by musicians and their teachers, help to create a desire to learn, foster the intensity of effort, and increase perceptions of competence, which contribute to a motivational cycle for music learning and performance. Recently, flow emergence was investigated in a qualitative study with selected music students at music higher education institutions (MHEIs) and with professionals (Philippe et al., 2021). It was found that intrinsic motivation, attentional focus, and self-confidence were the most important factors. There are also studies showing how beneficial flow can be in promoting personal growth and achieving excellence (see Chapter 15 in this volume).

Several cross-cultural studies have provided insight into environmental factors influencing motivation. One of these was conducted in eight countries (Brazil, China, Finland, Hong Kong, Israel, Korea, Mexico, USA) across three school grade levels (elementary to secondary school), based on the Expectancy-value theory (McPherson & O'Neill, 2010). Findings suggested that once students have experienced learning to play an instrument or singing, they become more motivated towards other school subjects. Generally, students' competence beliefs and values for music declined, except in Brazil, where they rose with age, while being lowest in Hong Kong, Israel, Mexico, and the USA. In addition, a comparison of the achievement goals of learners from individualistic and collectivistic cultures (USA and Singapore), with measures based on the 2x2 achievement goal orientation constructs (mastery approach, mastery avoid, performance approach, and

performance avoid), found no significant differences in achievement goals as a function of culture (Miksza et al., 2016).

A study at a graduate music school in Mexico presented an example of the strong socio-cultural influence and educational and economic limitations on competence outcomes at MHEI (González-Moreno, 2011). It examined students' motivation—values and competence beliefs, addressing the high dropout rate. The results showed gender differences in values—female students placed a higher value on graduate school, while male students had higher expectations of success. At the same time, 95% of male participants stopped schooling because they placed less value on programme continuation. Factors affecting motivation negatively in the context of MHEI in Mexico were confirmed, including the economic impact on education, time constraints, insufficient support and communication, coupled with high expectations from advisers/mentors and teachers. In another study, a cross-cultural comparison was conducted on undergraduate and graduate music major students from schools of music in the USA and Australia (Miksza et al., 2021). Here, no differences were found in these two cultural settings addressed to investigate competitiveness, perfectionism, and teachers' control. Results revealed that autonomous motivation orientations were stronger for those who perceived their conservatory-style environment to be more competitive and weaker for those who experienced more perfectionism and teacher control. The results have good potential for practical implications for MHEI, since students who reported greater perceptions of teacher control and expressed higher perfectionism tended to report weaker career intentions. This study is one of the few at the tertiary level of music education that systematically explored the effects of the educational style of music teachers on student motivational outcomes, and it has substantial practical implications. A new book has recently been published that argues for the power of more positive approaches to teaching (Meissner et al., 2022).

*Personality as a factor of musical achievements*

As stated earlier, considerably less research exists on the contribution of personality to the attainment of musical achievements and expertise. Several studies have documented personality differences typical for musicians (e.g., Bandi et al., 2023; Kemp, 1996), for diverse instrumental groups (see Chapter 14 in this volume) and genres (e.g., Benedek et al., 2014), or relatedness to musical preferences (see Chapter 6 in this volume). But lately, more studies have explored the contribution of personality traits to musical outcomes at the beginning of music tuition. Corrigan et al. (2013) aimed to examine whether personality measured by the Five-Factor Model (FFM) of personality (Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness), together with cognitive abilities, can predict the duration of musical training in a Canadian sample of students (aged 10–12). It has been revealed that high-functioning children are more likely than other children to take music lessons. The subsequent findings confirmed that personality was associated with level of musical involvement and that Openness to experience was the personality dimension with the best predictive power for pursuing music, even better than Conscientiousness (Corrigan & Schellenberg, 2015). Interestingly enough, the study also showed that parents' Openness to experience could predict children's duration of training (aged 7–9). According to the authors, Agreeableness appeared to be associated with the duration of formal music training, probably because children tend to agree with a parental decision, or they complied with the teacher's requests and therefore influence.

