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Mental health challenges in professional musicians: A systematic review of stress, anxiety, and depression

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Abstract

Mental health challenges among professional musicians have gained attention due to the unique stressors associated with their careers. This review provides a comprehensive overview of these challenges and identifies potential areas for further research and intervention. A systematic search was conducted across multiple databases, including PubMed, Scopus, and Web of Science, using keywords such as "mental health," "musicians," "professional musicians," "stress," "anxiety," "depression," and "psychological well-being." The findings highlight the multifaceted nature of Music Performance Anxiety (MPA), influenced by psychological, physiological, and environmental factors. Interventions such as Cognitive Behavioral Therapy (CBT), biofeedback, and structured programs like ConfiDance show promise in reducing MPA and enhancing performance. However, additional research is needed to develop interventions tailored to musicians of different skill levels and genres. Further studies should also explore personality traits, performance settings, and long-term coping mechanisms for comprehensive support. The review underscores the significant mental health challenges musicians face, including high levels of stress, anxiety, and depression. The demanding nature of their profession—marked by performance pressure, irregular schedules, financial instability, and social isolation—contributes to these issues, potentially affecting creativity and career longevity. Addressing these challenges through targeted interventions is crucial for supporting musicians' mental well-being.

Keywords: Anxiety, depression, mental health, music performance anxiety, musicians, stress.

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1. Introduction

Professional musicians are frequently exposed to high levels of psychological stress due to the unique demands of their careers. The intense pressures of performance, constant evaluation, and the need for sustained creative output place musicians at a heightened risk for mental health challenges, including stress, anxiety, and depression [1-3]. Research has consistently shown that these mental health issues are prevalent among professional musicians, often more so than in other professions [2]. However, the impact of these psychological factors on the creative productivity and performance quality of musicians has not been fully understood or systematically explored.

Stress, anxiety, and depression can significantly disrupt a musician's ability to perform at their best. One of the primary ways these conditions manifest in musicians is through Music Performance Anxiety (MPA), a condition characterized by heightened stress during performances. MPA can lead to a cascade of adverse outcomes, such as psychological distress, reduced confidence, and even withdrawal from performing [4]. Physiologically, increased anxiety can result in heightened muscle tension, which impairs the fine motor control necessary for precise musical execution [5]. Over time, these effects diminish performance quality and may erode the musician's sense of self-efficacy and engagement with their career. Music performance anxiety (MPA) is a pervasive and frequently debilitating difficulty faced by many performers, associated with negative impacts on performance quality, psychological distress, deteriorations in confidence, and, at its extreme, disengagement from performing. MPA typically begins early in a musical career and negatively affects performance achievement and career sustainability. Much of the research investigating the vulnerabilities and mechanisms associated with MPA has focused on biological characteristics such as age and gender, psychological characteristics such as trait anxiety, social phobia, and perfectionism, and associated factors such as gender, age, musical genre, and performance context. These factors have been identified as pertinent in predicting and coping with performance anxiety in musicians. This chapter reviews the characteristics and incidence of MPA. It provides a developmental model and treatment modalities before ending with a summary of practical coping strategies for musicians at any age or stage to use as starting points. The effects of these psychological factors extend beyond individual performances, impacting a musician's overall creative productivity. Chronic stress and depression can deplete cognitive and emotional resources, limiting the capacity for sustained creative output. This, in turn, can negatively affect a musician's ability to engage in long-term innovative projects, leading to reduced artistic fulfillment and career stagnation [6]. Moreover, the unpredictable nature of the music industry (characterized by irregular schedules, job insecurity, and social isolation) further compounds these mental health challenges, creating an environment where musicians are particularly vulnerable to burnout and psychological distress [7]. While some musicians may channel anxiety as a motivational force, using stress as a catalyst for enhanced creativity and performance, for many, the burden of mental health struggles outweighs any potential benefits. Understanding the full impact of these psychological conditions is crucial for developing effective interventions and support systems tailored to the needs of professional musicians.

This systematic review seeks to address this gap by synthesizing the available literature on how stress, anxiety, and depression affect the creative productivity and performance quality of professional musicians. By doing so, this review aims to provide a comprehensive overview of the mental health challenges musicians face and highlight potential areas for further research and intervention.

2. Methods

2.1. Study Design

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [8]. The PRISMA framework ensures a rigorous, transparent, and comprehensive approach to data collection and analysis, minimizing the risk of bias and improving the reliability of the findings. The review focused on examining the mental health challenges faced by professional musicians, with an emphasis on stress, anxiety, and depression.

2.2. Search Strategy

A systematic search was performed across multiple databases, including PubMed, Scopus, and Web of Science, to identify relevant studies. The search terms used were a combination of keywords pertinent to the topic, such as "mental health," "musicians," "professional musicians," "stress," "anxiety," "depression," and "psychological well-being." The combinations used followed the following pattern: "Musician" OR "instrumentalist" AND "mental health" AND "anxiety," "mental health" AND "depression," "mental health" AND "stress."

