

Optimizing Performance in Orchestral Settings: Sports Psychology in Music

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ABSTRACT

In recent years, due to the rise in sports psychology and its prominence in professional leagues like the NBA and the NFL, other forms of performance/industrial-organizational psychology have also seen more development. The field of music performance psychology, however, has long been underdeveloped and ignored because of the difficult nature of its research. The long-standing stigmas of the music world have discouraged the collaboration between psychological practice and musicians, leading to a lack of knowledge and care for injuries in music performance. Due to the limited research designs that are possible in truly producing ample and consistent results for improvements in music, the methodology of sports psychology may just be the future direction more music performance psychologists should aim toward. This paper outlines the overlap between the sports and music industries while maintaining a realistic perspective on the viability of sport psychology methods' incorporation into music performance psychology. More research that is both thorough and reliable must be done to improve the effectiveness of music psychology's methods, but with the strong relationship between sports and music, the future seems to present optimistic results that will truly end the ancient, inaccurate ideas that exist among musicians.

Introduction

Striving for perfection in performance is a common thread connecting the worlds of sports and music. The pursuit of flawlessness, often manifesting as perfectionism, brings with it the challenge of setting high standards while grappling with self-critical tendencies (Stoerber & Becker, 2008). While extensive research in sports psychology addresses such issues, the field of music performance psychology lacks a comprehensive methodology and application, particularly in addressing the intricate physical and psychological challenges faced by musicians. Despite the apparent dissimilarity between sports or exercise and music or performing arts, a notable overlap exists, prompting the incorporation of sport psychology methods into the realm of music performance research.

For instance, In both running and music, practitioners share commonalities during preparation for a race or a performance. Discipline, independent training, and the need to plan and execute effective training programs are essential for both musicians and marathon runners (Thomson, 2014). Challenges such as motivation, commitment, persistence, self-awareness, and attention to detail are universal, making the adaptation of sports psychology principles an intriguing avenue for enhancing music performance.

This research aims to delve into the adaptation of sports psychology principles to optimize performance and workplace dynamics in orchestral and music group settings. Through a meticulous comparative analysis of psychological techniques and strategies, the study seeks to uncover similarities and differences between sports and music psychology. Addressing challenges such as perfectionism, talent development, and performance-related stigmas, the research aims to contribute to the holistic well-being and performance enhancement of musicians through tailored psychological approaches.

Literature Review

Unaddressed Issues in the Music World

The total amount of drug use in the music world and in the athlete world can be compared, but the normalization to use of performance-enhancing drugs, PEDs, in the music world is far more prominent than that of the athlete world so it is difficult to compare the two. The prominence of PEDs in sports is oftentimes limited because it is seen as outright cheating so many professional leagues have regulatory drug tests while in music performance, not many orchestras/music programs pay close attention to its musicians' substance usage because it is simply the individual's choice and not at the forefront of any directors' concerns. Many ongoing physical and psychological issues common among musicians can be resolved or improved through the full development of music performance psychology research and application. In other words, since the sport psychology field has developed in application towards athletes, similar progressions to music performance research would likely allow for the positive impacts on musicians that sport psychology has enabled for athletes. With that said, a significant difference is how individual development is viewed—the music world rejects the idea of one's development on an instrument, while sports focuses on "talent development" (Pecen et al., 2016). Furthermore, teachers/coaches are assigned based on the level of prestige in the music world resulting in a lack of actual knowledge of an instrument and/or a small variety of coaching styles (Pecen et al., 2016).

