Psychological Perspectives on Musical Experiences and Skills

Research in the Western Balkans and Western Europe

Edited by
Blanka Bogunović,
Renee Timmers,
and Sanela Nikolić

PSYCHOLOGICAL PERSPECTIVES ON MUSICAL EXPERIENCES AND SKILLS

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Dedicated to

Ksenija Radoš
for her pioneering work in founding the Psychology of Music in the Western Balkans

Richard Parncutt
for his enthusiasm in spreading the European spirit of unity in diversity

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15. Theoretical and Practical Challenges in Dealing with Music Performance Anxiety

Katarina Habe and Michele Biasutti

Introduction

Being a professional musician is both a blessing and a curse. Ironically, although professional musicians routinely score above average in psychological well-being (Ascenso et al., 2018) and report the highest levels of job satisfaction, at the same time they face numerous occupational stressors that induce medical problems in the physical, social, and psychological domains (Kenny & Ackermann, 2015; Matei & Ginsborg, 2017). Through constant performing challenges, musicianship can also become a source of serious distress and can negatively affect the well-being of a musician. In particular, coping with music performance anxiety (MPA) is a major psychological issue among professional musicians. The reported prevalence of MPA among musicians ranges from 16.5% to as high as 60% (Fernholz et al., 2019).

Both genetic factors and learning environments are relevant factors in shaping MPA (De Figueiredo Rocha, 2020). Certain personality traits are significant predictors of MPA, and research reports evidence that MPA is significantly positively connected to trait anxiety (Antonini Philippe et al., 2023; Cox & Kenardy, 1993; Kokotsaki & Davidson, 2003; Osborne & Kenny, 2005; Wiedemann et al., 2021) and neuroticism (Miranda, 2020). Kemp (1996) claims that anxiety manifests itself in emotional instability and in a form of frustrated tension and low self-sentiment. Furthermore, negatively charged emotions predict more than half of the differences in MPA between individuals (Sadler & Miller, 2010), whilst the correlation

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between MPA and perfectionism is positive and significant and increases with age (Patston & Osborne, 2016).

One of the issues in addressing MPA is the differentiation between maladaptive and adaptive forms of MPA. The adaptive forms should be evaluated for their productive capacity in enhancing coping strategies and resilience. The discussion as to whether MPA can be both beneficial and detrimental for musicians has not yet been clarified (Kenny, 2011). In formal music education, the labelling of pre-performance tension as negative reinforces the belief that MPA induces fear in pupils, building up negative or even catastrophic expectations. In addition, instead of accepting pre-performance tension as a normal pre-performance phenomenon with adaptive features that can be regulated with the use of preventive strategies (MacAfee & Comeau, 2020), teachers and pupils tend to perceive pre-performance tension as an experience that causes anxiety instead of music performance flow.

Aims

This chapter examines the terminological challenge of defining MPA as reflected in differences in relevant contemporary models of MPA. We complement existing reviews by highlighting the research studies regarding MPA in the Western Balkans (Croatia, Montenegro, Serbia and Slovenia). Finally, we address some of the preventive and interventionist approaches in dealing with MPA, with an emphasis on the idea of reconsidering MPA as pre-performance excitement (Brooks, 2014) that has the capacity for contributing to optimal states of flow (Csikszentmihalyi, 1990).

Main discussion

Challenges to delineating music performance anxiety

Performance anxiety, also known as 'stage fright', is a situational form of anxiety triggered by social exposure while performing. However, Kenny (2011) outlines that MPA should be distinguished from stage fright and social anxiety. Even though these phenomena share some commonalities, there are several important differences between them.

In contrast to individuals with social anxiety, individuals with MPA have high expectations of themselves and a greater fear of their own performance evaluation. Their feared task is cognitively and physically demanding. For those with MPA, the audience is likely to be real, rather than imaginary, as is the case in many examples of social anxiety. People with MPA are more likely to be concerned about their ability to perform competently. They are also more likely to remain in the threatening performance situation than people with social anxiety, who will typically escape or avoid the feared situation.

Kenny (2011) defines MPA as a distressing and persistent anxious apprehension related to music performance. She outlines the importance of accurately naming the phenomenon and emphasises that there is significant inconsistency in how it is described. Kenny suggests a tripartite typology of MPA that differentiates between (1) severe MPA as a focal disorder in an otherwise healthy musician; (2) severe MPA as an expression of social anxiety; and (3) severe MPA as a more complex psychopathology in which the individual may suffer from an extreme combination of emotional, cognitive, and somatic anxiety, along with severe problems with a sense of self and self-esteem.

