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Music Performance Anxiety in Classical Musician's Life

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Abstract

Music Performance Anxiety (MPA) is a highly prevalent and incapacitating condition that afflicts many musicians. Despite its widespread impact, MPA has not yet received official medical recognition and classification, resulting in a lack of well-researched and targeted treatment strategies. This thesis seeks to bridge this knowledge gap by thoroughly investigating MPA, comparing its similarities and distinctions with Social Anxiety and other anxiety disorders, and delving into the underlying causes and potential treatment methods. Our findings underscore the distinct nature of MPA, emphasizing its unique characteristics when compared to Social Anxiety Disorder or Performance Anxiety. It is evident that MPA warrants recognition as an independent condition rather than merely a sub-type. Statistics show the high prevalence of severe MPA among professional musicians (15% to 25%), underscoring the pressing need for open discussions and increased awareness of this issue. The central objective of this thesis is to provide a more comprehensive understanding of MPA, ultimately offering support and insights to those who grapple with this condition. The treatment strategies we will discuss include performance preparation, imagery, cognitive behavior therapies, pharmacotherapy and neurolinguistic programming.

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1 Introduction

Classical music is renowned for its timeless beauty and profound expression, yet it comes with unique challenges for those who dedicate their lives to its performance. Music Performance Anxiety (MPA) stands as a significant obstacle in the path of many classical musicians. I am genuinely intrigued by this topic; it holds a deep personal significance to me, primarily because of my profession as a classical musician and also my personal experience of MPA. I have witnessed my colleagues struggling with different levels of anxiety while, in my experience, no one was addressing this issue, especially musicians themselves. It was taboo to talk about it, and even bad luck if someone mentioned it before the performance. I never thought MPA was as widespread as I discovered it to be. For this reason, that makes it very personal and even more important to write about it. Also, I learned a lot by dwelling on this topic and having seen all the research done about MPA and anxiety in general.

In Chapter 2, We will begin by examining the official definitions of Social Anxiety Disorder, as outlined in the DSM-V and ICD 10, analyzing symptoms, noting its resemblances and differences from Music Performance Anxiety, and shedding light on its prevalence among well-known musicians. Additionally, we will introduce you to the influential scientists whose work has significantly contributed to understanding MPA, providing you with valuable insights into the core concepts of this condition.

In Chapter 3, we will start by showing Brodsky's quantitative progressive scale of anxiety severity and examine Kenny's qualitative definition of MPA as focal anxiety, comorbid with other anxiety disorders, and MPA with panic. We will draw connections between MPA with panic and Attachment Theory, highlighting its significance regarding Music Performance Anxiety. The last part of Chapter 3 will be dedicated to Kenny's development of the Kenny Music Performance Anxiety Inventory (KMPAI), acknowledging her influential framework and its implications for understanding and measuring MPA.

Chapter 4 will explore the factors contributing to Music Performance Anxiety (MPA), drawing on Barlow's triple vulnerability model. We will discuss generalized biological vulnerability, encompassing symptoms such as nervousness, tension, and heightened emotionality, which may have genetic origins. Additionally, we will delve into generalized psychological vulnerability triggered by a predominant sense of unpredictability. The chapter will also encompass the necessity of performance preparation and imagery. These elements hold substantial importance for musicians as they enable them to anticipate and manage various facets of their performance, fostering a sense of control. These techniques play a vital role in addressing MPA. In the final segment of this chapter, we will explore a range of Cognitive Behavior Therapies (CBT), precisely behavior therapy, cognitive therapy, and cognitive-behavioral therapy. Furthermore, we will examine the potential use of pharmacotherapy, with a particular focus on beta blockers (propranolol), as a viable option for individuals seeking to overcome MPA. The last part will examine Neurolinguistic Programming and potential implemantation of reframing technique in combating MPA.

2 Understanding MPA

In this chapter, we will start by presenting the official definitions of MPA, analyze them, and see in concrete terms how they apply to a musician's life. Defining MPA is a fundamental starting point for exploring the inner complexities of this challenging condition. We will examine the symptoms MPA causes in the musician and see how this influences their performance.

Secondly, in our search for a more precise definition, we will also focus on the historical aspect and how scientists came to observe a form of anxiety specific to the musician. We will go back in time and highlight how the definition of performance anxiety and, more specifically, MPA has been understood over time and how it has developed over the last 40 years. This historical perspective is a crucial element that can help us understand the progress made in unraveling the mystery of MPA. What was misunderstood or ignored in earlier studies can now be recognized and explored with fresh eyes.

We will examine how the definition of MPA has evolved and why it is essential to define it as precisely as possible. It is essential, especially given its extensiveness- research conducted by Fishbein et al. (1987) and van Kemenade et al. (1995) suggests that the prevalence of severe and persistent Music Performance Anxiety (MPA) is estimated to be between 15% and 25%. According to Kenny (2011): "Accurate naming of a phenomenon is a first and essential step in its analysis and eventual understanding." Only by defining MPA can we begin to understand the underlying causes of the disorder and find specific treatment options. What is more, defining a disorder gives hope to sufferers. Indeed, if even the scientific community, which should know the most about disorders, cannot agree and define them, how can we believe we can overcome them.

2.1 Definitions

The anxiety experienced by musicians on stage is referred to as Music Performance Anxiety (MPA) but is not yet the subject of its medical classification. The description of this disorder appears in the definition of social anxiety disorder (SAD)/social phobia and is known as performance anxiety (PA). Let us analyze two definitions of SAD/social phobia from the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (American Psychiatric Association, 2022), and the International Classification of Diseases, 10th edition (ICD-10) (World Health Organization, 1992), and 11th edition (ICD-11) (World Health Organization, 2023).

These are leading classification systems widely adopted by most countries worldwide to diagnose and categorize mental and physical disorders, respectively. The DSM-V, published by the American Psychiatric Association in 2013 (then revised and corrected annually DSM-V-TR), focuses primarily on mental disorders and provides detailed diagnostic criteria for various psychological and psychiatric conditions. It is primarily used by mental health professionals, such as psychiatrists, psychologists, and counselors, to diagnose and treat mental disorders.

In contrast, ICD-10, revised in 2019, serves as the international standard for coding and classifying health conditions and is used by healthcare providers of various specialties to classify and code all health conditions, including mental disorders, for billing and epidemiological purposes. Both are interesting to present, as DSM-V focuses on the psychological aspect, whereas ICD-10 includes physical symptoms (APA, 2009).

2.1.1 DSM-V Social Anxiety Disorder (Social phobia)

DSM-V criteria for social anxiety disorder include:

A. Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Examples include social interactions (e.g., having a conversation, meeting unfamiliar people), being observed (e.g., eating or drinking), and performing in front of others (e.g., giving a speech).

Note: In children, the anxiety must occur in peer settings and not just during interactions with adults.

B. Individuals fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or offend others).

C. The social situations almost always provoke fear or anxiety.

Note: In children, the fear or anxiety may be expressed by crying, tantrums, freezing, clinging, shrinking, or failing to speak in social situations.

D. The social situations are avoided or endured with intense fear or anxiety.

E. The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.

F. The fear, anxiety, or avoidance is persistent, typically lasting for 6 months or more. G. The fear, anxiety, or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

H. The fear, anxiety, or avoidance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition. I. The fear, anxiety, or avoidance is not better explained by the symptoms of another mental disorder, such as panic disorder, body dysmorphic disorder, or autism spectrum disorder.

J. If another medical condition (e.g., Parkinson's disease, obesity, disfigurement from burns or injury) is present, the fear, anxiety, or avoidance is clearly unrelated or is excessive. Specify if: Performance only: If the fear is restricted to speaking or performing in public.