The most prominent physical and psychological issues in musicians are the result of the amount of practice and training required to achieve "success." In fact, the technical proficiency of music has to constantly be thought of and so the performance mindset needs to be able to keep a trust between the mind and body. Because "success" cannot be achieved through each goal every time for musicians, musicians must constantly practice technical skills as every performance requires a different skill set (Thomson). Other issues that arise are psychopathy due to perfectionism, overwhelming levels of commitment, focus on one specific instrument to continue practicing and perfecting, social isolation, practice/training that is required, identity struggles, burn-out, injury, the demand for constant creativity, emotional understanding and expression, and audience relationship. In achieving perfection, musicians oftentimes prefer isolation and even rate practicing alone as most relevant and significantly higher than the grand mean to their musical improvement between 12 music-related activities while practicing for fun was much less relevant/significantly lower than the grand mean in improving, and most importantly, regardless of the level of musicians, this study demonstrated all violinists had the same general consensus of the relevance of different activities which shows how a specified practice routine is prioritized among musicians (Ericsson et al., 1993). In general, these symptoms and conditions have been generalized as mood/anxiety disorder by the name of Music Performance Anxiety, (MPA), resulting from music's demands (Pecen et al., 2016). However, there is a possibility of an even larger prevalence of music-related injuries/disorders that are not included due to the lack of responses in surveys so much as a survey with only a 30% response rate, outlining the deep-rooted ignorance to medical issues due to the stigmas of the music world (Quarrier 1993).

Challenges and Stigmas in Music Performance

The challenges in the music world contribute to persistent issues. Firstly, there is a tendency within the music community to adhere to outdated beliefs, specifically the notion that genetic factors predominantly determine a musician's potential (Ericsson et al., 1993). In earlier years of performers' development, studies demonstrate the willingness of many parents to relocate to a better location for specialized programs, better teachers and more, which are most likely a result of believing their child has natural ability that must be embraced (Quarrier 1993). Despite the modern rejection of this idea, some musicians still accept it, leading to a lack of awareness about a musician's true capabilities and physical limitations.

Moreover, the cultural aspects of the music world result in a lack of information available to practitioners for developing effective training programs (Pecen et al., 2016). This deficiency is observed from the early stages of a musician's development, hindering their overall growth and performance. The reluctance of musicians to seek professional care is also a huge challenge, with factors including a shortage of experienced physicians, ongoing stigmas within the music community, and prevalent misconceptions like the "no pain-no gain" mentality (Quarrier 1993). Additionally, the fear of potential job loss or income reduction serves as a significant deterrent for musicians seeking medical attention. Therefore, the most effective techniques for injuries are from physical therapists, yoga instructors, and strengthening instructors with the most successful treatments for a musculoskeletal problem in the left hand for example rest with an 84% success ratio, physical therapy with an 82% success ratio and surgery with a 94% success ratio (Quarrier 1993). A shared issue among musicians is the lack of training for medical professionals in treating musician-specific injuries, demonstrated by the significantly lower success ratios associated with neurologists, general practitioners, orthopedists, and other specialists (Quarrier 1993).

Furthermore, teacher training programs often prioritize prestige over proper coaching, resulting in a lack of knowledge about music-related injuries. In fact, studies show that the best way to achieve expertise in teaching is through actual teaching, which leads to a faulty and inconsistent process that cannot be replicated by all and leads to mastery in teaching (Fletcher et al., 2020). This deficiency in knowledge further validates musicians' reasons for avoiding medical attention (Pecen et al., 2016). Lastly, musicians tend to value relationships with peers and coaches over seeking external perspectives, particularly from physicians. This preference reinforces the resistance to seeking professional medical attention, creating a cycle of unsupported reasoning within the music community.

Existing Music Performance Psychology Programs

Presently, existing training methodologies in the field of music inadequately address the prevailing issues of perfectionism and anxiety among musicians (Pecen et al., 2016). The current programs primarily center around "intervention studies," which aim to reduce symptoms of Music Performance Anxiety (MPA) rather than enhancing overall performance (Pecen et al., 2016). Consequently, this deficiency has led to increased substance use as a coping mechanism, normalized within the music industry without specific prescriptions and commonly passed among peers (Pecen et al., 2016). The subsequent discussions below explore current practice methods effective in achieving peak performance in musicians.