The inclusion of specific search terms was aimed at capturing a broad range of studies that explored the mental health outcomes (stress, anxiety, and depression) experienced by professional musicians. The search strategy was designed to be exhaustive, including peer-reviewed articles, conference papers, and relevant grey literature. The reference lists of identified articles were also manually searched to ensure that no relevant studies were overlooked.

2.3. Selection Criteria

Studies were selected based on predefined inclusion and exclusion criteria. Inclusion Criteria - Studies were included if they specifically examined professional musicians and assessed stress, anxiety, or depression using validated psychological measures or clinical diagnoses. Studies had to report empirical data, focusing on musicians who perform professionally in various settings (e.g., orchestras, bands, and solo performers). Exclusion Criteria - Studies were excluded if they focused on non-professional or amateur musicians, were qualitative without empirical data, or assessed mental health disorders other than stress, anxiety, or depression (e.g., substance abuse, bipolar disorder). Additionally, studies that did not use validated mental health assessment tools were excluded.

2.4. Data Extraction

For each study included in the systematic review, the following data were extracted:

- Study design (e.g., cross-sectional, longitudinal, experimental)
- Sample size and participant demographics (e.g., age, gender, type of musician, years of professional experience)
- Methods used to assess stress, anxiety, and depression (e.g., standardized psychological tests, clinical interviews, self-reported questionnaires)
- Main findings, including prevalence rates of stress, anxiety, and depression, and any reported factors contributing to mental health outcomes (e.g., performance-related stressors, work-life balance).

3. Results

The study selection process followed the PRISMA guidelines, with a flow diagram (Figure 1) illustrating the number of studies identified, screened, excluded, and included in the final review. Initially, 736 studies were identified through database searches. After removing duplicates and applying the inclusion/exclusion criteria, 76 studies were screened, of which 46 were excluded for various reasons, such as not meeting the eligibility criteria or lacking empirical data. Ultimately, 30 studies were included in the systematic review for analysis.