Specifiers: Individuals with the performance only type of social anxiety disorder have performance fears that are typically most impairing in their professional lives (e.g., musicians, dancers, performers, athletes) or in roles that require regular public speaking. Performance fears may also manifest in work, school, or academic settings in which regular public presentations are required. Individuals with performance only social anxiety disorder do not fear or avoid nonperformance social situations. (American Psychiatric Association, 2022, pp.230-231)

2.1.2 ICD 10 Social Phobia (F.40.1) and ICD 11 Social Anxiety Disorder (6B04)

Fear of scrutiny by other people leading to avoidance of social situations. more pervasive social phobias are usually associated with low self-esteem and fear of criticism. They may present as a complaint of blushing, hand tremor, nausea, or urgency of micturition, the patient sometimes being convinced that one of these secondary manifestations of their anxiety is the primary problem. Symptoms may progress to panic attacks (ICD-10, 2019,

F.40.1).

A. Marked and excessive fear or anxiety that occurs consistently in one or more social situations such as social interactions (e.g., having a conversation), doing something while feeling observed (e.g., eating or drinking in the presence of others), or performing in front of others (e.g., giving a speech).

B. The individual is concerned that he or she will act in a way, or show anxiety symptoms, that will be negatively evaluated by others (i.e., be humiliating, embarrassing, lead to rejection, or be offensive).

C. Relevant social situations are consistently avoided or endured with intense fear or anxiety.

D. The symptoms are not transient; that is, they persist for an extended period of time (e.g., at least several months).

E. The symptoms are not better accounted for by another mental disorder (e.g., Agoraphobia, Body E. Dysmorphic Disorder, Olfactory Reference Disorder). F. The symptoms result in significant distress about experiencing persistent anxiety symptoms or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning. If functioning is maintained, it is only through significant additional effort (WHO, 2023, 6B04).

2.2 How Does a Description of Social Phobia apply to a Musician

This definition sheds light on the symptoms of performance fears. However, in concrete terms, how does it translate into the world of music and the daily life of a classical musician? Here is what 20 years of experience in various formations has taught me.

2.2.1 Social interactions

Sharing the stage with one or more fellow musicians to collectively search for musical ideas is a standard feature of orchestra and chamber music performances. It often implies *"meeting unfamiliar people and having conversations"* (APA, 2022, p.230, Criterion A) to question everyone's ideas, musical intentions, and playing methods. One of the most significant and joyful aspects of music lies in the profound connection between musicians, but it can also bring the *"fear of being negatively evaluated"* (APAP, 2022, p.230, Criterion B). When we question our ability to adjust, struggle to grasp the expectations of our colleagues, and must align our musical approaches with theirs by deviating from our usual style or prior preparation, it can lead to an intimate yet potentially stress-inducing environment.

In the realm of classical music, the essence lies in a collective collaboration between musicians, sharing experiences and knowledge often through participating in various festivals, working with different conductors, and embarking on numerous tours. It involves constantly meeting new people, performing in unfamiliar locations, and coping with unexpected events during performances, such as public coughing, cries of children, or concerts being interrupted by ringing phones. This constant exposure to various interruptions can easily trigger anxiety.

Music is an active and ephemeral art that initially requires practice, routine, and wellstructured, clear ideas. During the performance, however, one must let go of that control, trust that it is "in the fingers, "comprehend and complement one another without words, move as a unified entity, and respond spontaneously with seamless harmony, which creates the magic we all musicians are seeking. However, this form of unfamiliarity can be "endured with intense anxiety" (APA, 2022, p.230, Criterion D).

2.2.2 Being observed and performing in front of others

"If a tree falls in a forest and no one is around to hear it, does it make a sound?" The philosophical thought experiment raises questions about the nature of the perception of reality. For professional classical musicians, particularly those in orchestras, performing alongside fellow musicians in front of an audience is an essential part of their profession. Although we may practice in solitude, our preparation only truly becomes art when someone hears it. Being a musician means subjecting ourselves to the attention and scrutiny of a few to a few thousand people, repeatedly and constantly. We are continually exposed, yet we have no insight into the thoughts of our audience, whether they are appreciating, critiquing, or even disliking the performance. We aim to share something deeply personal, transmitting our energy into the unknown, all without feedback from those for whom we play. This situation *"can lead to fears to (...) be negatively evaluated" (i.e., will be humiliating or embarrassing; will lead to rejection or offend others) (APA, 2022, p.230, Criterion B)*.

Furthermore, it must be accomplished every time, regardless of the current emotional state. Music performance unfolds in the moment, combining the musician's collective expertise and chosen musical composition, trying to captivate the audience and, critically, mental and physical state during the performance. Uniting all these components is not always a straightforward process, but when they do, it evokes a sense of pure enchantment. However, it also means that the musician must deliver a consistent level of performance regardless of the feelings or the events of the day or their personal life. It can lead to *"clinically significant distress or impairment in social, occupational, or other important areas of functioning"* (APA, 2022, p.231, Criterion G), or burnout, or depression.

2.2.3 Low self-esteem and fear of criticism

Growing as a musician demands questioning everything and constantly evaluating our playing. We were taught early on the art of "listening." It is not merely about enjoying the music but also about assessing our performance. This skill is crucial because the time spent with our teachers, who provide feedback, is much less than when we practice alone. To improve, we must recognize our areas for growth. However, there is a delicate balance to maintain, and it can trigger "low self-esteem and fear of criticism" (ICD-10, 2019, F.40.1). This desire to meet high expectations and play flawlessly can create anxiety, leaving one worried about being judged or criticized. Playing in different venues with varying acoustics and lighting can be pretty bewildering. Not knowing how one's music will sound or how others' playing will resonate can add to the nervousness. Performing under radiant spotlights while the audience remains hidden in the shadows can also be a mixed experience. Some find comfort in this arrangement, while others find it nerve-wracking. The uncertainty of the audience's size and intentions can heighten anxiety, making one fear committing errors before an unfamiliar crowd. Dealing with extreme temperatures, whether it is chilly or scorching heat, can disrupt one's physical comfort and become an additional source of stress. This constant questioning brings constant criticism again, which can trigger "low self-esteem and fear of criticism" (ICD-10, 2019, F.40.1). All these elements, coupled with the desire to

deliver an outstanding performance, can brew a perfect storm of performance anxiety. Musicians might experience a whirlwind of nerves, tension, and self-doubt as they navigate these complex situations. Learning to manage and cope with these anxieties becomes a vital part of a performer's journey, as finding ways to harness and control these emotions can lead to more assured and enjoyable performances. However, this tendency can take away the simple joy of immersing oneself in the music.

As we develop as musicians, we are constantly scrutinized, compared to our peers, and critiqued. This immense pressure can lead to significant self-doubt during the early study years. Especially considering that the musical journey for most professional musicians begins at a very early age, often before the age of six and before the start of formal schooling. Generally, parents introduce their young ones to the world of music, igniting their curiosity and wonder. Although some children may develop a genuine passion for an instrument and express a desire to study it, more commonly, parents and teachers enforce practice routines. It is also common for children to experience anxiety during their initial public performances, whether in music school examinations, class concerts, school orchestras, or chamber music recitals. It is safe to say this fear can persist throughout their entire childhood.

2.2.4 Symptoms of Music Performance Anxiety

The symptoms caused by MPA and listed in the ICD10 (ICD-10, 2019), such as tremors or nausea, also have a detrimental effect on a musician's performance. In this research on MPA: *Music performance anxiety: a critical review of etiological aspects, perceived causes, coping strategies and treatment* (Burin & Osório, 2017), these symptoms are described in greater detail and organized into three main groups, namely: physiological, mental and behavioral ones (Rink, 1995). In general, these symptoms are simultaneously experienced (Lehmann et al., 2007).

"Among the physiological symptoms, one can cite the increase in heart rate, heart palpitation, shortness of breath, hyperventilation, dry mouth, sweating, nausea, diarrhea, and dizziness" (Burin & Osório, 2017, p.129). (Cunha, 2013) also reports other physical symptoms, such as headache, digestive problems, excessive sweating, musculoskeletal problems, muscle tension, cold hands, fatigue, and changes in blood pressure, heart rate, and respiratory rate. The mental symptoms are divided into two groups for a better understanding, namely, cognitive and emotional symptoms (Cunha, 2013).