To determine the importance of quantity and quality of music practice as indicators of performance quality, Williamon and Valentine conducted a study involving twenty-two pianists at varying skill levels, tasked with learning and memorizing a composition. According to the Power Law of Practice reveals that extra practice or repetition does not yield perfection but rather results in increased speed, challenging the notion that repetition alone produces up-to-par performance (Williamon & Valentine, 2000). With that in mind, Williamon and Valentine utilized a scale that measured the overall quality, musical understanding, communicative ability and technical proficiency of a given performance to then determine the success or quality of the performance. In an attempt to find a correlation between the values for quantity of practice which were examined by time per beat, number of days, number of practice sessions, practice sessions per day, and the square root of practice time

(because it best represented requirements of the normal distribution) and the ratings of pianists' performances through the scale that is aforementioned, no significant/noteworthy correlation was found. The difficulty in actually finding a definitive answer of the impact of quantity of practice furthers reason for future research to be done utilizing this framework. Furthermore, this study does demonstrate that higher level pianists were more self-regulated and could sustain quality practice time for a large quantity of time. This is because they have developed abilities to be focused and set specific goals that have proven to be successful for them, while newer, novice musicians have yet to master technical aspects fully and have to spend time on developing those type of skill, therefore, explaining that the quality of practice improves with consistent practice over the course of multiple years.

Another notable practice method, deliberate practice, developed by Ericsson, Krampe, and Tesch-Romer, emphasizes repetition and consistent refinement to improve specific performance aspects. Deliberate practice is helpful if musicians are able to get past the initial challenges of the resource constraint wherein an individual simply does not have early access to teachers and parental support, the effort constraint which depends on the level of commitment or dedication an individual puts forth into deliberate practice and then from there decide the duration of daily practice (increasing the amount accordingly). Furthermore, under the assumption that deliberate practice is not inherently enjoyable, the motivational constraint is the last variable that must be overcome for individuals to improve performance. In general, expert performers demonstrated just under 25 hours per week spent on deliberate practice which was consistent with the idea that deliberate practice can only be so altering and impactful after going through the constraints, as in there must be time, (the resource constraint) for effortful practice (effort and motivational constraint.) Overall, though demonstrating positive impacts on maximal performance, deliberate practice, and its extension is limited due to the specific environment that is required and its research being based on results from short-term training methods (Ericsson et al., 1996).

Moreover, critics of deliberate practice highlight flaws in its original experimental framework. Recent research suggests alternatives like self-regulated learning and "whole-part-whole" strategies. The implementation of self-regulated learning is advocated as it exhibits promise, contrasting with reward systems deemed inadequate for developing successful musicians. Self-regulated learning was shown to be prominent in better performers, but not taught officially; rather developed through stronger mental strategies and the determination to achieve expertise in a certain instrument. In a study by Miksza, the self-regulatory principles and different practice strategies taught through video instruction demonstrated the positive impacts of self-regulation with greater improvements and better performances overall, and through the self-report, it was shown that musicians who went through this instruction felt more successful and satisfied after the performance than those who did not go through the instruction (Miksza 2010).

Researchers have also pointed out that deliberate practice requires a high level of concentration, intentional thought, and much overall effort which not all developing musicians can commit to (Miksza 2010). Therefore, the best strategies for efficient practice include the repetition of larger chunks of music, slowed-down practice of difficult passages, playing through musical chunks and testing different possibilities of its phrasing and execution, isolating problem areas, then repeating those problem areas in context, using a metronome, as well as building up the complex sections of phrases little by little (Miksa 2010). These are rather more specific methods that apply very specifically to certain sessions of practice for musicians and purposely have roots in deliberate practice principles but instead simplify and alter the intensive methods of deliberate practice. Combining these behavioral and practice strategies, Miksza and his colleagues designed an experimental intervention that would emphasize the importance of self-reflection, goal-setting, repetition techniques, and many other visualization and mental practices that followed suit with the phases of self-regulated learning which demonstrated how interventions and educating developing musicians on new practices and research could significantly contribute to the breaking down the stigmas of the music world but can only demonstrate real, impactful results through a more rigorous research process (McPherson et al., 2017).