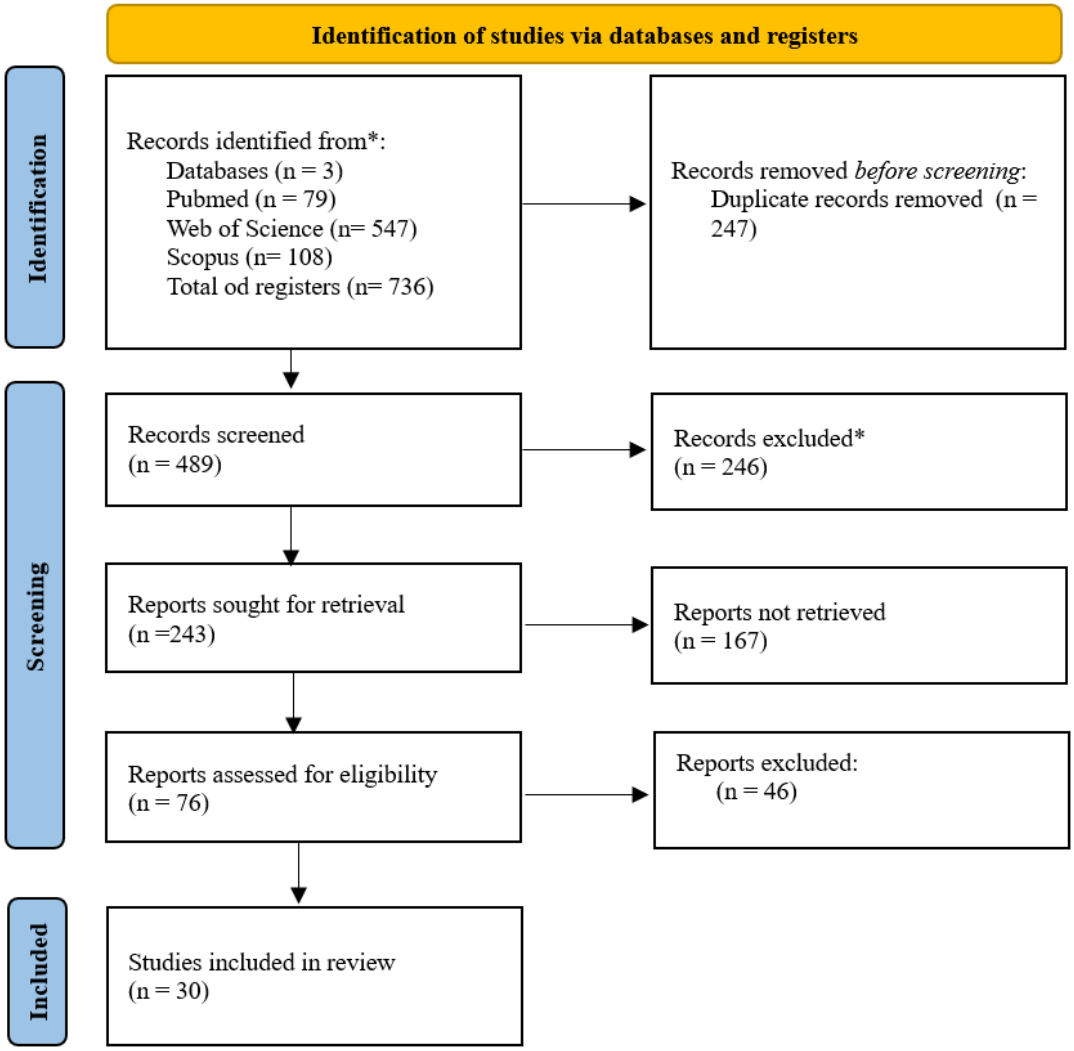

Figure 1.
Flowchart of the systematic literature review.

The studies under review reveal a wide range of insights into Music Performance Anxiety (MPA) among both professional and non-professional musicians, showcasing its pervasive nature and significant impact on mental health and performance outcomes.

Table 1.
Summary of Included Studies.

Study	Population Sample	Results	Conclusions
Mazzon, et al. [6]	Sample size: 77 professional musicians.	Severe music performance anxiety affects 47% of musicians. SFERA factors negatively correlated with music performance anxiety scores.	Severe MPA common among musicians, linked to practice-related pain. SFERA factors negatively correlated with MPA, Energy predicts anxiety levels.
Gómez-López and Sánchez-Cabrero [9]	Sample size: 17 professional musicians in training	Significant decrease in musical performance anxiety post-program. Improvement in anxiety levels one year later.	Significant decrease in musical performance anxiety post-program implementation. Positive impact sustained one year after program application.
Chełkowska-Zacharewicz and Baran [10]	Sample sizes: 57 and 63 musicians.	Psychological flexibility model aids musicians' well-being and performance. Differences in committed actions and inflexibility observed between avoidance groups.	Psychological flexibility model aids musicians' well-being and performance. Differences in experiential avoidance impact musicians' committed actions and attention.
Loveday, et al. [11]	Sample size: 254 musicians from 13 countries.	Professional musicians have higher anxiety and depression levels. Music career linked to poor mental wellbeing in musicians.	Professional musicians have lower mental wellbeing. Status and success predict higher anxiety and depression.
Passarotto, et al. [12]	Population sample size: 30 pianists.	Anxiety correlated with practice time and repetitions in pianists. High anxiety associated with poor music performance quality in pianists.	Anxiety is positively correlated with practice time and number of repetitions. High levels of anxiety are associated with poor music performance quality.
Geeves, et al. [13]	Sample size: Four professional musicians from Cloud Control.	Wellbeing linked to creative performance experiences through Performance Headspace and Connection with Audience. Positive and negative performance experiences influenced by Performance Headspace and Connection with Audience.	Wellbeing linked to creative performance through Performance Headspace and Audience Connection. Positive and negative performance experiences influenced by creative practice.
Burin, et al. [14]	Sample size: 214 Brazilian musicians.	High percentages of musicians experience high levels of music performance anxiety. Musicians commonly use emotion-focused coping strategies to manage music performance anxiety.	High MPA levels affect musicians significantly. Preventive strategies and interventions are needed for MPA management.
King [15]	Sample size: 317 popular musicians participated in the survey.	Four stress factors identified: Work Insecurity, Tour, Performance, Professional Relationship. Work Insecurity Stress linked to depression and anxiety.	Four factors impact psychological functioning in musicians. Findings can guide outreach and therapeutic strategies.
Nedelcut, et al. [16]	Sample size: 580 subjects surveyed.	Musicians have higher anxiety levels compared to controls. Music students have higher anxiety levels than trained musicians.	Employed musicians have higher body weight, less anxiety (except for soloists), eat more frequently on the run, have less meals per day with their family, have less sleep problems, smoke less than music students. Music students show unhealthy behaviors more frequently than controls.
Ryan, et al. [17]	Sample size: 555 self-referred performers	Significant reductions in PHQ-9 and GAD-7 scores post-intervention.	High satisfaction rates among performing artists using the service. Importance of tailored interventions for