The cognitive symptoms involve difficulty concentrating, high distraction, memoryrelated problems, distorted thoughts, and poor score interpretation, among others (Steptoe, 1989). (Lehmann et al., 2007) they called attention to the importance of cognitive symptoms in maintaining MPA and performance quality. As for the emotional symptoms, it is possible to highlight stress, apprehension, insecurity, dread, and panic (Steptoe, 1989). Concerning behavioral symptoms, one can emphasize agitation, tremors, muscle stiffness, and impairment of performance (i.e., difficulty maintaining body posture and technical failures) (Steptoe, 1989), which are the visible aspects made public to the audience. Therefore, these symptoms are perceived as a sign of anxiety and thus further increase it as a result since the musicians do not feel the need to be evaluated., and this favors the start of a vicious cycle. Moreover, in many cases, the behavioral symptoms impact instrument playing and compromise performance. Before analyzing how these symptoms can affect a musician during performance, I would like to describe the typical learning process one goes through in order to learn a piece of music and be able to perform it. Understanding this mechanism will enable a better assessment of the difficulties encountered by someone suffering from MPA.

When practicing, musicians analyze each physical movement required on their instrument to achieve a precise sound. Depending on the musical piece, each note has its meaning, and together, they create a phrase, giving rise to a musical interpretation. It is a perpetual work in progress, starting with children and adolescents because their bodies constantly evolve. Later, we must also learn to adapt to the daily changes of ordinary life, such as feeling different emotions that might lead to tiredness or tension. Our body has to adapt to the instrument to sound exactly how we intended to, and we learn to be flexible up to a certain point. This process consists of playing in slow motion with awareness, then gradually raising the tempo until one reaches the speed required by the piece. It involves observing the body's natural movements, repeating them, and memorizing the sensations until they become automatic. These movements must be perfectly learned and integrated by the body so that musicians feel in control and free during the performance. One can then observe and concentrate on the room's acoustics and interact with colleagues when playing in a group setting. It would be the ideal situation! A certain amount of flexibility is always necessary, as it is expected to experience different sensations and emotions daily.

Let us return to the abovementioned theory (Burin & Osório, 2017), which organizes these symptoms into three categories. We will now look at how they apply in the musician's everyday life.

2.3 Important Definitions Influencing Research on Performance Anxiety

2.3.1 Paul G. Salmon

It was not until 1994 that performance anxiety was recognized as a psychological disorder (Kenny, 2011), and before 1994, PA was not included in the DSM classification system. One of the first definitions of this subject, and also one of the most cited in various research studies, was developed by Paul G. Salmon: "MPA is the experience of persisting distressful apprehension and/or actual impairment of performance skills in a public context, to a degree unwarranted given the individual's musical aptitude, training, and level of preparation" (Salmon, 1990, p.61).

In this article, Salmon begins by questioning the use of the terms "stage fright" and "performance anxiety" interchangeably in common parlance and without differentiating between the two for any intense and uncontrolled fear that may occur during a stage performance, pointing out also that the stress incurred by the musician may occur both before and during the performance. Hence, the beginning of his definition: "*MPA is the experience of persisting distressful apprehension and/or actual impairment of performance skills in a public context*" (Salmon, 1990, p.61). He also denounces the fact that the medical world associates the musician's degree of preparation for performance as well as technical level, with the intensity of despair and anxiety one might feel during a performance. It applies to any musician, amateur or professional, who may be a victim of MPA "to a degree unwarranted given the individual's musical aptitude, training, and level of preparation" (Salmon, 1990,

p.61). On the contrary, Salmon describes how, in some instances, musicians tend to develop a fearful and compulsive style of playing to avoid making mistakes that could potentially harm their performance. This awareness of the extreme pressure to which they are exposed in their profession, whether physically or psychologically, requires them to adapt, unfortunately, sometimes in counterproductive ways.

2.3.2 Warren Brodsky

In 1996, Brodsky severely criticizes the research community and their lack of progress towards a "clear picture of cause, progression, and prognosis of MPA." He accuses them of being confused and of not having reached a "consensus as to how treatment procedures should best be developed and tested." According to him, despite a great deal of specific research into various aspects of anxiety (cognitive exploration, "the various factors that influence one's level of performance anxiety" or "use clinical vignettes to describe specific training and/or treatment procedures"), they have failed to use their findings to develop a common conceptual understanding. Unfortunately, this has not resulted in any general theory that would allow science to develop ways of alleviating and managing performance anxiety (Brodsky, 1996, pp.89-90).

In this article, Brodsky develops two essential concepts. The first is that musicians may be conditioned by their toxic work environment and develop physical and mental vulnerabilities. He claims that working conditions in orchestras and during live performances subject musicians to enormous stress. It has very harmful consequences from both a physical and psychological point of view. He also denounces the fact that the research community explains musician anxiety by "the prevalence of the above mental health problems of highlighting personality deficiencies and residual inclinations musicians bvor vulnerabilities" (Brodsky, 1996, p.89) instead of looking for answers in the person's everyday life. His second idea is to assess a person's anxiety level according to its severity rather than according to its causes and origins. Citing Salmon's review, which we have discussed above, Brodsky refers to the widespread use of the term "stage fright" for MPA and criticizes the lack of identification between different degrees of anxiety and possible sub-types. He backs up his point by citing three authors who codify the different forms of anxiety according to their severity. For Steptoe (1989), stage fright is severe anxiety, while Clark (1989) and Clark and Agres (1991) use the terms MPA and social phobia with two different levels of severity. Bourne (1990, as cited in (Yapko, 1990) emphasizes the chronic aspect of anxiety compared to the sudden and isolated state of panic or fear.

2.3.3 David H. Barlow

Barlow has developed a sophisticated emotion-based model of the origins and development of anxiety. The research community widely uses this 3-vulnerability theory. It suggests the idea of a cohesive set of three vulnerabilities that can explain the emergence of anxiety or mood disorders; The first trait, known as generalized biological (heritable) vulnerability, is the genetic contribution to the development of anxiety and the resulting adverse effects. The second is a generalized psychological vulnerability: according to Barlow (2000), it is a sense of unpredictability and uncontrollability that lies at the heart of anxiety. The third concerns the life experiences that establish specific psychological vulnerabilities.

Early learning experiences seem, in some cases, to focus anxiety on certain life circumstances.

3 MPA Definition According to Kenny

So far, we have seen that the scientific world officially categorizes MPA as part of social phobia disorder. We have analyzed its definition in the DSM-V and ICD-10 and observed the similarities and differences that can be found in musical performance from a musician's point of view. We will now take a closer look at Kenny's research on this subject and the findings she brought to light. In her attempts to come closer to a more accurate and precise definition, she developed an inventory called the KMPAI, which we will outline and briefly analyze. Finally, we will look closer at the definition of MPA she developed and analyze it in more detail.

3.1 Already Existing Definitions

A few definitions already existed when Kenny became interested in the subject, and she critically examined them (Kenny, 2011) before attempting to arrive at her definition. She wanted it to be consensual to enable better identification of MPA in musicians suffering from anxiety, clear to be able to develop suitable treatments, and precise to target as closely as possible the treatments that will be used on an individual case-by-case basis.

The first definition cited by Kenny (2011) is that of Salmon (1990), which she claims is the most widely used. We have discussed this definition in the previous chapter under the heading "2. Historical perspective" and explained it briefly. Kenny (2011) criticizes the fact that Salmon uses the word "stage fright" to define the anxiety felt by musicians, saying it is expected in other performing arts, such as ballet and theater. For Steptoe (in Juslin & Sloboda, 2001, p.295), the anxiety perceived in the musical performance situation is particular to that art. Stage fright involves discomfort when facing large audiences, while music performance anxiety may manifest in more intimate settings, like auditions (Kenny, 2011). It implies sudden, intense fear, compared, as we will see later, to MPA, which can set in gradually.