Methodology of Sports Psychology and Its Applicability to Music

Components of Sports Psychology

Sports psychology focuses on the relationships between psychological systems and athlete performance, aiming to enhance technical, tactical, physical, and psychological aspects to maximize success efficiently. The core components of sports psychology involve assessing athletes' psychological needs, employing mental training methods, fostering a motivating coaching environment, nurturing coach-athlete relationships, and setting goals (Zhou 2022). In a stressful environment, which could take the forms of a game on the basketball court, a football stadium, a soccer field, etc., sports psychologists are working to advocate more openly for the mental well-being of athletes in these situations, to maximize their athletic performance. The employment of mental training methods, the fostering of a motivational coaching environment, improving coach-athlete relationships, and setting goals are all methods in which the psychological functioning of an athlete can be improved drastically, which will in turn improve the chemistry of a team, the team's success, the individual's success, etc. In fact, studies have demonstrated high levels of perfectionism and therefore negative self-talk as a reaction to imperfection in female soccer players which was also associated with anxiety and low self-esteem that can deeply impact the well-being of athletes in general (Stoeber & Becker 2008). Therefore, the components of sports psychology place a significant emphasis on athletes' mental health, aiming to identify and maintain optimal mind-body states for peak performance.

In specific, researchers have found specific sports of basketball where these components and methodology have been applied to athletes. In basketball, the technical, tactical, physical, and psychological aspects all contribute to maximizing an athlete's performance. Firstly, the technical and physical aspects of an athlete are mainly addressed in training which consists of active exercises, warm-ups, game strategies, passing, throwing, dribbling, rebounding, etc. These aspects are not yet amply addressed because sport psychology is a more recently developed field and the intricacies of the game are not as impacted by the methods of sport psychologists (Harmison 2006). Instead, within psychological and tactical thinking skills, which describe an athlete's quick thinking in a game setting, sport psychology plays a much more prominent role in order to help athletes go more healthily throughout playing such a demanding sport. Studies of the tactical thinking skills of football players aged between 18 and 24 years old, reveals that in the pre-test and post-test (before and after the intervention which included theoretical training and teaching of a plan of tactical strategy that would correspond to a realistic in-game situation) of decisions about attack and defense and their correctness, all three groups indicated an increase in correct answers as well as a decrease in the amount of time spent to find the correct answers to the given problems (Li 2022). It has also been demonstrated that coach/player ignorance of the positive impacts of sports psychology has also been connected to signs of depression and emotional exhaustion (Zhou 2022).

What Sport Psychology Demonstrates in Athletes

Though perfectionism has long been studied in many different areas, sports psychology research demonstrates two specific facets of perfectionism known as adaptive and maladaptive perfectionism, which can be sorted into a positive dimension and negative dimension, respectively. The positive dimension is characterized by high personal standards, the striving for the best, and is typically associated with positive outcomes, positive expectations regarding the future and higher academic performance. In contrast, the negative dimension is characterized by concern over mistakes, doubts about actions, disconnect between expectations and results along with negative reactions to mistakes, and is typically associated with anxiety, fear of negative outcomes, and low self-

esteem. Both positive and negative forms of perfectionism are likely to be attributed to athletes, meaning that they were likely to react with both forms (Stoeber & Becker 2008).

Sport psychology can not only make athletes more aware of the possible negative mindsets they carry but also demonstrate possible relationships between certain actions that will more likely lead to negative facets of perfectionism and thereby affect their performance. For example, athletes with high levels of perfectionism strive for success but when it is reached, they tend to attribute it to external factors (Stoeber & Becker 2008). By becoming more aware of this characteristic, athletes could be more encouraged to appreciate themselves and their performance when they feel they are attributed to the success of a team in a given situation. Additionally, by understanding which characteristics and traits are more correlated to poor performances and/or poor mental states, sports psychologists could more likely encourage the improvement of a specific trait like self-doubt, distraction, hyperfixation on outcomes, etc. Overall, with developing research on the correlation between different mindsets and cognitive and behavioral skills, the field of sports psychology and psychologists can also contribute to more developed methods of improving performance in athletes.