Diversely, the results of another study on a sample of secondary school students from Germany and the United Kingdom specified Conscientiousness and Agreeableness as the best predictors of overall performance and achievement in music development (Lin et al., 2022). This study demonstrated that personality traits contributed to the development of the self-theories related to musical engagement that affect the growth of general achievement in music. Also, Müllensiefen et al. (2015) found that self-theories of intelligence and musicality were connected to the academic achievement of secondary school students (UK) through Conscientiousness.

While using Cattell's personality model in his systematic research into musicians' personality, Kemp (1996) reported on personality traits



of selected young musicians at the conservatoire, such as higher Ego strength, Conscientiousness, Adventurousness, Self-assurance, high Self-sentiment, and low Tension. Kemp stated that higher anxiety levels emerge in younger, particularly talented musicians attending specialist (boarding) music schools (Kemp, 1996). One of the few studies dealing with motivation and personality features, in a sample of adults from Sweden (Butković et al., 2015), found that music-specific flow propensity was the best predictor of time spent practising when Openness to experience, motivation, and intelligence were taken into account. In the study with adult musicians in the UK, musical sophistication was measured using self-reporting and behavioural performance tests of melodic memory and rhythm perception as achievement criteria (Greenberg et al., 2016). Openness to aesthetics was the strongest trait predictor for each of the sophistication subscales, even for performance on the musical ability tasks. In a study with professional artists, including musicians, Openness predicted creative achievement in the arts and Intellect predicted creative achievement in the sciences. Another study finds that jazz musicians score significantly higher on Openness to experience and complete a higher number of creative musical achievements (Benedek et al., 2014). Conscientiousness was also identified as a characteristic of professional musicians who had received formal music education (Rose et al., 2019). What makes comparisons possible is that many recent research studies used the Five-Factor Model as a framework for research on different age groups.

*The Western Balkans regional research: Developmental perspective and comparison with international research*

Relevant research studies in Croatia, North Macedonia, and Slovenia generally deal with music in mainstream education schools or music education for the gifted, focusing on motivation and personality but not on their relationship to musical achievements. Hence, in Slovenia, a few studies related to the educational setting were realised that confirmed the positive motivational impact of competition participation and its role in the short- and long-term educational and personal development goals (Rotar Pance, 2021). Another study established music as a successful tool for enhancing learning motivation among

elementary school students, primarily through singing or creating music (Habe & Delin, 2010). Croatian authors established individual differences regarding instrumental groups (see Chapter 14 in this volume), as well as the reality of stereotypes that young musicians have about different instrumental groups (Butković & Modrušan, 2021), the most pronounced being Openness, Agreeableness, and propensity to alcohol consumption. In North Macedonia, some interesting results were found concerning instrumental groups (e.g., Mihajlovski, 2013). For example, piano and string players were characterised as having Originality, Anxiety, Self-discipline, Emotional instability, and higher Intelligence; string players showed Introversion; and the brass players emerged showing Extraversion, Conventionality, Emotional stability and Adjustment.

In Serbia, several research projects over two decades were carried out in a quasi-longitudinal manner, following the developmental line of the three-stage specialist music education system for gifted children (14 years of schooling) that exists mainly in Eastern Europe (Nogaj & Bogunović, 2015) and the Western Balkans countries. The system (elementary, secondary school, MHEI) enrolls musically talented children who are selected by entrance examinations at each stage based on their level of musical abilities, quality of performance, and/or selected musical competencies. The system stems from the post-war idea of socialism, giving everyone educational opportunities and pledging social equality. Since the 1980s, a psychological service has been included in every bigger music school, which enabled the burst of music psychology research related primarily to the musically talented, their development and (professional) education. The two comprehensive research projects carried out in Serbia aimed to explore the psychological and environmental determinants of musical achievements at elementary and secondary specialist music schools. At the MHEI stage, there are still no results from studies with a similar research design. Therefore, individual studies will be presented concerning personality and motivational factors, while research data about teachers' roles and impact on this educational level are so far lacking. Results will be compared to the international and regional research findings.