Kenny also draws on Brodsky (1996), who lamented that musicians can be conditioned by their toxic work environment and develop physical and mental vulnerabilities. He asserts that working conditions in orchestras and during concerts subject musicians to enormous stress. It has very harmful physical and psychological consequences and heralds the first sub-type of social phobia in Kenny's (2011) definition of focal anxiety, which we will develop in the next chapter. Brodsky (1996) defined a new form of classification based on the intensity and severity of symptoms to dictate the interventions needed to manage the condition. He cites the severity of several stages of anxiety on a progressive scale: career stress, tension in performance, performance anxiety, and stage fright (Brodsky, 1996). In contrast, Kenny's definition is qualitative rather than quantitative: MPA is defined in three sub-types: MPA as focal anxiety, MPA comorbid with other anxiety disorders, and MPA with panic (Kenny, 2011).

3.2 MPA as a Focal Anxiety

According to Kenny (2011), focal anxiety is the first of the three sub-types she includes to define MPA. She points out the tendency of scientific world to consider MPA a focal state when it is relatively mild and when the musician can be considered doing well. However, Kenny points to another aspect of the disorder. According to her, the differences between these sub-types are primarily qualitative. In other words, they differ not in their severity but in the form they take, their symptoms, and their causes. According to Kenny, particularity of focal anxiety is that it is focused on a specific situation: musicians can have a panic attack of extreme severity, but only at times when they are playing a solo.

3.2.1 A qualitative difference

In order to be established as a sub-type of social phobia, this form of anxiety must be qualitatively different from that other disorder. One of the first difficulties Kenny (2011) encounters in her search for a more relevant definition of MPA is the lack of empirical research on the subject. She explains here that she has to refer to the more general literature on anxiety to find "clues."An already familiar and more common area that comes close to MPA is research into public speaking anxiety. Hook and Valentiner (2002) provide evidence that social anxiety is a sub-type with qualitative differences, showing that there is a difference in the way social situations are experienced and felt. Indeed, artists suffering from performance anxiety show almost no fear in other social situations. However, in certain particular situations, they suffer more than those with generalized social phobia disorder. Another study confirms this sub-type (Hofmann et al., 2004), showing that only performance anxiety in public speaking provokes arousal of a physiological nature resembling panic, as opposed to anxiety in more conventional social situations. Bourne (1990) highlights another aspect that differentiates MPA from Social Phobia, and which he believes is of vital importance in treating musicians on as individual a basis as possible. He points out that social phobia is a generalized anxiety disorder that is chronic, whereas the anxiety provoked by MPA is based on fear and panic, which are acute states. He says it is necessary to understand the different intensities of these acute states in order to be able to treat them individually, according to the musician.

In her book, Kenny (2011) attempts to provide a more explicit definition of MPA by complementing and redefining the existing one. Nevertheless, she begins by pointing out that it is expected to feel anxious when performing in front of strangers, as any audience can potentially be hostile to us, and this perception of reality can provoke a certain shyness. She is referring here to the focal anxiety concentrated on specific aspects of the musical performance, which the musician is capable of managing alone. Salmon (1990) reminds us of the importance of understanding the stress experienced by the performer in context, especially in the workplace, and of shifting the focus away from anxiety per se. He believes that a musician's vulnerability can be influenced by various factors, such as cognitive, pedagogical, psycho-dynamic, skill-related, genetic, and biological elements.

Steptoe (1989) was one of the first to highlight the connection between occupational stress and stage fright. He advised clinicians to study how these factors work together to create a complete approach to managing stress for professional musicians. Salmon (1990) concludes that it would be more appropriate to use the term "Performance Anxiety" rather

than stage fright and goes further to suggest that a genuinely appropriate diagnosis would be the "music-performers' stress syndrome (M-PSS)." This new form of diagnosis could include intensity criteria such as intermittent, chronic, acute, limited, or severe. Brodsky (1996) raises the question of the importance of the word used to define MPA but emphasizes the importance of the diagnosis itself in assessing the severity of this condition.

Brodsky (1996) praises the research of Clark (1989), who questions the systematic need for psychiatric treatment of MPA. Clark's view is that anxiety is, in some respects, a universal feeling shared by performers. This anxiety is not necessarily bad, according to what some artists describe, and this can make it tricky to assess the extent of a patient's anxiety, as well as to determine whether they depend on psychiatric intervention. Brodsky points out that this hypothesis calls into question the more popular view of MPA as "pathological, akin to mental health disorders necessitating psychiatric interventions" (Brodsky, 1996, p.90).

3.2.2 Focal anxiety specific to performance situations

The other key question is to understand whether musical performance anxiety can exist as a focal anxiety, i.e., whether there are musicians who suffer from high levels of musical performance anxiety but do not experience other significant anxieties in other areas of their lives. Kenny (2011) cites an interview with a musician who has no difficulty conducting an orchestra and for whom public speaking causes no stress but yet suffers severe anxiety when performing with his instrument. He talks about the force with which stress "hits" him, really "smashes" him. These are very violent terms, and we will see in the third subtype of panic anxiety how specific somatic or dissociative symptoms can indeed intervene, leaving the musician in shock (Wallin, 2007). Another example concerns a violinist who played an audition for a better position in her orchestra. She describes how usually she has no anxiety and how suddenly she was paralyzed and could not understand what was happening. Kenny (2011) concludes that focal anxiety can indeed be mild and that it can affect musicians who manage their fears well. However, from these examples, it is clear that it can also be very severe and far more disabling for the sufferer.

Another example of the qualitative difference between these two disorders comes from Brotons (1994), who explains that the person with social phobia projects a version of himself onto an imaginary audience and feels that everyone is watching and judging him. However, for the artist suffering from focal anxiety, the disturbing element comes from a jury or audience that is not imaginary but real. The sensation of being judged is similar, but Fogle (1982) believes that it is the musician's self-evaluation that causes the fear he feels while playing rather than social evaluation. The qualitative difference with social phobia comes from the fear of not measuring up, which triggers the musician's stress. However, it is not, as described in the DSM-V, the fear of scrutiny that's at stake. Clark and Arkowitz (1975) point out that it is by focusing on possible errors and lack of success, even when there is clear proof of capability, that musicians provoke their fear. Brotons (1994) has also assessed whether there is a difference when the audition or competition takes place with or without a screen. He concludes that playing for a jury without seeing or knowing them makes no difference. Only the fact of being in an evaluation situation affected musicians' symptoms. Auditions are by far the most difficult focal situation for musicians.

3.2.3 The special case of audition

A concrete example of a situation that can trigger anxiety is the audition, as Kenny describes above, thanks to the testimonial she quotes. She is not the only one to talk about this particular situation, which triggers focal anxiety in many musicians. (Robson et al., 1995) Show the extreme over-stimulation and hyper-excitation associated, in this case, with a inadequate capacity to decrease the arousal level. The article by Liden and Gottfries (1974) confirms that MPA is very common among musicians and, at a certain level, seen as a regular experience. Indeed, I have felt stressed before and/or during a performance, yet without suffering any consequences that might be damaging to the quality of performance. However, another risk of the MPA is the inability to win a competition, whether in teaching or orchestral competition. Some musicians who have an incredible level find themselves out of work or forced to remain freelance and in a precarious situation.

I met an oboist who could replace colleagues at the drop of a hat for first oboe positions in Europe's leading orchestras without any doubts, fears, or negative experiences due to stress. However, this same person still had no position in an orchestra because he could not perform normally during an orchestral competition. No matter what piece he was playing or what level of an orchestra he was applying for, he was gripped by a terrible anxiety that handicapped him to the point of not being able to play at his usual level and, therefore, prevented him from winning a position.