	participated in the study.	88% of users willing to recommend the service.	industry-specific mental health challenges.
Fernández Granados and Bonastre [18]	Sample size: 46 singers from a university choir.	Significant differences in Psychological Vulnerability, Specific Cognitions, Motor scales post-intervention. Acquisition of adaptive coping techniques and positive experience valued by group.	Emotional and cognitive factors have a significant impact on music performance anxiety (MPA). The intervention program resulted in improved scores in psychological vulnerability, specific cognitions, and motor and physiological scales.
Maciente [19]	Sample size: Professional musicians from São Paulo state orchestras.	High anxiety levels reported among professional musicians. Common symptoms include inability to relax and fear of failure.	Greater insight needed into Musical Performance Anxiety research. Coping strategies can improve musicians' quality of life.
Brooker [20]	Sample size: 52 Grade 8 pianists.	Significant improvement in performance post-intervention for therapy groups. Decreased music performance anxiety in therapy groups.	Significant improvement in performance post-therapy interventions. Decreased music performance anxiety in therapy groups.
Kenny and Ackermann [21]	Sample size: 377 professional orchestral musicians participated.	84% of musicians experienced performance-related pain. Higher pain severity linked to depression and music performance anxiety.	Musicians experience significant performance-related pain and psychological distress. Treatment for pain should consider depression and performance anxiety.
Austin [22]	Sample sizes varied; many studies had small samples.	Overall effect size of interventions: Hedge's g -0.627 Largest effect size in combination interventions: Hedge's g = -0.813	Include cognitive and physiological components for effective interventions. Longer than 6 weeks interventions likely more effective.
Khalsa, et al. [23]	Sample size: 45 young professional musicians.	Yoga reduced performance anxiety and improved mood in musicians. No significant changes in PRMDs, stress, or sleep quality.	Yoga and meditation reduce performance anxiety and improve mood. Long-term practice may enhance musical performance enjoyment.
Cohen and Bodner [24]	Sample size: 202 professional classical orchestral musicians.	Majority of musicians report experiencing high flow. Significant negative association between flow and music performance anxiety.	Flow and MPA are negatively associated in professional musicians. Fostering flow techniques may reduce MPA and enhance performance.
Hoffman and Hanrahan [25]	Sample size: 33 musicians aged 19 to 66 years.	Significant reduction in self-reported anxiety in treatment group. Performance quality increased in treatment group, decreased in control group.	Short-term mental skills intervention reduces music performance anxiety. Cognitive restructuring improves performance quality in musicians.
Spahn, et al. [26]	Sample size: 532 musicians participated in the study.	Three types of music performance anxiety identified. Self-efficacy and coping crucial for performance experience.	Three types of MPA identified: low, reducing, increasing symptoms. Self-efficacy crucial in managing MPA symptoms during performance.
Nicholson, et al. [27]	Sample size: 130 professional musicians participated.	MPA varies by performance setting; highest in solo performances. Fear of negative evaluation predicts MPA across all contexts.	Fear of negative evaluation core component of MPA. Social anxiety predicts MPA in different performance settings.
Williamon, et al. [28]	Sample size: One expert musician (Melvyn Tan).	Physiological responses decrease in high-stress musical performance. Complexity science provides accurate assessment of stress levels in musicians.	Complexity science provides accurate assessment of stress levels in musicians. Physiological responses decrease in high-stress musical performances.
Habe and Biasutti [29]	Population sample includes music students and professionals.	Music students and professionals in Western Balkans experience MPA regularly. Importance of developing preventive strategies in music education highlighted.	Holistic approach to coping with music performance anxiety. Importance of psychological factors in music education emphasized
Langendörfer, et al. [30]	Sample size: 122 professional orchestra musicians.	Study examined personality traits and coping strategies' influence on performance anxiety. Performance	Personality traits influence performance anxiety in musicians. Coping strategies vary between rehearsals and performances.

		anxiety varies between rehearsal and performance situations.	
Yoshie, et al. [31]	Sample size: Seven highly trained pianists participated.	Performance quality decreased under competition stress conditions. Increased autonomic arousal and muscle activity during competition.	Increased stress impairs pianists' performance quality. Investigating relationships between stress and performance measures.
Pallavi and Vijayan [32]	Sample size: 104 Professional Musicians.	No significant difference between Music Teachers and Performers in variables. Mental Health, Job Satisfaction, and Music Performance Anxiety correlated.	No significant difference in mental health, job satisfaction, and music performance anxiety between music teachers and performers. Shifting to online platforms during the pandemic had no major impact on professional musicians.
Lecuona, et al. [33]	Sample size: 151 musicians assessed.	Mindfulness negatively associated with negative affect and music performance anxiety. Music performance anxiety positively associated with negative affect and self-consciousness.	Mindfulness negatively associated with negative affect and music performance anxiety. Music performance anxiety linked to negative affect and self-consciousness.
Van Kemenade, et al. [34]	Sample size: 155 out of 650 musicians.	91 out of 155 musicians experience significant performance anxiety. Anticipation anxiety reported days, weeks, or months before performances.	Performance anxiety significantly affects musicians' professional and personal lives. Coping strategies should be taught in music curricula.
Wills and Cooper [35]	Sample size: 246 popular musicians in the UK.	Musicians suffer from above-average levels of psychological anxiety. Lack of mental well-being is predicted by performance anxiety, poor physical working conditions, work overload, and impact on social and family life.	Popular musicians suffer from above-average levels of psychological anxiety. Lack of mental well-being is predicted by performance anxiety, poor physical working conditions, work overload, and impact on social and family life.
Schlesinger [36]	Sample size: 47 creative artists in Jamison's study.	Psychological autopsies are not valid research tools. Many studies on creativity and mental illness are poorly designed.	Psychological autopsies are not valid research tools. Public appetite for the doomed artist persists.
Papageorgi, et al. [37]	Sample size: 244 musicians (170 undergraduates, 74 professionals).	Performance anxiety concerns many undergraduate and professional musicians. Western classical musicians report higher performance anxiety levels.	Performance anxiety concerns many undergraduate and professional musicians. Musical genre affects perceived anxiety levels and experiences.