## Early years of specialist music education

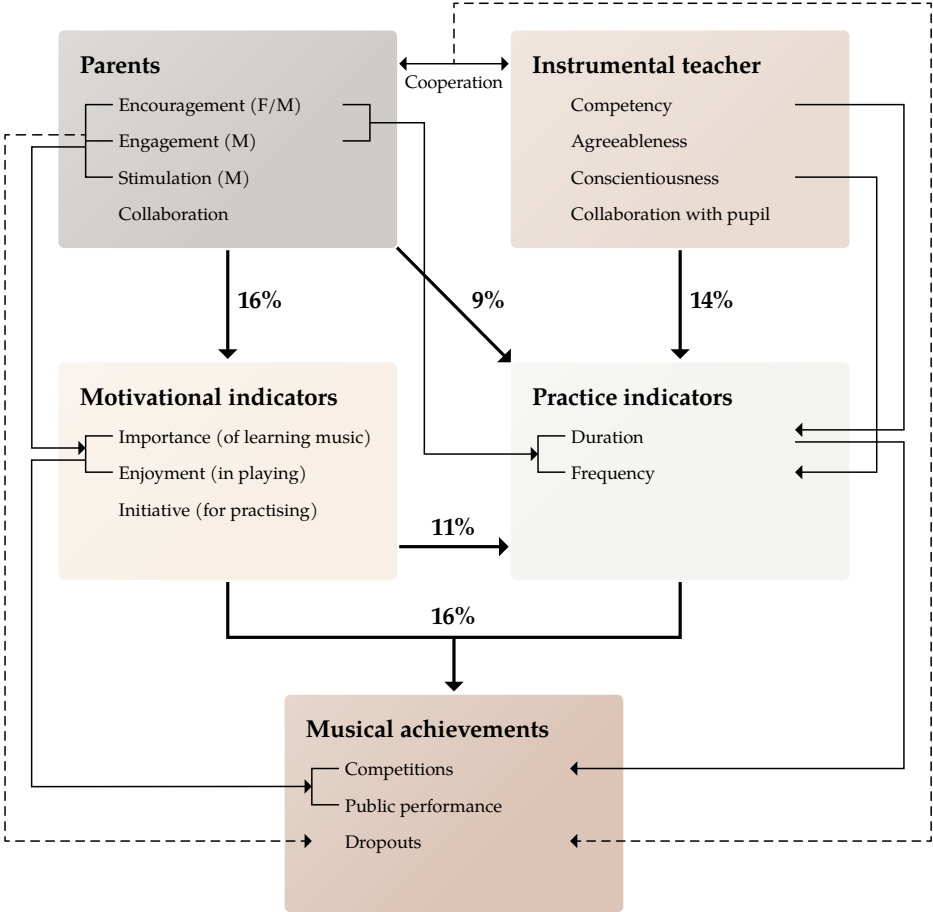
The five-year longitudinal study was conducted in five elementary music schools in Serbia and resulted in several publications (e.g., Bogunović, 2010, 2021; Bogunović et al., 2006; Radoš et al., 2003). Participants were musically gifted students who were identified as such at the entrance examination, when psychological tests were applied (musical abilities, general intelligence) and interest in music and performance in hearing and rhythm tasks were examined. The sample ( $N = 993$ ) consisted of students aged 6–12, who played different instruments; their parents<sup>1</sup> ( $N = 512$ ); and their instrumental teachers ( $N = 165$ ). The research design included psychological factors (musical and cognitive abilities, motivation, personality, psychomotor skills) and environmental factors (family support and engagement and personal, professional, and educational features of instrumental teachers) as predictors of musical achievements, sorted into two groups: academic music achievements (instrumental and *solfège* final examination marks) and performance (Public performance, four types, and Competition—six levels of competition including three award levels), which were monitored annually from the first to the fifth year. The results strongly pronounced that early intrinsic motivation, the degree and quality of family encouragement and support, and then musical abilities, were pivotal determinants of the regular music courses marks and performance achievements (canonical variance explained was 48%). The statistical significance of musical abilities here being in third place is that while they are the *conditio sine qua non* for entering into the selective music education system, for their realisation at the early beginnings of tuition, motivation and home environment play a crucial role (Radoš et al., 2003).