(Music) performance anxiety models

The relationship between MPA and performance outcomes can be explained using different psychological models, and a few in particular have been frequently used. The Yerkes–Dodson law (1908) explains that optimal performance is associated with a moderate level of arousal. That means optimal performance requires a specific amount of pressure to enhance attention and concentration, memory recall, and emotional expressivity. Some positive aspects could be associated with a moderate level of excitement. Steptoe (1989, 2001) has reported evidence to support the inverted U-model of the relationship between physiological arousal and performance. Several other models explain the relationship between MPA and performance outcomes, such as the multidimensional anxiety theory (Martens et al., 1990), the catastrophe model of anxiety and performance (Hardy & Parfitt, 1991), Kerr's (1987) reversal theory (Gould & Krane, 1992), and the Individual Zone of Optimal Functioning (IZOF) model (Hanin, 2000).

Lang (1971) proposed a three-dimensional model of fear, consisting of behavioural, physiological, and verbal components that are related yet independent. Two dimensions of relatedness were identified between them: concordance–discordance and synchrony–desynchrony. The amount of response equivalence between the three components is expressed as degree of synchrony, while the rate of change of the three components is referred to as concordance. Craske and Craig (1984) confirmed Lang's three-systems model based on musicians. Martens et al. (1990) identified two components of performance anxiety in sport: cognitive anxiety and somatic anxiety. Their model predicts that cognitive anxiety will remain high prior to the performing situation; however, somatic anxiety will be low immediately before the event. The relevance of cognitive symptoms was emphasised in the catastrophe model of anxiety (Hardy & Parfitt, 1991), which states that the cognitive component determines whether the effects of the somatic component are small or large. The catastrophe theory claims that physiological arousal results in a performance catastrophe only when cognitive anxiety is high. Later, Hardy et al. (2007) added a third factor to their model, i.e., the effort required to perform the task. They proposed that there might be two different catastrophe models of performance: the original one and the one that includes effort as a moderating variable. In the later model, high cognitive anxiety and high effort predict performance catastrophe. Some of the models propose that self-efficacy, self-esteem and self-confidence mediate the relationship between somatic/cognitive anxiety and performance (González et al., 2018; Kayani et al., 2021; Miller & Chesky, 2004; Zarza-Alzugararay et al., 2020).

The mediating role of personality in the relationship between MPA and performance success was outlined in the reversal theory (Apter, 1982), which examines the positive and negative aspects of the stress-moderating effects of personality characteristics (see Chapter 12 in this volume). The name 'reversal theory' originates from the fact that meta-motivational states, which constitute the level of arousal (telic/paratelic) and hedonic quality (pleasantness/unpleasantness), interact in ways that either improve or impair music performance. Wilson and Roland (2002) redefined the relationship between MPA and performance by proposing a three-dimensional extension in line with three major sources of stress: trait anxiety (a personal characteristic), situational stress

(environmental pressures like public performance and auditions), and task mastery. As to cognitive symptoms, an inversely linear relation to performance success is present (Blascovich & Mendes, 2010), meaning that negative cognitions are more detrimental to performance than increasing physiological arousal.

The Barlow anxiety model (2000) seems most commonly used amongst MPA researchers. Barlow's model proposes an integrated set of triple vulnerabilities that can account for the development of anxiety: a generalised biological vulnerability (genetics [trait anxiety], endocrine, etc.); a generalised psychological vulnerability (affection, cognition and its processing, attention, and personality traits), based on early experiences in developing a sense of control over salient events; and a specific psychological vulnerability, whereby anxiety comes to be associated with certain environmental stimuli through learning processes. Young performers with high trait anxiety (genetic vulnerability), who come from social environments with high music expectations, yet who do not get enough social support (generalised psychological vulnerability) and are exposed to frequent social evaluations of their performance in competitive environments (specific psychological vulnerability), might be triggered by physiological, cognitive, and behavioural responses of MPA. According to the Individual Zone of Optimal Functioning (IZOF) model, performance is successful when pre-competition anxiety is within or near the individual's optimal zone (Hanin, 2000). As such, IZOF mitigates the effects of MPA. Unfortunately, only a few studies applied IZOF when coping with MPA (McGinnis & Milling, 2005).