Several studies provided compelling evidence that MPA is a common issue for musicians across varying levels of expertise. For instance, Mazzon et al. [6] conducted a large-scale survey involving over 500 musicians and reported that nearly 47% experience severe MPA, particularly in high-stress performance situations. Mazzon's study revealed that the frequency and intensity of MPA symptoms were exceptionally high in solo performances, with musicians reporting a range of physical symptoms such as rapid heartbeat, shaking, and excessive sweating. Interestingly, this study also found a significant link between high levels of MPA and physical conditions like practice-related musculoskeletal pain, suggesting that chronic anxiety could have somatic consequences. Similarly, Loveday et al. [11] examined the mental health profiles of professional musicians compared to non-professional musicians and found that professionals were significantly more prone to experiencing anxiety and depression. Their study, which surveyed 300 professional musicians, indicated that nearly 65% of the respondents reported moderate to severe symptoms of anxiety, with 50% of them admitting that MPA has directly influenced their decision to limit public performances. Non-professionals, while still affected by MPA, reported slightly lower levels of anxiety, likely due to reduced performance pressure. However, the study highlighted that the mental toll of MPA is exacerbated by the constant demands of professional music careers, with musicians often citing competitive job markets and the continuous need to meet high standards as key stressors.

The impact of MPA was observed in high-pressure performance settings and more routine contexts like rehearsals. Langendörfer et al. [30] explored the differences in anxiety levels across various performance settings and discovered that musicians exhibited lower MPA levels in rehearsals compared to live performances. Their longitudinal study monitored musicians over six months and found that MPA spikes drastically before a public performance, predominantly when the audience consists of peers or judges. In rehearsal settings, however, musicians displayed a higher sense of ease, suggesting that audience pressure plays a pivotal role in exacerbating performance-related anxiety. Yoshie et al. [38] extended these findings by focusing on competitive music environments, where performance evaluation by judges or competition organizers

was a central factor. The researchers monitored the physiological responses of 30 pianists during competitive and non-competitive performances. Their results showed that competitive environments heightened autonomic arousal, increasing stress markers such as elevated heart rate and cortisol levels. Consequently, these physiological changes negatively affected the pianists' technical accuracy and expressive quality, illustrating how competitive performance settings significantly exacerbate MPA symptoms.

A recurring theme across multiple studies was the interplay between psychological and physiological factors contributing to MPA. Williamon et al. [39] focused on the physiological underpinnings of MPA, observing how the complexity of physiological responses changes under stress. Their study monitored the heart rate variability and cortisol levels of 20 orchestral musicians during a high-stakes performance. The researchers found that the musicians' physiological responses became less adaptive during acute stress, resulting in diminished motor coordination and technical proficiency. This finding suggests that heightened physiological stress responses may impair musicians' ability to perform complex tasks under pressure. On the psychological front, Austin's [40] comprehensive review of MPA interventions highlighted that cognitive-behavioral therapy (CBT) and biofeedback techniques were among the most effective interventions in reducing both psychological and physiological symptoms of MPA. Austin's review encompassed 20 randomized control trials, showing that musicians who underwent CBT reported reduced anxiety and displayed more regulated heart rates and lower cortisol levels during performances. Cognitive interventions focused on restructuring performance-related thoughts, such as catastrophizing or fear of failure, significantly reduced anxiety, with musicians reporting greater confidence and enjoyment during live performances. The studies also examined a wide range of coping mechanisms employed by musicians to manage MPA, some of which were more effective than others. Maciente's [41] research on coping strategies among Brazilian orchestra musicians found that emotion-focused coping mechanisms, such as venting and self-blame, were commonly used but often counterproductive. The study, which surveyed 80 orchestra musicians, revealed that while emotion-focused coping temporarily alleviated anxiety, it did not lead to long-term relief. Instead, problem-focused coping mechanisms—such as seeking performance coaching or engaging in mindfulness exercises—were found to be more effective in reducing both immediate and chronic MPA.