A closer look at the integrative pattern of salient results (Figure 12.1) gives an insight into the intertwined relations of psychological and environmental factors on performance achievements and dropouts (Bogunović, 2010). The impact of early motivational indicators on practice habits (11% variance explained) and their common contribution to overall performance achievements (16% variance explained) are

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1 Families were only investigated if they had two parents of different genders in order to keep the sample unified.

presented as a result of the sequence of canonical analyses. Several significant correlations were confirmed between motivational indicators and personality traits. Investigation into the degree and pattern of environmental influence on motivation showed that parental support in early childhood primarily affects motivation (16% variance explained) and then practice habits (9% variance explained). Teachers’ attributes contribute to the practice habits (14%) but not motivation, which raises questions for future investigations. Further on, a discussion of each segment of results will follow.



*Note.* Thick line: Percentage of canonical explained variance; Thin line: Significant positive correlation; Dotted line: Significant negative correlation; F: Father; M: Mother.

Fig. 12.1 Integrative pattern of music achievements factors in early specialist music education. Figure translated and adapted from Bogunović (2010, p. 290)

Initial motivational indicators (Importance, Enjoyment, Initiative) were significantly correlated with personality attributes (assessed by parents), which seem to play a role in making motivation and practice 'work' (Bogunović, 2010). Hence, these personality attributes were connected with responsible and persevering fulfilment of tasks (Disciplined, Practical, Enterprising, Efficient). The second group of attributes ensure a stable emotional basis for achieving goals (Independent, Self-assured, Emotionally stable). Moreover, the same personality traits (assessed by instrumental teachers) were significantly correlated with Public performance and Competition. We should note that other researchers also found that Conscientiousness at early school age is related to the pursuit of music learning and diligence (Corrigall & Schellenberg, 2015).

Regarding environmental factors, it was shown that a crucial role in establishing initial intrinsic motivation was played by the adequate, stimulating, encouraging, and supportive family environment before and during instrumental tuition (Bogunović et al., 2006). Instrumental teachers primarily contributed to the acquisition of practising habits (frequency and duration). More Competent teachers have students who practise for longer and have higher achievements in Competitions (Bogunović, 2010). Parents, as 'teachers at home', reinforce positive practice habits by expressing expectations that shape children's musical identities, as also pointed out by Lamont (2017). The results of the study, which investigated implicit strategies parents use to entice their children to practice, confirm these claims (Bogunović, 2021). Strategies were mainly directed towards developing a child's intrinsic strengths (65%), proactive motivational behaviour towards excellence and persistence, and personal enhancement with autonomy as the final implicit goal, namely 'mastery orientation'. It could be said that the first traces of the psychological need for autonomy were set towards introjection, as claimed by SDT theory (Evans, 2015). The other, less represented, group of strategies (33%) was based on the external 'power' supposed to 'make the child' practice. Still, further research is required into the benefits of the 'balanced approach' between internally and externally based parental strategies.

It was shown that more Competent teachers have higher scores on Agreeableness, Extraversion, and Conscientiousness (NEO-PR; Costa & McCrae, 1995), and have more successful students (Bogunović, 2010).

Dedicated, communicative, and responsible instrumental teachers, highly involved parents, and the cooperative climate they make together were prerequisites for the students' performance achievements (Figure 12.1). The specific pedagogical techniques these teachers used to acquire results will be addressed in future research since it would have great practical implications for music education. It is worth mentioning that only 6% of students reach exceptionally high (expert) results at Competitions and 17% have high efficiency in Public performances, and, indeed, the teachers influence this differentiation too.

Dropouts at the beginning of instrumental learning were related to a lack of parental support and encouragement as well as to their weak cooperation with an instrumental teacher. It indicates that relationships in a 'triad' (student-parents-teacher) may or may not create the best opportunities for music development (see also Creech, 2009). Dropouts were frequent in the early stages of music education, 25% in the first two years when the influential impact of 'important others' is prevalent and the intrinsic motivation and autonomy of the child are not yet established.