Negative self-evaluation, discussed by Fogle (1982) earlier in this chapter, is a significant trigger, particularly in the case of fear of judgment. It is a significant factor to which the musician is exposed when auditioning. Kenny (2011) lists some of these differences experienced by musicians with a high MPA when playing. Here are some that seem relevant in this context: a greater expectation that their performance will be judged negatively by reviewers/audience, greater concern about the consequences of poor performance, increased reactivity to changes in the judges' or audience's reactions. This list of negative self-evaluations shows the extent to which the conditioning in which the musician places himself is a huge handicap. How can someone demonstrate their suitability to a jury and persuade them of their qualifications when they have already convinced themselves that everything will go poorly...

3.3 MPA Comorbidity with Other Anxiety Disorders

Kenny (2011)defines MPA as comorbid with other anxiety disorders, particularly social anxiety. However, first, what is comorbidity?

3.3.1 What is comorbidity

According to the Encyclopedia of Psychotherapy (Hersen & Sledge, 2002), a disorder can be comorbid if it co-occurs with at least one other disorder in the same individual. More specifically, in psychiatry, comorbidity is the association between diagnosable mental health conditions. As Kenny (2011) reiterates, therapists need clear, precise diagnoses to treat patients correctly. It is said that comorbidity is of great help to therapists, as it aids in the classification of disorders that sometimes present identical or similar symptoms. In other circumstances, diagnosing one disorder may uncover the presence of another and, fortunately, diagnose specific symptoms more accurately (Hersen & Sledge, 2002). Let us see how Kenny (2011) develops this concept in her book, detailing some of the research she cites. Nevertheless, first, she points out that since MPA does not yet have a precise, recognized, and classified diagnosis in the DSM-V, there has yet to be any systematic research into comorbidity with MPA at its core. Those that do exist focus on social anxiety in comorbidity with other disorders, notably MPA. It is the angle taken here.



Figure 1: Conditions that commonly overlap with social anxiety disorder (social phobia) and might be considered in the differential diagnosis of an individual with social anxiety symptoms (Stein & Stein, 2008, p.1117)

To clarify the concept of comorbidity, let us begin by presenting a diagram by Stein and Stein (2008) that expresses this principle pictorially between social phobia disorder and major depression. In a clinical setting, diagnosing social anxiety disorder becomes relatively straightforward when there is a strong suspicion. Nonetheless, distinguishing it from various other disorders can pose a more complex diagnostic challenge. As cited in the Encyclopedia of Psychotherapy (Hersen & Sledge, 2002) definition above, Stein and Stein highlight the challenge of diagnosing a disorder that is comorbid with another with similar or identical symptoms. Here, for example, the symptoms of panic disorder or agoraphobia, social anxiety disorder, obsessive-compulsive disorder, and body dysmorphic disorder are common to both comorbid disorders.

3.3.2 Commonalities between social phobia disorder and MPA

Kenny (2011) understands the connections between social phobia disorder and Music Performance Anxiety (MPA) disorder as comorbid, i.e., having similar or identical symptoms but with two quite distinct diagnoses. Research shown below shows that people with social phobia are more vulnerable to suffering from MPA, and conversely, those with MPA disorder may develop social phobia as a result. Hamann (1982) describes how music students with high levels of anxiety suffer more from MPA than those without anxiety. The same principle applies to solo performances since students with low levels of anxiety will also have lower MPA, whereas, in group performance rehearsals, they all had equal stress levels. Similarly, Cox and Kenardy (1993) suggest that the numerous exposures musicians have to juries or audiences in evaluation situations during their studies could make them vulnerable to developing social phobia. If these two disorders are comorbid, this will have consequences for treatment, which will have to address both forms of anxiety. Doctor and Kahn (1989) indicate that social phobia and performance anxiety are similar, with both involving physiological, behavioral, and cognitive responses and treated by similar psychological methods or drug therapies (Barlow, 1987; Turner et al., 1989). Furthermore, musicians with stage fright commonly experience social fears related to appearing in public, especially the fear of crowds and social situations (Steptoe & Fidler, 1987).

In previous articles (Cox & Kenardy, 1993), we have seen evidence that some musicians suffering from MPA and social phobia may have developed fears and anxieties in social situations. I want to expand on this subject, as there are many aspects of our profession that influence moments in life that do not seem connected to the world of music, and yet these ordinary acts of life are experienced differently because of our profession. I want to draw on my own life experience or on situations I have personally observed. Some musicians cannot dress in black because the evocation of concert attire is unbearable, and I had a student who experienced such difficult and painful situations in concert that she would have anxiety attacks if exposed to strong, intense lights similar to those produced by the spotlights used to light up the stage during concerts. As we have seen in Stein and Stein's diagram, quite distinct comorbid disorders can nevertheless have symptoms in common. The first of these, highlighted by various studies, is avoidance behavior, which consists of avoiding certain social situations so as not to be judged by those around them.

Stein and Stein (2008) demonstrate that when a person suffers from Social Phobia and is driven by low self-esteem and intense self-criticism (Cox et al., 2004), they may avoid these same social situations so as not to be judged unsympathetic, stupid, or boring. Similarly, Clark and Agras (1991) found that performance anxiety has terrible consequences for musicians and that most of those tested in their studies had already developed avoidance behaviors. Some had stopped performing, and from these observations, they concluded that MPA could lead to genuine professional incapacity. Kenny (2011) concludes that, just as in social phobia, the person will try to avoid having to do certain things or avoid certain situations. Unfortunately, in MPA, musicians are more likely to have to endure the very situation that threatens them and provokes anxiety. She explains that the difference between these disorders is not only quantitative, i.e., there is a progression in severity between them, but that they are also qualitatively different and require different treatments.

3.3.3 Distinct disorders with two distinct diagnosis

At first glance, some attitudes may seem similar to MPA and Social Phobia. For example, the DSM-V describes a fear of scrutiny, which can easily be understood in the case of MPA since the musician performs mainly in front of an audience or jury who will finally observe them, and as we have mentioned several times, probably also judge them. The research that follows highlights a point that I find very interesting. Fogle (1982) proposes that performance anxiety and social evaluation may not necessarily have the same meaning and musicians reporting anxiety they feel on stage can also be felt in group or solo situations. Likewise, fear can grip them in practice situations or when playing for people in their private lives. It indicates that the MPA is dissociated from the performance, with an unknown audience or jury evaluating or judging the musician. However, if we consider this finding, it is fair to assume that the trigger for this anxiety is also dissociated from the performance itself. Fogle (1982) adds that it is self-evaluation, rather than social evaluation, that triggers the musician's fear of playing. Musicians create their own fear by fixating on possible errors and failures, even in the presence of clear evidence of their competence (Clark & Arkowitz, 1975). Similarly, Gorges et al. (2007) point out that although the symptoms are similar, a profound difference between the two disorders is that the people suffering from MPA are victims and fear their self-judgment, whereas the person who has social phobia is afraid of the outside gaze (Abbott & Rapee, 2004; Stoeber & Eismann, 2007). Another significant piece of information highlighted by Hofmann et al.(1997) is that the tasks feared in social phobia are everyday ones, requiring no particular physical or cognitive aptitude. It is the gaze of others that triggers stress (eating in public, signing a document in front of someone).

Musical and sporting performance, on the other hand, require exact physical and mental skills (Kenny & Osborne, 2006), which explains why performance anxiety is more focused on failure when it comes to task mastery, i.e., the ability to master one's instrument (Wilson, 2002). Earlier, we quoted Hamann's (1982) description that music students with high levels of anxiety suffer more from MPA than those without anxiety, and vice versa. Cox and Kenardy (1993), however, suggest that the soloist student who experiences very high anxiety during solos is accumulating stress from both anxieties. The social aspect of the situation, due to the audience's presence, adds to the MPA. Similarly, when students practice in front of familiar people or play in a group, the social phobia aspect does not influence the stress felt by the student. Clark and Agras (1991) reinforce the idea that the two disorders differ in diagnosis. According to their findings, Music Performance Anxiety (MPA) could be seen as a variation of social phobia, and they have discovered modest yet statistically meaningful links between anxiety experienced during musical performances and anxiety in other social contexts (Steptoe & Fidler, 1987).