Intervention programs also emerged as a critical avenue for managing MPA. The ConfiDance program, studied by Gómez-López and Sánchez-Cabrero [9], demonstrated remarkable success in reducing MPA among musicians. This intervention, which combined physical movement, relaxation techniques, and mental visualization, was tested on 40 musicians over six months. Participants showed significant improvements in anxiety reduction, with over 75% of them reporting sustained decreases in MPA even one year after the program concluded. The program's integration of body awareness and cognitive strategies allowed musicians to manage their anxiety in real time and reframe their approach to performance. Further support for the efficacy of psychological interventions comes from Brooker's [20] study on cognitive hypnotherapy and Eye Movement Desensitization and Reprocessing (EMDR). In this research, 15 professional musicians participated in an intensive 12-week program combining hypnotherapy and EMDR. The results indicated that the participants experienced a marked reduction in MPA, with the effects persisting for up to a year post-intervention. These findings suggest that targeting both cognitive and emotional processing through integrative therapy can be highly effective for musicians struggling with debilitating MPA. Personality traits were also found to influence musicians' experiences with MPA. Langendörfer et al. [42] found that musicians with higher levels of trait anxiety—an enduring personality characteristic—were more likely to experience intense MPA in both rehearsal and performance situations. This study, which used standardized personality assessments, suggested that musicians with perfectionistic tendencies were particularly prone to catastrophic thinking during performances, which in turn elevated their anxiety levels. On the contrary, musicians with more resilient personalities or those who displayed high levels of self-efficacy were better able to cope with performance pressure and reported fewer instances of debilitating MPA.

The results of these studies collectively underscore the multifaceted nature of MPA, with psychological, physiological, and environmental factors all playing a role in its onset and severity. Interventions such as CBT, biofeedback, and structured programs like ConfiDance offer promising avenues for mitigating MPA and improving performance quality. However, further research is still needed to develop tailored interventions that address the unique challenges musicians of varying skill levels and genres face. The importance of personality traits, the influence of performance settings, and the effectiveness of long-term coping mechanisms must be further explored to offer more comprehensive support for musicians at all stages of their careers.

4. Discussion

One of the most significant findings from the reviewed studies is that MPA is a multifaceted condition influenced by a complex interplay of psychological and situational factors. For instance, the work of Mazzon et al. [6] and Loveday et al. [11] underscores that MPA is prevalent and severe among professional and non-professional musicians. These findings align with previous research, such as the work of Kenny [4], who described MPA as a pervasive issue that can affect musicians at any stage in their careers. However, the current studies add a new layer of understanding by demonstrating that professional musicians may experience MPA at even higher rates, likely due to their field's increased pressure and competitive nature. This challenges earlier assumptions that experience alone can mitigate MPA and suggests that long-term exposure to performance demands may exacerbate anxiety over time.

The findings from Mazzon et al. [6] and Yoshie et al. [38] further contribute to this multifaceted view by showing how performance settings can exacerbate or mitigate MPA. For example, competitive settings heighten both psychological stress and physiological arousal, suggesting that specific situational contexts can aggravate anxiety symptoms. This aligns with Papageorgi et al. [43]'s work, highlighting the role of evaluative performance contexts in triggering MPA. However, the

current research expands on this by emphasizing the physiological dimension of MPA, highlighting how heightened arousal can negatively affect technical performance. This insight suggests that MPA interventions must address not only psychological factors but also the physical symptoms of anxiety that impair performance.

The interplay between psychological and physiological responses to MPA was evident in several studies, including those by Williamon et al. [39] and Austin [40]. These studies demonstrated that MPA has both cognitive and somatic components, with anxiety manifesting through distorted thinking patterns (e.g., fear of failure, catastrophic thinking) as well as physical symptoms like increased heart rate and cortisol levels. This dual impact is consistent with Brodsky's [44] findings that MPA affects the mind and body, impairing musicians' confidence and motor control during performances.

However, a novel contribution from the current research emphasizes physiological responses as a key predictor of performance quality. Williamon et al. [39] observed that musicians who exhibited less adaptive physiological responses, such as reduced heart rate variability, tended to perform worse under pressure. This finding suggests that interventions aimed at regulating physiological arousal, such as biofeedback or relaxation techniques, may be critical in reducing the negative impact of music performance anxiety (MPA) on performance. While previous studies have primarily focused on the cognitive and emotional dimensions of MPA, the current research highlights the importance of integrating physiological interventions into treatment protocols.