These conclusions are filling the gap in the results of international studies on the same age level, especially concerning early intrinsic motivation and the role of parents (e.g., Corrigan & Schellenberg, 2015; Leung & McPherson, 2011; McCormick & McPherson, 2007). The data about teachers' personal and professional attributes (Bogunović, 2003) that impact students' performance outcomes increase the knowledge about favourable features of successful teachers and have practical implications for the music education practice. The uncovering of typical difficulties in the collaboration between teachers and parents (Bogunović, 2010) is another contribution made by the project. The value of the project lies in its longitudinal research design, numerous predictors and systematic criteria variables, where individual and intertwined contributions to music accomplishments were involved, which have a positive effect on the validity and reliability of results.

#### Specialist music education at the adolescent age

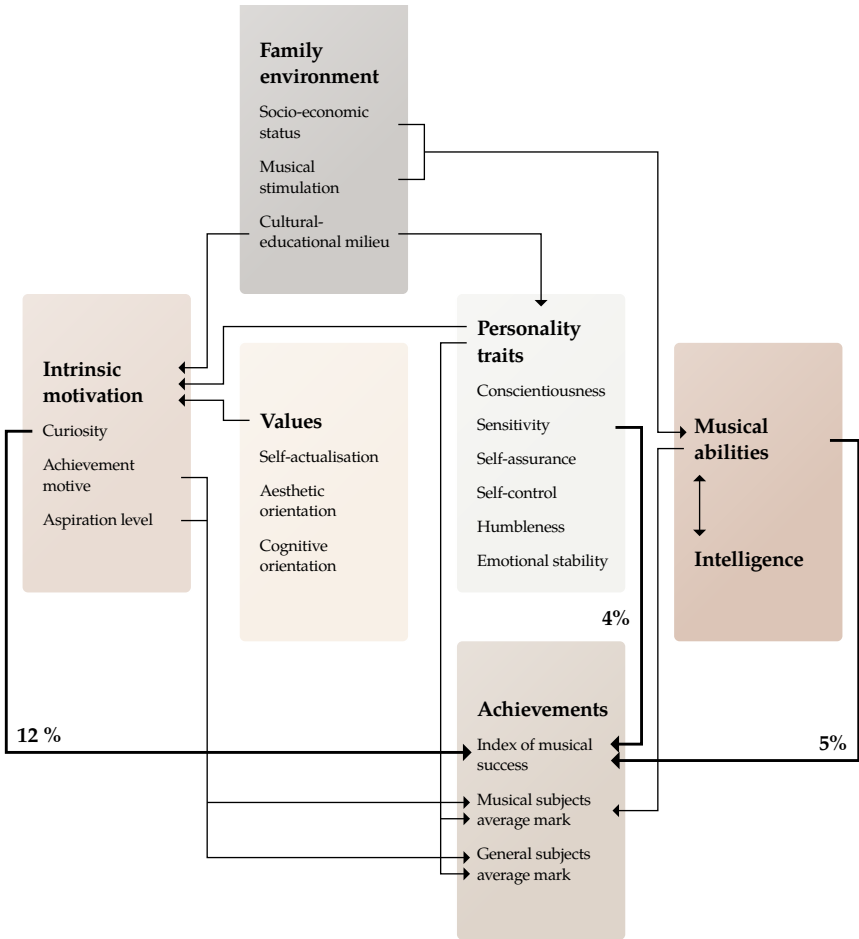
The cross-sectional research project that used a similar variables pattern was carried out at the adolescent age ( $N = 137$ ), but without the involvement of teachers' variables in the research design (Bogunović,

2010). After being selected, young musicians who have chosen musicianship as their profession enter the second developmental phase (Subotnik & Jarvin, 2005), when the task is to grow from competencies to musical expertise. Psychological attributes investigated in the study were musical abilities measured by the Wing Music Intelligence Test, standardised for the Serbian population (Radoš, 2010), intrinsic motivation, personality traits, value orientations and intelligence, and family characteristics. Students' achievements were represented by the academic music and general subjects' average achievements and the Index of musical success (joint academic and performance achievements in the previous six years, five types, frequency and awards).