3.3.4 "Specific" sub-type of Social Phobia comorbidity with MPA

According to Kenny (2011), the fact that MPA is not clearly defined is a hindrance to being able to identify people who need treatment. She goes further, criticizing an overly global approach to this pathology and denouncing the lack of criteria for distinguishing MPA from other anxiety disorders, which hinders the development of precise, adapted treatments. In her understanding of this disorder, Kenny makes the connection between performance anxiety and the social phobia sub-type, specific phobia. While she recognizes the many similarities between these two disorders, she also identifies significant differences that make them distinct. Kenny's definition of MPA (2009), as cited in (P. Juslin & Sloboda, 1993) highlights that only specific phobia is comorbid with musical performance anxiety. She bases her definition on that of Barlow (2002), who divides social phobia into three distinct subtypes: the "generalized" sub-type when an individual fears a large proportion of social situations; "specific" when fears mainly concern performance or situations that take place in public and he cites a third non-generalized (Heimberg et al., 1993) for those who function well most of the time in society but with exceptions. Another conclusion concerning this article by Clark and Agras (1991) confirms that musicians suffering from MPA do not have the generalized type of social phobia. It is in line with Kenny's concept of MPA as being comorbid with only one sub-type of Social Phobia and not with Social Phobia as a whole.

Eng et al. (2000) also found three groups of social phobics. One group suffered from generalized pervasive social anxiety, another from specific phobia concerning only public speaking, and another group fell somewhere in between. This theory was confirmed by Furmark et al. (2000), who presented strong evidence for a tripartite model of social anxiety consisting of generalized, non-generalized, and specific social anxiety. These studies indicate that performance anxiety may constitute a specific sub-type of social anxiety. As in previous studies, no heritability was found for the specific sub-type concerning public speaking. It is a major difference from other more common subtypes, which generally have a strong genetic factor. It suggests that the specific anxiety is determined more by the life context to which the performer is exposed. Based on these studies, Kenny (2011) cautiously extrapolates that the same specific sub-type that concerns public speaking may apply to musical performance anxiety.

An important part of Kenny's work is to find the right terms to define diagnoses best so that targeted treatments can then be applied. In addition to identifying the specific sub-type of social phobia comorbid with MPA, Kenny highlights the quantitative parameter of MPA.

In his approach to understanding whether musical performance anxiety represents a form of social phobia, Kenny cites Barlow (2002) and Wilson (2002), who argue that both conditions center on the fear of negative evaluation. For me, this is an example of comorbidity, as the trigger for these disorders would be the musicians' negative evaluation of their playing, yet with two different diagnoses and a juxtaposition of the effects caused that increase the person's vulnerability to both conditions. In comparison, Kenny (2011) also cites researchers who argue that PA is one of the symptoms of social phobia (Hook & Valentiner, 2002; Turner et al., 2003). She argues that MPA is a specific sub-type of social phobia as a focal anxiety disorder if it only manifests itself in specific, threatening situations, such as when the musician is required to perform while being evaluated by a jury (audition, competition). So, an important part of Kenny's work is to find the right terms to define diagnoses best so that targeted treatments can then be applied. In addition to identifying the specific sub-type of social phobia comorbid with MPA, Kenny (2011) highlights the quantitative parameter of MPA and the different degrees of severity.

Brodsky (1996) shows that MPA and Social Phobia must be understood as two different functioning disorders. However, drawing inspiration from the broader field of psychology, which distinguishes between tension, anxiety, and fear, a few clinicians (Evans, 1994; Lehrer, 1987) have delineated the existence of distinct variations of music performance anxiety (MPA) and proposed several subcategories of stage fright. Consequently, if clinical research studies have effectively assessed different facets of anxiety, encompassing cognitive and somatic dimensions, it has been suggested that it could be advantageous to align treatment approaches with the predominant form of anxiety observed. In this context, performing arts medicine could benefit from identifying various subtypes of stage fright that are most effectively addressed by specific interventions. He also criticizes the researchers "for relating to the same symptomatology, regardless of semantic differences between these labels (Brodsky, 1996). He cites three authors who have approached this disorder from a severity perspective and sought to codify and rename MPA according to its severity. Steptoe (1991) uses the term stage fright to describe the most severe level of anxiety in musicians. In parallel, researchers Clark (1989) and Clark and Agras (1991) speculate on the relationship between social phobia and MPA and define two severities of musical performance anxiety disorder.

3.4 MPA with Panic

Kenny (2011) defines panic anxiety as the most severe form of MPA. She points out, however, that dividing MPA into three sub-types still requires further empirical research and is, at this stage, only a guess. However, she insists that, in her opinion, the group of individuals suffering from panic attacks respond to the most extreme form of MPA, which is nevertheless qualitatively different from the other two sub-types, namely focal anxiety and anxiety comorbid with specific phobia. She describes this anxiety as so profound that it is for the musician "a defining characteristic of their sense of self" (p.233). To understand this malady, we need to go back to the discovery of Kohut (1971), one of the first theorists of self-psychology. He studied mother-baby relationships and concluded certain internal developments in infants that would later have far-reaching consequences for their adult lives. We will look closer at the causes and treatments of MPA in the next chapter, but let us look broadly at how young children can develop particular vulnerabilities.

3.4.1 Forms of attachment

A lack of empathy on the part of an infant's mother can prevent her from responding to her baby's needs. It can have terrible repercussions for the child, leading to profound narcissistic vulnerability (Kohut, 1971). Babies build their mental representations of themselves very early, thanks to contact with their mothers. If she is physically or emotionally unavailable, they may grow up with an extreme sense of insecurity. Dealing with confrontation or recovering from injury will be difficult in adult life, with catastrophic consequences "to their own perceived or actual failures."

Wallin (2007) separates the "large-T trauma" that someone may, unfortunately, experience (natural disasters, sexual abuse, war, or mental illness...) from the "small-t trauma." These are also called "cumulative trauma" and "relational trauma" (Kenny, 2011, pp.234-235) and are built on the repetition of disruptive events, often invisible from the outside, that degrade the relationship between parent and child. According to Wallin (2007), in such situations, the baby seeks to compensate by adapting his or her reactions through known forms of attachment.

Ainsworth (1970) distinguishes three primary forms of attachment: "Secure attachment," where the mother maintains a healthy relationship with the baby, who develops a sense of security. The child learns to manage his fears with confidence. "Avoidant

attachment" when the child understands that he cannot count on the help of his failing mother. Calm-looking infants have "greatly elevated heart rates and circulating cortisol (stress hormone)" and "Ambivalent attachment" when the baby's mother does not give her attention because of preoccupation with her traumas. These children feel terrible distress when they leave her (Kenny, 2011, p.236).

3.4.2 Different forms of attachment and different consequences for the child

Avoidant infants tend to minimize their emotional feelings and learn early on that they must try to live without feeling their needs, even if these needs do exist. The strategies they develop, which seem to enable them to establish a comforting emotional distance, contrast sharply with the physiological arousal that emerges and betrays their stress (Spangler & Grossmann, 1993). "Ambivalent infants" (Kenny, 2011, p.236), on the other hand, use strategies of hyper-activating to attract the parents' attention. In the face of trauma, the child is in a state of "fear, emotional withdrawal, and dissociation."