Correlation with Music Performance Psychology

In sports psychology, the methodology that correlates cognitive and behavioral skills that is aforementioned can be applied to music performance psychology. By developing the research in the music performance field, the correlation between imagery or refocusing plans and peak performance could be found like it has been in sports psychology and then be used to improve the mental state of many struggling musicians. As described by Robert J. Harmison, peak experience is defined as the most intense happiness that is felt in a peak moment and is associated with signs of fulfillment, significance, and spirituality (Harmison 2006). In sports, it is noted as peak performance, and because of the similar circumstances between sports performance and music performance, the field of music performance can adopt the goal of achieving peak performance in musicians. Similarly, in the 2x2 Model of Perfectionism, different subtypes of perfectionism are all individually examined to better understand dispositional perfectionism in sports through the correlations between these subtypes of perfectionism and well-being among competitive athletes (Gaudreau & Verner-Filion 2012). This 2x2 Model of Perfectionism can and should be tested in the music domain as well to further develop research on the problems and unresolved psychological and physical issues that must be met to maintain the performance level of professional musicians. The overwhelming overlap and similarities of the sport/exercise world and music performance world demonstrate that many methods of sport psychology can directly be applied to music performance psychology and drastically improve the state of many musicians who have been limited in access to physicians and psychologists.

Application/Future Methodology of Music Performance Psychology

Individual Differences and Adaptability

The most emphasized point of music performance psychology's developing methods must be the individual differences between each musician which practitioners must prepare themselves for and adapt to by familiarizing themselves with various methods of application (Pecen et al., 2016). In other words, multiple learning approaches should be adapted, meaning better research designs must be efficient but also should include a longer period of observation time for more information and to possibly demonstrate unexpected correlative relationships (Miksza 2010). Though many methods of music performance may have roots in sports psychology, it is important for physical therapists to also pay special attention to unaddressed physical and technical issues like

posture and playing technique and also learn about different types of instruments to further personalize a treatment for a musician (Quarrier 1993). In sport psychology, studies of the IZOF model, known as the Individual Zones of Optimal Functioning model developed by Hanin, depict one elite female athlete's optimal emotions which also demonstrates the individuality that some sport psychology models can advocate for, meaning this same methodology can be used for musicians and encourage the implementation of their individualized treatments (Hanin 2000; Harmison 2006). Especially in repeated instances of posture or playing technique, therapists should suggest a change in playing or posture to one less stressful for the body and by understanding the different types of instruments, also explore different straps and stands that could be changed out for alternatives to help reduce stress and overuse of a painful joint or muscle as well (Quarrier 1993).

However, with alternative practice methods, the technical proficiency of music must stay constantly prioritized so that the musician can maintain a performance mindset in that they are able to keep trust between the mind and body (Thomson 2014). Understanding that musicians are most likely reluctant to seek or receive professional care because they do not want to lose their income/job and lead to a forced change in their playing technique and possible regression is also important to keep in mind for practitioners to further an understanding between a newer collaboration between musicians and practitioners (Quarrier 1993). With that said, if there are inflammatory issues, musicians must also cooperate and agree to mental practice for the time being which includes visualization, imagery, sight-reading, etc. Interestingly, visualization is also a technique in the sports world that was popularized along with theoretical training and mental imagery (also used as a treatment for musicians) by the rise of sports psychology (Pecen et al., 2016; Zhou 2022). In the same way, with inflammation, musicians should be treated by traditional physical therapy methods which is again similar to the ideals of athletic medicine (Quarrier 1993).

To demonstrate the importance of adaptability due to the prominent occurrence of individual differences, researcher, Nicholas F. Quarrier, explores two case studies that follow the injuries of musicians. Case 1 consists of a 19-year-old female who is a baritone saxophone player wherein following a practice time increase from 1 hour per day to 7 hours per day, she experienced most pain in her right hand which was believed to come from the weight of the instrument and the nature of the position of the right hand which has to maintain the weight of the instrument and also press right-hand keys. In this case, the treatment included an electric stimulation or ultrasound, a "transverse friction massage," and applying ice to the right-hand extensor tendon. Stretching exercises, (common among athletes) were also organized in a daily wrist-stretching program along with a strengthening program which was added following a description/expression of less pain. The explanation of this treatment method that was developed has an essence similar to treatments with athletes because of the development of the idea of a musician being a special type of athlete. Practice sessions were limited and then slowly increased as the individual's condition improved. Importantly, the instrument would be adjusted to rest on a surface to help relieve musicians of some extra weight and when the condition worsens or uncomfortable feelings occurred, mental practice was strongly encouraged as an alternative.