The comprehensive analysis of the musical, cognitive, motivational, and personal factors related to musical achievements, as well as the family profile, showed that high musical abilities and intelligence do not guarantee a high level of musical competencies (Figure 12.2). The multiple regression analysis singled out the motive of Curiosity (12% variance explained), then Musical ability (5% variance explained) and Sensitivity (4% variance explained, at the edge of significance), as the primary factors contributing to the Index of musical success. The same pattern of motivation, musical ability, and personality has already been detected at the beginning of instrumental education (Radoš et al., 2003). Differential contributions of intrinsic motives, namely Curiosity, out of three inner motives, were the most critical factors for the overall Index of musical success. The result firmly acknowledged the inner sources of music-motivated behaviour. The Curiosity motif, which relies on cognitive processes and creativity disposed towards exploration in music, was established as a vital source for investment in musical activities at the adolescent stage.

In addition, a set of multiple regression analyses suggested the Achievement motive, Curiosity and Aspiration level were determined in the first place by Conscientiousness (13–15% of variance), Sensitivity (3–4% variance), and value orientations towards Power and Cognition (4–6% of variance) (Bogunović, 2009). Results concerning personality were in line with those reported by other authors who used FFM as a framework. They found Aesthetic sensitivity as a property of high achievers in music (Leung & McPherson, 2011; Swaminathan & Schellenberg, 2018). Next to that, Openness to aesthetics was the

strongest trait predictor (Greenberg et al., 2016) for each of the music sophistication subscales, and it predicted creative achievement in the arts (Kaufman et al., 2016) and music (Benedek et al., 2014).



*Note.* Thick line: Percentage of regression analysis explained variance; Thin line: Significantly positive correlation.

Fig. 12.2 Integrative pattern of music achievements factors in the adolescent age.  
Figure translated and adapted from Bogunović (2010, p. 294)

The direct impact of intelligence on musical achievements was not confirmed. However, this result is not in agreement with other studies conducted in Serbian samples, in which the joint impact of intelligence



and personality traits (Conscientiousness, low Neuroticism) on music performance exams was identified (Janković & Bogaerts, 2021; Pekić, 2009; Štula, 2007). There are grounds for relating these differences to the various intelligence measures applied in these studies and their relatedness to musical achievements. This aspect could be a focus for further investigations.

The results strongly supported the notion of Subotnik and Jarvin (2005) that the impact of motivation and personality traits progresses as the developmental process continues towards musical expertise. The comparison between WB studies at the two subsequent developmental stages showed the evolving profile of motivational factors responsible for high-performance achievements and their relatedness to personality traits. At the adolescent stage, Curiosity and Sensitivity grew as part of the identity profile necessary for higher artistic accomplishments. Compatible findings were established in the international study in the Canadian sample, where an Openness to experience was identified in the same age group (Corrigal & Schellenberg, 2015). Interestingly, different results in the same age group were identified in a UK and German joint sample study, in which Conscientiousness and Agreeableness were predictors of music development (Lin et al., 2022).

The indirect and pivotal effect of the environment created by adolescents' families showed its relevance for their achievements by fostering positive values and nurturing adequate personality traits, intrinsic motivation, and musical abilities (Figure 12.2). These results confirmed the claims of Subotnik et al. (2011), that opportunity and motivation are the two central variables associated with talent development. Opportunities were first provided by families who could afford extracurricular activities, which in turn enhance musical competence (e.g., Swaminathan & Schellenberg, 2018). These further foster a rich socio-cultural milieu empowering the young musician's ability to garner, respond to, and capitalise on talent-development opportunities (Gagné, 2005). The two studies from Serbia go a step further in defining the dimensions and endeavour of the rich parental milieu that directly influences pursuing music at the beginning of instrumental tuition. In later stages, it is the introjected values, personality traits, and intrinsically motivated behaviour that showed their impact on high accomplishments in music.