These often unidentified and unresolved symptoms are, according to Wallin (2007), retained somatically, within the physical body. Adults who have experienced different forms of attachment at an early age develop specific reaction patterns in line with the form of attachment they have experienced (Kenny, 2011). Some experience dissociation as a defense mechanism and risk a sudden shift from a state they thought they could handle to an overwhelming state of mind. According to Schore (2003) it "can undermine the development of cortical structures associated with both affect regulation and mentalization. The result is chronic hyper-arousal, such as that seen in severe anxiety, including severe music performance anxiety, which cannot be modulated by mentalizing or seeking comfort from an attachment figure" (Kenny, 2011). The person experiences this situation as a total lack of control over herself and her emotions. As a child, she has been unable to learn from her parent the mental representations indispensable for understanding her mental states, which implies an absence of a sense of Self. It generates significant bewilderment and a form of emotional dysregulation similar to what musicians with overwhelming music performance anxiety may experience (Kenny, 2011). This essential process, called mentalization (Fonagy et al., 2002), enables children to learn to regulate their emotions. (Bateman & Fonagy, 2004) explains that this learning process in babies takes place through mimicry, thanks to the attachment relationship with their mother (or closest relative). He adds that another fascinating impact of the ability to mentalize is that through internalizing the perceptions others hold about themselves, the infant grasps that their mind doesn't reflect the world as it is, but rather interprets the world.

As Wallin (2007) says above, emotions are first experienced through the body, and unidentified, unresolved symptoms are trapped under the guise of somatization. Several additional brain structures play a role in overseeing the brain's response to perceived threats. (Kenny, 2011; LeDoux, 1996). Wallin (2007) argues that these brain structures can be compromised when the child has experienced an attachment-related trauma, and the psychological response to an actual, physical situation perceived as dangerous comes in the form of feeling of immobility or sensation to be dead dissociation. The absence of mentalization prevents the person from fully understanding the emotions that are felt as somatic sensations, and physical symptoms such as trembling, sweating, heartbeat, and muscle tension are never really understood (Bateman & Fonagy, 2004).

3.4.3 Panic in the musician

Now that we have shed some light on how this trauma works and its physical and psychological consequences let us take a closer look at the effects on the individual and his or her musical experiences. Unfortunately, the performance situation can lead to the reliving of specific situations that are triggers for the musician. Constant criticism, devaluing forms of judgment, competitiveness, and comparison are all part of a musician's life, but for someone who has developed particular vulnerabilities, it can feel like aggression, and the performance situation is experienced as truly dangerous for a person whose trauma has made him or her psychologically vulnerable.

As she points out, the music world is not always about enjoying and recieving. This encounter connects with the profound anxiety and feelings of inadequacy that are at the core of individuals whose emotional deprivations were early, prolonged, and unmitigated. Kenny (2011) cites an interview with singer Donny Osmond (D. Osmond, personal communication, 1999; Osmond & Romanoowski, 1999) in which he talks about his stress problems and the symptoms he experiences. According to Kenny (2011), what he describes is panic, which she defines as the most intense and severe form of MPA. She analyzes the reactions expressed by the singer, showing the somatic aspect of his paralysis and his fear of fainting, as well as the emotional and cognitive combination of his fear of making a fool of himself. Here are some of the symptoms that musicians with attachment problems may experience:

3.4.4 False-self formation

Many researchers (Bowlby, 1988; Sroufe & Waters, 1977) validate the idea that the construction of the Self involves the exchange of language and social interaction between the child and the important people around them as they grow (Case, 1991). As we saw earlier, mentalization serves to identify, understand and name emotions from an early age. Similarly, Harter (1997) emphasizes the importance of language and the difference between the experience and how it is verbalized. It is by being named that a reality consciously exists for the person. In the same way, when a child is very young, and before he can name the events of his life, this role is encumbered by his parents. Their story, their vision of the child's autobiography, enables the child to construct his first reality, his Self. However, if this story is wrong, a false interpretation of the experience compare to the true version of it, takes its place, leading the person to create a "false self" (Harter, 1997). The problem is the risk of alienation for the child, who is reduced to building a pseudo-vision of himself that does not exist.

3.4.5 Pathological accommodation

Now that we have traced how this "false self" is created let us look at pathological accommodation. It occurs if the child grows up with role-reversing parents and finds himself in the position of providing care (Brandchaft, 2007). As we saw earlier, in a secure attachment model, the parent should be attentive to the infant's needs so that he develops a sense of security. On the other hand, the child has to adapt and be attentive to the parent's needs; this is

to the detriment of its psychological distinction. Early, repeated life experiences serve as a framework for developing the child's ego, creating the false belief that the child and the parent should have reversed roles. I return briefly to Wallin's (2007) definition of cumulative trauma and the repetition of disturbances invisible to the experiential world, described here very precisely. Just as the avoidant infant unconsciously implements a strategy to minimize the feeling of his real needs, here the child adapts and implements what is known as a pathological accommodation process (Brandchaft, 2007) to no longer feel the intolerable pain of not being able to be who he is and to avoid the existential anxieties this provokes in him. In the musician, for example, (Brandchaft, 2007; Kohut, 1971; D. Winnicott, 1990) have theorized that this "false self" may be created by intrusive parents, whose unconditional love the child seeks to receive by trying to be perfect and match the demands of standards that have been set by the progenitors (Deci & Ryan, 1995). Kenny (2011) cites the example of a family in which all the children were musicians all talented friends who were also all victims of severe MPA. It would seem that becoming a musician was a way for them to receive parental love, which would correspond in every way to the situations we describe here. The pathological accommodation here consists of all the children being narcissistic extensions of their parents.

3.4.6 The feeling of being a fraud

This feeling is an extension of the two previous pathologies we have studied. Kenny describes this feeling, which is very common among musicians, as a form of response to compensate for narcissistic malaise. It consists of constantly striving to improve oneself while at the same time feeling useless (Harter, 1997; Kohut, 1984; D. Winnicott, 1990; D. W. Winnicott & Goldman, 1993). McWilliams (1994) refers to a particular form of perfectionism whose motivation is based on a feeling and which corresponds to the definitions we have just outlined. Here, it is the terror of being judged and found useless that drives the person to improve.

Kenny (2011) describes from the testimonial we quoted earlier that the children in this family, who all suffer from severe forms of MPA, had parents who were not very good listeners and were very strict. According to Kaplan (2009), children whom their parents constantly criticize may develop the impression that no matter how hard they try, they will not reach the level needed to succeed because they are not good enough or that the only way to get there is to follow their parents' wishes to the letter instead of following their own will. Conversely, Kaplan (2009) describes how an educational system that lets children think they will be able to do anything by constantly admiring them also makes them feel like a fraud. It is out of touch with reality and prevents the child from building realistic self-esteem.

3.4.7 Lack of play

Kenny explains in his chapter on panic that a parent who plays with his child helps him to develop his ability to mentalize. Bateman and Fonagy (2004) argue that, on the contrary, not playing with one's child can lead to the development of critical personality pathologies if this occurs in addition to a disturbed form of attachment. Kenny mentions that if the parent makes the child understand at a very early age that he must play an instrument instead of having fun, this could hinder the development of his ego and prevent him from developing his identity. Brandchaft (2007) also believes that the parent who obsessively cares for the child and is omnibulated by so-called imperfections and shortcomings runs the risk of drawing the child into a system of rumination and negative self-evaluation that is incredibly stifling for him. Moreover, there is a risk that the child will continue to inflict it on him/herself alone and repeat the cycle in the future.

3.4.8 Mentalization failure and painful somatic responses to performance anxiety

We have already seen how the infant's initial experiences are crucial to developing his or her sense of Self (Kohut, 1971). The baby's first Self experiences are bodily, such as hunger and satiety, hot and cold. According to Wallin (2007), in the event of abuse, specific bio-behavioral reactions are automatically triggered (anger provokes confrontation or, on the contrary, repression, fear triggers flight or paralysis, and helplessness triggers physical and emotional collapse).