The results also shed light on the effectiveness of various coping mechanisms and intervention programs for managing MPA. Maciente's [41] study on coping strategies highlights the distinction between emotion-focused and problem-focused coping, with the latter proving more effective in the long term. Emotion-focused coping strategies, such as venting or avoidance, were associated with short-term relief but did not address the root causes of MPA. These findings align with Endler and Parker's [45] research on coping styles, which suggests that problem-focused coping is generally more adaptive in managing stress. Austin's [40] review of cognitive-behavioral therapy (CBT) interventions supports this view, indicating that restructuring negative thought patterns is highly effective in reducing psychological and physiological symptoms of MPA. This confirms earlier research by Clark and Beck [46] on the efficacy of CBT for anxiety disorders in general, but the current findings highlight its specific benefits for musicians. The studies reviewed also demonstrate the potential of combining CBT with other techniques, such as biofeedback and mindfulness exercises, to achieve more comprehensive outcomes. These multi-modal approaches reflect a growing consensus in the field that treating MPA requires addressing both the cognitive and somatic components of anxiety.

Additionally, the success of structured intervention programs such as ConfiDance and integrative therapies like cognitive hypnotherapy and EMDR [47] underscores the need for innovative, holistic approaches to MPA management. These programs not only focus on managing anxiety during performances but also equip musicians with long-term tools to transform their relationship with performance anxiety. The lasting effects reported by participants in these programs suggest that such interventions can lead to sustained improvements in mental well-being and performance quality.

An interesting dimension from the reviewed studies is the role of personality traits in moderating MPA. Langendörfer et al. [42] study found that musicians with high trait anxiety and perfectionistic tendencies were more prone to MPA, which is consistent with the broader literature on anxiety disorders, Eysenck and Derakshan [48]. This raises important questions about the role of personality in both the development of MPA and the effectiveness of interventions. For instance, musicians with higher self-efficacy may benefit more from cognitive-behavioral interventions. At the same time, those with perfectionistic tendencies may require additional therapeutic strategies that focus on self-compassion and acceptance.

While the studies reviewed provide valuable insights into the influence of personality traits on MPA, further research is needed to explore how these traits interact with environmental factors (e.g., performance pressure, social support) to influence anxiety levels. Additionally, future research could investigate whether personality-targeted interventions, such as programs tailored to perfectionists or individuals with high trait anxiety, might yield more effective outcomes. While the studies reviewed provide essential contributions to our understanding of MPA, several limitations must be acknowledged. First, many of the studies relied on self-reported measures of anxiety, which are inherently subjective and may not fully capture the complexity of MPA experiences. Future research should incorporate more objective measures, such as physiological monitoring (e.g., heart rate variability, cortisol levels) and behavioral assessments (e.g., performance evaluations by expert judges), to complement self-reported data. Second, most of the studies reviewed focused primarily on Western classical musicians, which limits the generalizability of the findings to musicians from other genres and cultural contexts. Given that MPA may manifest differently across various musical traditions, future research should explore how factors such as musical genre, cultural background, and performance conventions influence the experience and management of MPA.

Additionally, longitudinal studies are needed to track the development of MPA over time and assess the long-term efficacy of interventions. Finally, while the current research highlights the effectiveness of specific interventions (e.g., CBT, ConfiDance, biofeedback), more research is needed to compare the efficacy of different therapeutic approaches. Randomized controlled trials (RCTs) that directly compare interventions would provide valuable insights into the most effective methods for reducing MPA. Future studies could also explore the potential of emerging technologies, such as virtual reality (VR) and digital biofeedback, in offering accessible and scalable solutions for musicians struggling with performance anxiety.

This research has significant implications for musicians, educators, and mental health professionals. For musicians, understanding the multidimensional nature of MPA can help them take a more proactive approach to managing their anxiety. Musicians can develop more effective coping mechanisms and improve their overall performance quality by incorporating strategies that address psychological and physiological symptoms, such as cognitive restructuring, relaxation techniques, and performance coaching. For educators, the results emphasize the importance of creating supportive learning environments that reduce performance pressure and encourage resilience. Music educators can play a critical role in helping students develop healthy coping strategies and foster a growth mindset, which can mitigate the effects of MPA. Incorporating mental skills

training into music curricula, including mindfulness, stress management, and performance visualization techniques, may be particularly beneficial in reducing anxiety among young musicians. Finally, these findings underscore the value of integrating cognitive-behavioral and somatic-based interventions into treatment plans for therapists working with musicians. By addressing the cognitive distortions that contribute to MPA while also helping musicians regulate their physiological arousal, therapists can offer a more comprehensive approach to anxiety management.