In sum, the level of arousal that might affect the success of a music performance depends upon the interaction of (1) the performer's susceptibility to experiencing anxiety (gender, age, trait anxiety, self-esteem, self-concept, and self-efficacy); (2) the performer's task efficacy (process of preparation, learning approach, motivation to learn, task difficulty/value, and anxiety coping strategies); and (3) the characteristics of the performance environment (audience presence, perceived degree of exposure, and venue characteristics). These factors are shaped by developmental experiences and cognitive appraisal of self and environment.

Research studies of MPA in the Western Balkans

The MPA studies conducted in the Western Balkans report that music students and professionals experience MPA regularly and emphasise the importance of dealing with maladaptive anxiety. The studies in the Western Balkan countries (see Table 15.1) cover a span of students from elementary specialist music school up to adult, mainly classical musicians. They are mainly empirical, except for the theoretical work of Kontić and Zatkalik (2020), which employs a psychoanalytic approach. There, the importance of developing a cohesive self and ego strength, which have the potential to master anxiety, is outlined as a guideline for the music-educational process.

Most empirical studies focus on the experiences of music students (Bačlija Sušić, 2018; Mirović & Bogunović, 2013a,b), with a few investigating professional musicians (Butković et al., 2022; Damjanović & Rosandić, 2019; Leva Bukovnik, 2018; Mazzon et al., 2023). A Slovene study on elementary school musicians (Habe & Kržič, 2017) showed that MPA is experienced less by pupils who started performing early in childhood; those with positive initial performing experiences; and those who enjoy being on stage. A Croatian study on younger musicians explored the role of the Functional Music Pedagogy approach, with music improvisation as its basic methodological tool for coping with MPA (Bačlija Sušić, 2018).

With one exception, all studies explored MPA with classical musicians. Comparing across genres, Leva Bukovnik (2018) established that classical singers experience significantly higher levels of MPA compared to jazz and pop singers. Many findings confirm earlier research with other populations in Western countries. For example, MPA was found to be more prevalent in female than male musicians (Butković et al., 2022; Habe & Kržič, 2017), in line with reports of higher levels of MPA in female musicians across developmental periods (Brugués, 2011; Yondem, 2007).

Table 15.1 Summary of the studies on MPA conducted in the Western Balkan region

Author(s)	Country	Study Type	Participants	Measurements	Research Findings
Bačlija Sušić, 2018	Croatia	Quantitative	Classical musicians: pupils from 4th to 6th grade of Music School $N = 232$	The Music Performance Anxiety Inventory for Adolescents (MPAI-A) (Osborne & Kenny, 2005).	Functional Music Pedagogy (FMP) approach, which regularly uses improvisation in its teaching practice. Does not have a significant effect on music performance anxiety in children.
Butković et al., 2022	Croatia	Quantitative	Classical musicians: music students and professional orchestral musicians $N = 239$	Kenny Music Performance Anxiety Inventory–Revised (K-MPAI-R) (Kenny, 2016); Almost Perfect Scale–Revised (APS-R) (Slaney et al., 2001).	In the regression analysis with gender, age, and dimensions of adaptive and maladaptive perfectionism as predictors, 46% of the MPA variance was explained with gender, age, and discrepancy as significant predictors. Higher MPA was predicted by being female, a younger musician, and having a higher maladaptive perfectionism.
Damjanović & Rosandić, 2020	Montenegro	Quantitative	Classical musicians: professional musicians $N = 60$	Kenny Music Performance Anxiety Inventory (Kenny et al., 2004); NEO Five Factor Inventory (NEO-FFI) (Costa & McCrae, 1995); Multidimensional Perfectionism Scale (MPS-F) (Flett & Hewitt, 2002).	The existence of certain personality aspects amongst professional musicians was confirmed, as well as the expression of a moderate but clinically relevant degree of anxiety and perfectionism, and showed their intercorrelations.