Case Study 2 explored a 19-year-old female playing bassoon who was experiencing tension soreness due to a posture issue that resulted from rotation of the spine to see sheet music on the stand because of the stand's off-to-the-side positioning, also leading to a habitual leaning forward/diagonal positioning because of the nature of the technique for the bassoon. This treatment included soft tissue mobilization techniques which were applied to multiple areas strengthening exercises to improve motor functioning and repeated shoulder stabilization and trunk rotation patterns. Furthermore, a small switch was rearranged the music stand to better her trunk rotation (Quarrier 2006). Even though only 2 case studies, the individual differences are demonstrated throughout their first initial meeting and treatment plans. Though both are around similar ages, are both music majors and even play instruments that reside in the same instrumental group (woodwinds), the problems that occur are very clearly distinct and are handled inappropriately different methods even considering that one's condition is more about a fixed positioning and other is resolved through more traditional physical therapy methods. These are simply 2 case studies that follow suit with common injuries seen in musicians, with over a

50% prevalence of overuse (or injuries due to heavy practicing) found in a study of a symphony orchestra in Australia, demonstrating how widespread yet unresolved these issues are in music performance (Fry 1986).

Specific Methods from Sport Psychology

As previously mentioned, musicians face a widespread issue resulting from the stigmas of the music world and expectations regarding both physical and psychological issues like overuse injuries and malfunctioning coping mechanisms. Therefore, there must be a basis for understanding the possibility of ongoing growth and development in relationships between teachers and students similar to how sports psychology began prioritizing the improvement of coach and athlete relationships, demonstrating a foundational overlap in music and sports (Thomson 2014). In a training program for coaches of a basketball team, coaches are first asked to participate in theoretical training that not only educates them fully on methods of sport psychology, but also introduces them to the basic ways that sport psychology can improve athlete performance such as fundamental skills, fine-tuning of performance skills, improving the relationship between coaches and athletes, internal monologue (otherwise known as positive self-talk), and visualization (Zhou 2022). Because of the complexity of practice sessions in both sports and music, research must also address how to gather information and conclusions in more efficient ways because of its importance in developing a proper methodology for musicians (Thomson 2014).

Following the coach training program, coaches were tasked with educating their athletes and told to even incorporate certain sports psychology methods into team practices. By helping coaches better understand how different traits can negatively impact an athlete as well as the entire team's performance, coaches also become more personable with athletes and try to address negative mindsets in ways that strengthen the coach-athlete relationship like having team events and dinners (Zhou 2022). Similarly, the importance of teachers in music are oftentimes even reflected in each stage of the developing musician. For example, in earlier stages, the best teachers are lenient, understanding, nurturing, and in general, more "motherly," whereas in later stages, parents prefer experienced professionals, who are tough and provide knowledge from their experiences of the professional world. One large issue that clearly separated the issues in the music world from the sports world was the lack of coaching ability from music teachers/private lesson teachers (Pecen et al., 2016). As opposed to focusing on their ability to develop a growing musician, the prestige of coaching staff was becoming increasingly prioritized, thereby causing a larger spread of unrealistic expectations of practice to achieve goals and substantiating the stigmas of the music world. However, if a similar coach training program is adopted by musicians, a stronger impact of music performance psychology especially on the upcoming generations of musicians will be much more attainable.

Smaller methods of applying sport psychology that have shown improvements in athletes include keeping a log of daily physical activity, developing technical skills while simultaneously building enough mental strength to handle nerve-wracking scenarios, varying structures of practice sessions wherein a musician can vastly improve certain aspects of their playing like stamina, tone production, large shifts, and freedom of expression, etc. and internalizing specific concepts that can improve the focus of practice and serve as general guidelines for musicians (Ericsson et al., 1993; Thomson 2014; Zhou 2022).