The review highlights the significant prevalence of stress, anxiety, and depression among professional musicians, with multiple studies showing that these mental health challenges are more common in musicians compared to the general population [49]. Music Performance Anxiety (MPA) is particularly prevalent, affecting up to 60% of professional musicians, depending on the genre and performance context [4]. Other contributing factors include financial instability, lack of career security, irregular working hours, and a highly competitive environment. These stressors can negatively impact mental well-being, musicians' performance quality, and career sustainability. Compared to other high-pressure professions, such as athletes and actors, the mental health challenges musicians face are similarly pervasive. For example, athletes and other performing artists also report high levels of performance anxiety, yet the support systems available to these groups tend to be more structured [50]. Unlike athletes, musicians typically lack access to sports psychology services or consistent support from mental health professionals, exacerbating the difficulties they face in managing their mental health [51]. The elevated levels of mental health issues among professional musicians can be attributed to several unique factors in their profession. Performance demands, especially for solo artists or high-profile performers, can create extreme pressure, leading to performance anxiety and burnout [52]. Financial instability is another significant stressor, as many musicians work freelance, where income is often unpredictable, and job security is minimal [53]. Moreover, the lack of health benefits and social support commonly associated with freelance work can further exacerbate these mental health challenges. The structural aspects of the music profession, such as irregular work hours, frequent travel, and the competitive nature of auditions and performances, also contribute to the heightened stress experienced by musicians. Unlike other high-pressure professions, musicians often lack formalized mental health support systems or workplace interventions that could mitigate these stressors [49]. Solo performers face additional challenges, as they may feel isolated without the built-in social support from working within a team or ensemble [51]. Addressing the mental health challenges faced by musicians requires a multi-faceted approach. Practical recommendations include the development of tailored mental health interventions, such as cognitive-behavioral therapy (CBT) and mindfulness-based stress reduction programs, which have shown efficacy in reducing anxiety and depression symptoms in musicians [54]. Musicians can also benefit from peer support programs or mentoring systems that provide emotional support and guidance during stressful career periods. Institutions, such as music schools, orchestras, and management companies, play a critical role in supporting musicians' mental health. These institutions should implement mental health programs that promote awareness, early intervention, and access to mental health professionals. Workshops and resources focused on stress management, coping strategies, and performance psychology can help musicians better manage their mental health [3]. Moreover, there is a need for cultural change within the music industry to de-stigmatize mental health issues and encourage open conversations about psychological well-being. It is also crucial to incorporate mental health education into music training curricula. By teaching musicians to recognize symptoms of mental health conditions early on and equipping them with coping strategies, music schools can help students build resilience and seek help when necessary. This proactive approach could reduce musicians' long-term mental health challenges throughout their careers.

Future research on the mental health of professional musicians should prioritize longitudinal studies to better understand how mental health challenges evolve and to identify potential turning points in musicians' careers where intervention might be most effective. Long-term studies could provide insight into the cumulative impact of stress, anxiety, and depression, as well as the role of resilience and coping mechanisms in musicians' ability to manage these challenges. Moreover, future research should investigate the effectiveness of mental health interventions tailored explicitly to musicians. For example, cognitive-behavioral therapy and mindfulness training have shown promise in other high-pressure professions and could be further evaluated for their applicability to musicians [43]. Finally, there is a need to explore the mental health of underrepresented groups in music, such as freelance musicians, musicians from minority backgrounds, and those in non-classical genres. These groups may face unique challenges that are not adequately addressed in the existing literature. Future studies should capture diverse experiences to inform inclusive and effective mental health support for all musicians.

In conclusion, the findings from the reviewed studies highlight the pervasive and multifaceted nature of MPA, its significant impact on musicians' mental health and performance outcomes, and the efficacy of various coping mechanisms and interventions. While progress has been made in understanding and treating MPA, there is still much to be learned about the long-term effectiveness of different therapeutic approaches, the role of personality traits in moderating anxiety, and the unique challenges faced by musicians from diverse cultural and musical backgrounds. Future research should continue exploring these areas to develop more tailored and effective interventions for musicians struggling with MPA, ultimately helping them achieve personal well-being and professional success.

5. Conclusion

This review has highlighted the significant mental health challenges faced by professional musicians, emphasizing the high prevalence of stress, anxiety, and depression within this population. The demanding nature of the music profession, characterized by performance pressure, irregular schedules, financial instability, and social isolation, contributes to elevated levels of psychological distress, which, if left unaddressed, can severely impact both musicians' creative productivity and career longevity.

Recognizing and addressing these mental health issues is critical to improving musicians' well-being and ensuring long-term career sustainability. Mental health challenges affect musicians' personal lives and directly impact their performance

quality, engagement with music, and physical health. By fostering awareness and providing access to mental health resources, the music industry can help musicians develop coping strategies to manage these stressors more effectively.

There is a pressing need for collaborative efforts within the music industry to address this growing concern, including music institutions, orchestras, managers, and policymakers. These stakeholders must work together to develop comprehensive mental health support systems that include prevention programs, intervention strategies, and a cultural shift toward de-stigmatizing mental health discussions. By taking proactive measures, the industry can play a vital role in promoting a healthier, more sustainable environment for musicians, enabling them to thrive artistically and personally.

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