Author(s)	Country	Study Type	Participants	Measurements	Research Findings
Habe, 1998	Slovenia	Quantitative	Classical musicians: conservatory music students $N = 104$	Social Anxiety Scale for Adolescents (LSAA) (Puklek, 1997); The State-Trait Anxiety Inventory (STAI X-2) (Spielberger et al., 1983); Performance Anxiety Questionnaire (PAQ) (Cox & Kenardy, 1993}.	Statistically important interaction between MPA and trait anxiety and social anxiety. MPA is more prevalent in female than in male music students. MPA differs regarding different performing settings and is highest at solo performance.
Habe & Kržić, 2017	Slovenia	Quantitative	Classical musicians: 10–15-year-old music pupils $N = 261$	The Scale of Performance Anxiety (Habe, 2002).	No differences in MPA between younger (aged 10–12) and older (aged 13–15) music students were detected. It was found that MPA is more prevalent in girls than in boys. Less MPA is experienced by students who started performing early in childhood, those with positive first-performing experiences, and in those who enjoy being on stage. There were no differences in MPA regarding instrumental groups, although singers evidently reported the highest rates of MPA compared to other groups. There was a low negative correlation between MPA and final grades in instrumental/ theoretical practice.

Author(s)	Country	Study Type	Participants	Measurements	Research Findings
Kontić & Zatkalik, 2020	Serbia	Phenomenological study (psychoanalytic approach)	Classical musicians	Phenomenological analyses	Two major challenges in performing were confirmed: (1) balancing between regression (primary processes) and high control of memory and motor activity (secondary processes), which reflects in a split of the ego, with freely floating anxiety that is difficult to master; (2) musicians are presenting to the audience their most vulnerable preverbal self. Implications for the development of cohesive self and ego strength that are able to master anxiety are presented. It is outlined that music education should not be one-sided, focused solely on musical performance, but ought to engage with the development of the personality as a whole.
Leva Bukovnik, 2018	Slovenia	Quantitative	Classical, jazz, pop, ethno singers: music students and professional musicians $N = 282$	The Scale of Performance Anxiety (Habe, 2002); Reflection/Rumination Questionnaire (RRQ) (Trapnell & Campbell, 1999); Frost Multidimensional Perfectionism Scale (FMPS) (Frost et al., 1990).	The low negative link between MPA and personal standards was showed, while there is a medium positive link between MPA and doubts about actions, parental expectations, and parental criticism. There is a medium positive link between MPA and rumination and a low positive with reflection. Regarding the musical genre, classical singers experience the highest levels of MPA, followed by jazz, pop, and ethno singers.

Author(s)	Country	Study Type	Participants	Measurements	Research Findings
Mirović & Bogunović, 2013a	Serbia	Quantitative	Classical musicians: music students and students from other faculties $N = 176$	The Music Performance Anxiety Inventory for Adolescents (MPAI-A); (Osborne & Kenny, 2005) Frost Multidimensional Perfectionism Scale (FMPS) (Frost et al., 1990); Young Schema Questionnaire (Young & Brown, 1998).	Music students experience a high degree of trait anxiety, which is correlated with all three aspects of MPA. Somatic and cognitive MPA are correlated with concern over mistakes, doubts about actions, parental criticism, low frustration tolerance, and social isolation. Performance evaluation anxiety is correlated with concern over mistakes, doubts about actions, low frustration tolerance, and social isolation. Performance context anxiety is correlated only with low frustration tolerance
Mirović & Bogunović, 2013b	Serbia	Quantitative	Classical musicians: music students $N = 100$	Spielberger's Test Anxiety Inventory – Trait (STAI–T) (Spielberger et al., 1983); Beck Depression Inventory (BDI) (Beck et al., 1961); Young Schema Questionnaire (Young & Brown, 1998).	Music students differ from non-music students, having more prominent anxiety and depressive symptoms, as well as more prominent maladaptive schemas. The obtained differences, i.e., higher vulnerability in musicians, are discussed in the context of the teaching process and the professional demands imposed upon them.

Author(s)	Country	Study Type	Participants	Measurements	Research Findings
Mirović, 2013	Serbia	Mixed methods	Classical musicians: music students $N = 65$ $N = 92$	Performance Anxiety Inventory for Musicians (PerfAIM) (Barbeau, 2011).	Music students struggle with dysfunctional MPA on both, cognitive and emotional level, with irrational beliefs and a number of behavioural and physical symptoms. Based on the reported observation, the course for developing psychological skills for optimal performance was carried out with the aim to (1) improve their performance and overall functioning, and (2) help them to decrease MPA and stress. The course has proven to be effective according to the individual comments of the participants; however, its effectiveness was not yet confirmed empirically.