### Young adult age at music higher education

When enrolling in MHE institution, young musicians enter the third stage of music talent development, empowering their expertise when striving for a professional career or artistry (Subotnik & Jarvin, 2005). The pilot mixed-method study was carried out at the MHE institution in Belgrade (Bogunović, 2017), where students' mindsets (Dweck, 2006) were related to self-rated psychological, musical, and professional skills and music achievements (academic, performance accomplishments, self-efficacy). Findings showed that music students express a growth mindset (open-mindedness, thriving for a challenge, enjoying learning and personal progress) (see also O'Neill, 2011). However, it does not prevail (12–25%) while a fixed mindset (avoiding challenge, perceiving personal attributes as static) was also detected (16–72%). It was shown that students with mastery orientation and higher self-efficacy have higher Self-regulation and Cognitive and emotional control. These findings are compatible with those in other countries, where intrinsic motivation and a mastery approach (MacIntyre et al., 2018), competence beliefs and values for music (McPherson & O'Neill, 2010; Miksza et al., 2016) were also confirmed in the groups of musicians at a young and/or adult age. Therefore, the findings' comparisons proved the established music motivation as a leading personal feature crucial for attaining musical achievements.

Furthermore, it was shown that MHE students' personality dimensions and facets (FFM) play a role in increasing performance skills (Bogunović, 2018). Namely, students who expressed higher Emotional stability, Agreeableness, and Conscientiousness and, more specifically, Competence, Dutifulness, Achievement striving, Discipline, and Deliberate thinking, tended to have an Analytical approach when preparing for the sight-reading tasks, while those who manifested Dutifulness and striving for Achievement endeavoured to achieve Expertness in performing. These two skills—the Analytical approach and intention to achieve Expertness in performing—represent the most favourable self-regulated strategies in performing. These findings again imply that non-cognitive factors, such as personality traits and motivational features, have an inevitable function in the self-regulated attainment of music-related cognitive and expert skills related to instrumental performance (Bogunović, 2018).

When comparing these results with international ones, it can be confirmed that Openness to experience is generally characteristic of musicians as opposed to non-musicians (e.g., Benedek et al., 2014; Greenberg et al., 2016). Next to that, musicians in formal music training at MHE institutions for classical music performance expressed Conscientiousness (Rose et al., 2019) and Emotional stability, Agreeableness and Conscientiousness (Bogunović, 2018), which are essential for the fulfilment of highly set goals and persistent long-term engagement in music. And this pattern seems to exist from the early beginnings of learning music, as also shown in previous studies (e.g., Bogunović, 2010; Corrigan & Schellenberg, 2013). These data imply that educational and professional demands are reflected in the development of certain personality traits.

Another study at an MHE institution proved the impact of socially and professionally constructed gender roles due to long-term musical education and professional engagement, which turned out to be significant for music achievements. The research study brought together students' personality dimensions (FFM), gender identity, and music performance achievements according to the previously established matrix (Public performances, Competitions, Index of musical success as a composite measure) (Bogunović & Bodroža, 2015). The findings revealed that being a biological male and having socially constructed feminine psychological traits significantly correlated with higher results in music performance (Public performance and Competitions). This finding confirmed the previous notion of Kemp (1996) about the psychological androgyny of musicians, who explained that higher levels of musicianship, interpretation, and aesthetic expression need to encompass a broad dispersion of traits that are socially conceptualised as feminine and masculine.

Furthermore, regression analysis results pointed out that female music students with higher Neuroticism, especially Vulnerability to stress, perceive themselves as less successful in music performing, probably due to a lack of self-esteem. Similar results were reported in a US sample, where it was proven that academic self-confidence is lower in gifted girls, especially in the arts (Csikszentmihalyi et al., 1997). These findings could be interpreted as an impact of cultural stereotypes about men's and women's academic and professional success.

The research results of WB studies at an MHE institution strongly confirmed a developmental process where the motivational and personality features needed for expert music accomplishments are integrated into the personality profile of young musicians and become a part of their musical identity. A mastery approach, intrinsic motivation, self-efficacy, and competence belief are anchored. The impact of social factors changes along the developmental line, starting from the immediate family environment and ending with a complex social context where musicians develop their careers.

In the WB studies, the limitations are related to the fact that the research design is not entirely consistently applied to all three educational phases in relation to achievement factors. Furthermore, the studies presented stem from the formal music education of a selection of gifted musicians in Western classical music. At the same time, international samples encompass formal and informal music education and/or engagement, as well as pop and jazz music culture. These differences call for careful comparisons to be made. The cultural comparisons were also narrowed because different research methodologies and diverse theoretical approaches were used. Future research should have a more comprehensive, systematic, developmental, and possibly cross-cultural approach to understand the pattern of psychological, educational, social, and professional preconditions of musical competence achievements, dropouts, or underachievement. To take account of practical implications, the research should include a more in-depth investigation of the strategies and techniques that teachers and parents use in order to enhance favourable motivation and personality attributes.