Limitations and Challenges of Applying Sport Psychology to Music

The most significant challenge of applying sports psychology to music lies within the domain-specific challenges which are established and furthered due to the stigmas of the music world and differences in sports and music simply due to the nature of each activity (Pecen et al., 2016). Even so, with the proper application of specific methods from sport psychology and open-mindedness to adaptation, these challenges could be eliminated or made much less significant. Some adjustments that must be made include a better-developed treatment

for upper body injuries due to its prevalence in music, noted in a study of 1249 students in Australian music schools with 116, roughly 9.3% of them suffering from an overuse injury, but what is most alarming is the duration of these symptoms which of 116 students exists for longer than 4 weeks for 105 of the students which indicates a continuous/unresolved injury not yet met with adequate treatment (Fry 1986).

With that said, the development of adequate treatment must also be met with understanding because music performance psychology is still in the earlier evolutionary stages especially when compared to sports psychology (Pecen et al., 2016). In fact, the stigmas of the music world carry much more contradiction to music performance psychology while in the sports world, a study of 48 student-athletes aged between 18-20 years, split into a control group and exposed group, demonstrated the positive impacts of sport psychology due to the exposed group's tactical thinking showing improvement by 46.7%, shown in strengthened visualization which suggest how physical training combined with visualization can benefit athletes (Zhou 2022). Therefore, sports psychology has many studies that signify its establishment among actual professional athletes, so much so that the National Basketball Association requires all 30 teams in the league to add a full-time mental health specialist who is fully included as a part of the staff.

Overall, music performance psychology requires much heavier emphasis in the music world because its popularization will benefit future research and thereby contribute to its increasing importance it among musicians. Physical therapists and musicians alike must cooperate and remain communicative with one another to further the efforts of researchers in this field. Furthermore, though there will be significant overlap in the methodology of sport psychology and music performance psychology, communicating the implications of a training program that is specifically made for musicians and the distinction between a training program for musicians and training programs for athletes will be equally important in ensuring musicians carry a positive mindset with adapting changes to a somewhat ancient belief system popularized in musicians (Pecen et al., 2016).

Conclusion

The exploration of sports psychology principles for potential application in optimizing performance and workplace dynamics within orchestral and music group settings offers promising avenues for musicians' well-being and performance improvement. The literature review identifies prevailing issues in the music world and draws parallels with challenges addressed in sports psychology. The adaptability of sports psychology methodologies to music performance psychology provides a fresh perspective on addressing psychological and physical challenges faced by musicians. The existing gaps of music performance psychology programs are due to them focusing on intervention studies without comprehensive approaches for overall performance enhancement. The methodology of sports psychology, encompassing mental training methods, coaching environment development, and goal-setting, demonstrates its relevance to music performance psychology. The correlation between adaptive and maladaptive perfectionism in sports psychology suggests potential insights into musicians' mindsets. Applying a similar model to the music domain can contribute to understanding and addressing psychological and physical issues faced by professional musicians.

This study emphasizes the importance of individual differences and adaptability in developing effective music performance psychology methods. Incorporating multiple learning approaches, understanding various instruments, and addressing unaddressed physical and technical issues can personalize treatments for musicians. Case studies illustrate the necessity of tailored treatment plans based on individual needs and challenges. Drawing parallels with coach training programs in sports, the paper suggests that similar training for music teachers and private lesson instructors could enhance the teacher-student relationship and address negative mindsets. Additionally, smaller methods derived from sports psychology, such as keeping activity logs, developing technical skills, and varying practice structures, offer practical insights for musicians. However, acknowledging the limitations and challenges of applying sports psychology to music is crucial. The unique

aspects of music performance, including the complexity of practice sessions and the lack of coaching ability among music teachers, pose challenges that require careful consideration.

In conclusion, this study further pushes for the collaboration between musicians and physical therapists to develop a robust branch of research and medicine in music performance psychology. The insights provided here offer a foundation for future exploration of diverse methods of treatment and care, ultimately contributing to the prolonged success and well-being of musicians worldwide. Further research in this interdisciplinary field is essential to unlock the full potential of sports psychology principles in the context of music performance.

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