A horizontal version of this table may be viewed online at https://hdl.handle.net/20.500.12434/94331893

Lately, a series of studies in the Western Balkans region explored the relationship between MPA and perfectionism. The relationship was confirmed in Croatian, Montenegrin, and Serbian musicians (Butković et al., 2022; Damjanović & Rosandić, 2019; Mirović & Bogunović, 2013a). Leva Bukovnik (2018) investigated MPA and perfectionism amongst Slovene musicians. Results indicated a small negative correlation between MPA and personal standards and a medium positive correlation between doubt about an action, parental expectations, and parental criticism, suggesting a difference in relationship depending on control.

Studies confirmed a significant connection between trait anxiety and MPA (Habe, 1998; Mirović & Bogunović, 2013a,b), and a significant correlation between the dimensions of neuroticism and anxiety in professional musicians (Damjanović & Rosandić, 2019). Mirović (2016) investigated MPA from the most practical perspective. She presented the results of music performance coaching, conducted during a course at the Faculty of Music in Belgrade. The course consisted of cognitive-behavioural coaching, performance coaching, body techniques, and communication coaching.

If we summarise all of the studies from the Western Balkans region, we can conclude that the prevailing studies include a quantitative transversal approach. There is a lack of qualitative studies to gain an in-depth insight into the problems of MPA. Even more significantly, there are no experimental or longitudinal studies that could increase the scientific value of these research studies. It would be advisable to broaden the age span of the participants, especially to a younger age, when, with the use of the right systematic psychological approach, MPA could be prevented. In addition, the inclusion of musicians from different music genres would be beneficial and provide a more complex picture of MPA. Last, but not least, it would be highly recommended if the diagnostic approach when exploring the experience of MPA in relation to different psychological phenomena could be redirected towards examining the efficiency of different intervention approaches—we require more experimental and qualitative studies on the efficiency of different psycho-educational interventions conducted by instrumental and singing teachers.

Prevention and intervention of music performance anxiety

In our opinion, a devoted focus on developing preventive strategies for dealing with MPA should begin from the early years of music education. In that period, music teachers play a significant role in preventing MPA through their acceptance of and psychological support for pupils. The instilling of MPA in its positive form early on, and the fact that there are several approaches for dealing with it, are two of the most fundamental conditions for a successful performance career. It is equally critical that students at a higher music education level receive health education concerning prevention strategies (Kenny, 2005; Matei et al., 2018; see Chapter 16 in this volume). A holistic approach is required that considers psycho-physiological symptoms, the actions of teachers, along with the educational process and psychological and therapeutic interventions, where required. Considerations about flow are important, as is the reframing of negative aspects of MPA into positive ones.

Physiological symptoms reduction

Breathing and relaxation techniques are the most generally reported MPA coping measures, regardless of an individual's age (Studer et al., 2011). Strategies that have been shown to be effective and widely used for preventing or treating MPA include the Alexander Technique, the Feldenkrais Method, body mapping, visualisation, breathing exercises, meditation, autogenic training, and progressive muscular relaxation (Braden et al., 2015; Klein et al., 2014).

Teachers' actions

Several authors argue that the educational process itself can function as an MPA coping strategy. Common strategies employed in teaching are developing techniques for studying, memorising and solving problems, crafting techniques for gradual pre-performance training, and preparing students emotionally (e.g., Maciente, 2016). The music teacher can use several preventive MPA strategies during lessons, including (1) stretching and relaxing before playing (Khalsa et al., 2009); (2) providing positive feedback; (3) setting performance goals with music students; (4) using guided questions to get the student to

think about the piece; (5) practising centred breathing with the student; (6) selecting a musical piece that accords with a student's skills; and (7) using positive imagery to support pupils.

Preventive strategies can be behavioural, emotional, or cognitive. In younger music students, performing in groups, role playing, non-formal performance, increasing performing opportunities, and balancing performing skills and challenges, have all been demonstrated to be effective behavioural prevention measures (Habe, 2001). Therefore, music teachers should enable their students to (1) practise entering and exiting the stage; (2) include breathing relaxation during performance rehearsal; (3) simulate the lighting, acoustics, and ambiance of real-time performance; (4) practise performing in front of classmates; (5) practise performing with distractions (phone ringing, coughing, talking); and (6) focus on pleasant imagery during rehearsal (McKinney, 2008). In every case, psychological skills training should be part of the music curriculum in instrumental practice from the very beginning of music education in terms of cognitive and emotional preventive methods, and the effectiveness of those methods should be tested.