## Conclusion

This chapter has focused on motivational features and personality traits and their joint influence on learning and performance accomplishments through a developmental perspective covering approximately 20 years. This perspective was primarily highlighted in the WB research studies exploring the three-stage educational system of the musically talented unfolding in a socio-cultural and educational context that is not broadly known about. The context of structural and systematic education for the musically talented, which still exists as a relic of socialism,

demonstrates its potential value by creating opportunities for research, early talent identification, and long-term support from teachers and music psychologists. The WB research, specifically in Serbia, fills a gap in the existing research corpus by addressing the joint role of motivation and personality for musical accomplishments through a developmental perspective which is scarce within international research.

The developmental perspective of the WB studies confirmed that musical capacities are clearly *sine qua non* at the beginning of any music education, but that the joint dynamic and intertwined impact of motivation, music abilities, personality, and values are the core factors of musical accomplishments at each stage of progress. The findings suggest that motivational and personality attributes of young musicians are the subject of changes towards refinement, complexity, and intertwining along the timeline, and they empower the musical identity of the musicians to grow. The development of features favourable to musicianship is consistent with the demands and nature of the music profession, which brings new insight into the nature–nurture discussion.

The impact of the socio-cultural context on music identity development and the professional career of young, gifted musicians was identified, and it encompasses the immediate, educational, professional, and broader social environment (socio-economic and socio-cultural). In particular, the immediate family environment and educational process, especially the approach taken by instrumental teachers, foster a certain ‘profile’ that enables and facilitates progress towards high achievements. The balance of nature–nurture factors seems to be harmonious, though the results of the review of WB studies imply the long-term ‘nurture’ process being significant beyond natural capacities. These inferences suggest the confirmation of the Vygotskian socio-cultural developmental perspective, which can be advocated by the internalisation of ‘intergenerational transfer’ values being addressed to music experiences (Mehr, 2014). Furthermore, the three-level system functions on the ‘quantity gives quality’ principle of socialist societies (see Chapter 1 in this volume). The broad accessibility to free-of-charge specialist music schools enables strict selection at each educational level, giving opportunities to those who have developed and incorporated promising psychosocial features. The practical implication of the findings could be a part of the talent identification process and the

nurturing of the favourable psychological attributes throughout the educational process, since they are subject to the intertwined actions of young musicians and their environment.

The comparison with relevant international research pointed out the generally corresponding, cross-culturally stable set of primarily motivational features at the early and adolescent levels, and personality traits primarily at the MHE level and adult age. The results also imply the presence of a broadly transnational pattern, probably also related to Western music culture, which is present internationally and certainly in WB, too. The general outline of psychosocial factors related to musical accomplishments is shared across different countries, dependent only on the music domain itself. But when the broader social, cultural, and economic field is involved (Csikszentmihalyi, 2004), the developmental line starts to curve, and that happens mainly at the last educational stage, at MHE (Gonzalez-Moreno, 2011), and at the beginning of the professional career (Bogunović & Mirović, 2014). Diversity in professional development and opportunities grows when the impact of modest economic conditions and the traditional social matrix is dominant (Bogunović & Bodroža, 2015; Gonzalez-Moreno, 2011), or when music represents an integral part of cultural identity and everyday practice, as in Brazil (McPherson & O'Neill, 2010). These factors can significantly affect educational and career development opportunities and music identity development. Success relies, in that case, more on the individual effort of young musicians and their families and, up to a certain point, on a major (instrumental) music teacher, that is, on the immediate social field (see Chapter 13 in this volume).

The developmental perspective of this review has implications for the educational system in WB and elsewhere, inviting an awareness of the psychological profile of maturing musicians at different ages and providing more information for parents, support for teachers, and psychological care for the musicians' well-being. During the final phases of education or at the beginning of a professional career, adequate coaching, the involvement of gate-keepers, and fair chances are needed for the healthy development of young talents and their optimal flourishing.

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