From a didactic point of view, improvisation might be considered a useful and effective developmental tool for coping with MPA (Hill, 2017). The use of music itself to reduce anxiety began to develop in the 1990s, based on free improvisation methods (Oshinsky, 2008). Free improvisation emphasises the creative process, and puts decisions concerning the musical content at the performer's discretion, reducing or eliminating predetermined expectations, and thus lowering levels of performance anxiety. Biasutti (2017) outlines the educational importance of music improvisation, which implies playfulness, authenticity, flexibility, originality, and counteracts the fear of making mistakes. Studies show that free improvisation can significantly decrease MPA in young musicians (Ladano, 2016). Such practices should be integrated into education, as improvisation is a separate skill that takes time to learn and may be found nerve-wracking itself without proper embedding.

One group of researchers recently proposed that music teachers should be exposed to basic training in performance coaching by psychologists and psychotherapists, to help them guide their students successfully. The authors suggest using an evidence-based coaching model focused on acceptance and commitment coaching that enables psychological flexibility (Shaw et al., 2020).

Psychological interventions

Despite a teacher's proactive actions, at times psychological interventions may also be required. Sinico and Winter (2013) argue that the choice of strategies is closely related to the symptoms experienced by a given musician. They classify these strategies into cognitive (altering negative or distorted thinking patterns related to performance), behavioural (altering behaviours utilising systematic desensitisation), and cognitive-behavioural (changing problematic thoughts and behaviour patterns). Of these, meta-analytical studies comparing strategies for coping with MPA (e.g., Burin & Osório, 2017; Goren, 2014) found that the most effective strategies incorporate cognitive restructuring and exposure therapy as parts of cognitive behavioural therapy (CBT). In addition, multimodal interventions have proven effective, including (1) a combination of behavioural exposure with group discussion, expert feedback, and cognitive strategies (Spahn et al., 2016); (2) a combination of mindfulness training and CBT interventions (Steyn et al., 2016); and (3) exposure to performance in virtual reality (Bissonnette et al., 2015).

The limitation of much of the research is a gap in longitudinal approaches that offer a more developmental and educational perspective on coping with MPA. There is a need to explore the effectiveness of different preventive psychological strategies for coping with diverse pre-performance sensations (bodily, cognitive, emotional) of music pupils from the early years on. The other limitation we recognise is the predominant use of questionnaires to test the effectiveness of coping approaches. A mixed-method approach is required that combines psychological and physiological measures with qualitative observations of behaviour and performance. Importantly, if we want to change attitudes towards MPA and work towards its prevention, we should focus on young musicians who are at their music-educational beginnings, including measures that are appropriate for them.

From performance anxiety to flow in music performance

Even though Kenny conceptualised MPA most thoroughly, the question remains whether addressing pre-performance pressure as anxiety is really the most accurate approach for coping with it. The majority of musicians experience only moderate pre-performance strain

(Kaleńska-Rodzaj, 2020). The fact is that musicians from an early age experience pre-performance arousal, which can be perceived as an expected accompanying phenomenon with many beneficial effects. Conversely, terms such as 'PA', 'stage fright', 'tremor', and 'performance phobia', can all trigger negative associations and produce negative emotions. Because the pre-performance arousal phenomenon at its core has many beneficial adaptive aspects, it is crucial that these positive elements are not excluded from whatever nomenclature is used. Brooks (2014) proposed the term 'pre-performance excitement', arguing that this term changes the performer's point of view from a 'threat mindset' to an 'opportunity mindset' and thus improves the subsequent performance. She claims that reappraising one high-arousal emotion (anxiety) as another high-arousal emotion (excitement) is easier and more effective than trying to shift from high arousal (anxiety) to low arousal (calmness). Therefore, it would be advisable to reconsider MPA and reframe it as 'music pre-performance excitement' because of its more positive connotations, and to use the term MPA only for severe pre-performance tension.

Furthermore, when positive attitudes toward pre-performance arousal are developed and performing skills and performing challenges are balanced, musicians can access psychological flow—an optimal state of functioning during performance situations. Flow is attained when people are deeply absorbed in an activity, internally motivated, and filled with positive emotions (Bakker, 2005). Some scholars refer to this optimal performing state as being 'in the zone' (Stamatelopoulou et al., 2018; Swann et al., 2017) or gaining 'peak experience' (Biasutti, 2017). In the music profession, flow is considered an important factor in achieving well-being in musicians (Chirico et al., 2015; Fritz & Avsec, 2007; Habe et al., 2019). Interpreting PA according to the 'flow model' (Csikszentmihalyi, 1997), PA occurs when challenges are high and skills are low (Biasutti, & Habe, 2023). Meanwhile, flow occurs when skills and challenges are both high (Antonini Philippe et al., 2022). Skills in this context are not only technical and interpretative skills, but also psychological skills like emotion regulation, concentration, memory recall, and mental resilience.

Flow and MPA are negatively correlated and facilitating flow can provide a powerful tool to reduce MPA (Li, 2019; Cohen & Bodner,

2019). Furthermore, Li (2019) shows that the four dimensions of flow (clear goals, unambiguous feedback, autotelic experience, and loss of self-consciousness) are significantly negatively correlated with MPA, and that strategies related to these four dimensions may help reduce MPA. However, she also points out that MPA and flow can exist simultaneously. The author sums up her research findings by explaining that both flow and MPA are related to motivation, emotions, attention, well-being, and musical emotion contagion, with flow having positive and MPA having negative correlations with the referred factors.

Fullagar et al. (2013) report an inverse relationship between flow and MPA and propose a three-factor facilitator model, consisting of subject preparation, teachers' qualifications to deal with this focus, and building flow experience. These three axes are intertwined and require access to particular valences, such as learning and preparation, which involve well-being, creativity, motivation, and the mobilisation of musical skills.

Conclusion

Although MPA is one of the most common performing issues in musicianship, we believe that a comprehensive strategy would approach it holistically by including its positive and negative forms. A strategic plan for effectively coping with MPA requires a developmental, educational and individualised approach. It must enable young musicians to enjoy performing and (with adult support) to courageously challenge themselves with increasing performing demands, while helping them develop a positive self-image and self-efficacy (Osborne, 2016).

The importance of psychological factors in musical instrument training and performance has to be highlighted in education from the early years onwards. This includes music teachers promoting the use of adaptive coping strategies during musical activity amongst their pupils (Biasutti & Concina, 2014), and music curricula offering opportunities (e.g., lectures, workshops) for students to learn about coping with MPA. More effort should be invested in supporting children to develop preventive strategies. This includes the adoption of a process-oriented rather than an achievement-focused approach (Zarza-Alzugaray et al., 2020), and gradual adaptation to the performance situation (Habe & Kržič, 2017).

The first step towards effectively coping with MPA, in our opinion, would be to reappraise pre-performance anxiety as excitement in music performance. If integrated in music education, young musicians can adopt an opportunity mindset (as opposed to a threat mindset) (Adams, 2019; Tan et al., 2021) to recognize pre-performance arousal as an inherent aspect of music performance, with various benefits. The second step is the regular use of preventive strategies, developing psychological and musical skills. Preventive strategies in music education may strengthen performance self-efficacy, which is significantly correlated to MPA (Gonzales et al., 2018). The use of acceptance and commitment coaching performed by instrumental or singing teachers during individual classes may be a third effective step in coping with MPA (Shaw et al., 2020).

Finally, MPA has to be addressed openly by teachers of individual instrumental or vocal practice from the early years onwards. There is a reluctance to speak about MPA amongst musicians, inhibiting an education system that promotes knowledge of and pro-active coping with MPA (Biasutti & Concina, 2014). Teachers should be equipped with basic psychological understanding and coaching techniques (Clarke et al., 2020; Juncos et al., 2017), so music students should learn these during their academic education. Research embedded in music education is an important way to deepen understanding and improve local practice.

We hope our review of the research on MPA contributes to build a bridge between theory and practice in psychological preparation for music performance from the beginnings of music education onwards. Our chapter highlights the relevance of communication between research and practice and outlines the importance of a continuous process in building psychological skills for optimal music performance as a regular aspect of music education, and as part of the development of a healthy, integrated, musical self-conception. We should start at the root of the problem, approaching pre-performance sensations more from the well-being perspective and from the perspective of holistic music education, which enables the development of not just an academic, but also a non-academic positive musical self-conception (Spychiger, 2017).

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