As we saw earlier, when a person experiences stress that feel unacceptable for the mind and the intensity becomes intolerable, a system of denial, somatization, or dissociation is set in motion (Wallin, 2007). As well as having physiological consequences on the body, such as hyper-arousal and hormonal stress, Kenny (2011) explains that this reaction can cause muscular tension in the skeletal muscles, while others experience anxiety in the smooth muscles (nausea, cramps, abdominal pain). Finally, this helplessness can trigger the musician's physical and emotional collapse.

3.5 Kenny Music Performance Anxiety Inventory (KMPAI)

The KMPAI is a crucial tool, regularly used to identify the anxieties that musicians may feel. Let us see what Kenny has to say about his inventory, and then I will briefly detail and analyze some of the questions it is made up of.

3.5.1 What led Kenny to develop KMPAI

Kenny developed the KMPAI to assess the "hypothetical, theoretical constructs underlying the various clinical presentations of this anxiety" (2023, p.1). It is an inventory, enabling the person to self-assess their performance-related stress. She began work on her definition of MPA, which was presented in 2009 and discussed in this chapter, then developed the Kenny Music Performance Anxiety Inventory (KMPAI) to assess the potential presence of MPA in musicians. A first version with 40 questions was published in 2009, followed by a second version in 2011, with 26 questions. To set up this inventory, Kenny (2023) used numerous established clinical screening tests such as the State-Trait Anxiety Inventory (STAI- T) (Spielberger, 1983), the PRIME-MD (Spitzer et al., 1999), the Social Phobia Inventory (SPIN) (Connor et al., 2000) all validated in clinical populations to define a system of valid scores. Kenny (2023) based it on Barlow's (2000) theoretical concepts of "anxietyevocation of anxious propositions" (absence of control, unpredictable situations), "attentional shift",(self-evaluation, fear of being evaluated negatively), "physiological arousal, and memory" (2023, p.2). It uses the 7-point Lickert scale, with higher scores indicating more severe MPA and "psychological distress generally" (including depression). The questionnaire has apparently been translated into at least 22 languages, has been the subject of over 400 studies, and has even been adapted for different research purposes, such as the Polish version adapted for performers in fields other than music (Kantor-Martynuska & Kenny, 2018). Some studies used the 26-question version of the KMPAI, others the 40-question version, which retains the same structure while supplementing it with 14 additional questions. "Biological vulnerability predispositions (e.g., Behavioral inhibition, autonomic reactivity) and early contextual/parental vulnerabilities" (2023, p.2)

3.5.2 Understanding KMPAI

Kenny (2023) explains that in the 26-item version, she specifically chose these questions to assess each of the three dimensions of Barlow's (2000; 2004) emotion-based theory (Kenny, 2009). Here are the three dimensions of Barlow's theory, along with the questions Kenny selected, listed by theme (See Appendix):

"Biological vulnerability predispositions (e.g., Behavioral inhibition, autonomic reactivity) and early contextual/parental vulnerabilities" (Kenny, 2023, p.2): These questions are based on the biological aspect of the symptoms experienced by the person taking the test, both in terms of genetic predispositions and developments following abuse. Item 5 focuses on the heredity of symptoms. MPA has not been proven to be hereditary, unlike social phobia (Furmark et al., 2000). Items 9 and 19 refer to forms of attachment experienced in childhood (Kohut, 1971) and to the lack of control over one's emotions that an individual may feel due to, for example, "false self" (Brandchaft, 2007). Items 21 and 24 refer to excessive negative self-evaluation (Kenny, 2011) which prevents the musician from basing his self-criticism on reality and not on his fears.

"Generalized psychological vulnerability": These questions are based on the psychological aspect of the symptoms experienced by the person taking the test. Items 1 and 3 are again about the development of false-self in childhood. The resulting lack of control over feelings (Brandchaft, 2007) and items 2 and 8 are about attachment forms that prevent trust in others, while item 23 refers to a person who has grown up with a secure form of attachment (Ainsworth & Bell, 1970). Items 6 and 10, 11, 15, and 18 refer to negative self-evaluation, which prevents the musician from self-criticizing in real, not fantasized, situations (Kenny, 2011), unlike Item 17, which shows the musician's capacity for constructive self-evaluation. In order, Item 16 evokes somatic symptoms that result from oppressed emotions because they cause intolerable pain (Wallin, 2007).

"Specific triggering factors causing subsequent concerns about performance" (2023, p.3): Again, these questions deal with the same topics. Items 7, 14, 20, 25, and 26 concern negative self-evaluation, which has a detrimental influence on the musician's playing (Kenny, 2011), items 12 and 22 on somatization (Wallin, 2007), and item 13 on forms of attachment (Ainsworth & Bell, 1970). The 40-item version retains this structure while enhancing some dimensions by adding 14 items.

3.6 Analysis of Kenny's Definition of MPA

3.6.1 Kenny's definition of MPA

Music performance anxiety is the experience of marked and persistent anxious apprehension related to musical performance that has arisen through underlying biological and/or psychological vulnerabilities and/or specific anxiety-conditioning experiences. It is manifested through combinations of affective, cognitive, somatic, and behavioral symptoms. It may occur in various performance settings but is usually more severe in settings involving high ego investment, evaluative threat (audience), and fear of failure. It may be focal (i.e., focused only on music performance) or occur comorbidity with other anxiety disorders, in particular social phobia. It affects musicians across the lifespan and is at least partially independent of years of training, practice, and level of musical accomplishment. It may or may not impair the quality of the musical performance (Kenny, 2009).

3.6.2 Analysis of Kenny's definition of MPA

We can see here that she is referring to many of the points we have developed throughout these last two chapters. Here is a closer look at her definition (Kenny, 2009)

"Music performance anxiety is the experience of marked and persistent anxious apprehension related to musical performance."As its name suggests, MPA is an anxiety disorder that, similar to PA described in the DSM-V, concerns performance, but in the context of the musical world, in musicians who perform. "It's a disorder that has arisen through underlying biological and/or psychological vulnerabilities and/or specific anxiety-conditioning experiences. It is manifested through combinations of affective, cognitive, somatic, and behavioral symptoms" (Kenny, 2011). She uses Barlow's triple vulnerability schema. It is a subject we will develop in greater detail in the next chapter. "It may occur in a range of performance settings but is usually more severe in settings involving high ego investment" (Kenny, 2011). Hamann, for example, studied the different reactions of musicians depending on their degree of exposure and whether or not they were playing a solo. There is evidence that the stress incurred by the musician evolves according to his or her place in the orchestra, whether playing in a group or auditioning (Robson et al., 1995).

Musician's experience of MPA is even more severe when there is an "evaluative threat (audience), and fear of failure" (Kenny, 2009, p.433). In evaluative situations such as auditioning, the musician may experience anxiety that can, at its most severe, be uncontrollable. Robson et al.(1995) Illustrate the intense over-stimulation and excessive excitement that occur in cases where there is not enough capacity to reduce heightened arousal. Another aspect is the musician's negative self-evaluation of himself, which has been shown to trigger fears such as the fear of being judged by the audience (Fogle, 1982). "It may be focal (i.e., focused only on music performance)." Valentiner (2002) notes that performers suffering from performance anxiety show almost no fear in other social situations, suggesting that this anxiety is indeed focused solely on musical performance, and the musician suffering from it may have no other anxiety.

Cox and Kenardy (1993) suggest that musicians' frequent exposure to evaluation and judgment makes them vulnerable to developing social phobia. Barlow (2002) and Wilson (2002) argue that MPA and Social Phobia have in common in that they both center on the fear

of negative evaluation. Here, a wealth of research is cited for a better understanding of MPA. It is a disorder that, in some cases, can develop very early, from the beginning of childhood, with forms of attachment (Kohut, 1971). It may concern students (Hamann, 1982) whose constant exposure to judgment may cause them to suffer from anxiety during their studies (W. J. Cox & Kenardy, 1993) or even develop MPA during this period. Finally, it can be found in adults, for example, in hearing situations (Robson et al., 1995). It is, to some extent, unrelated to the years of training, practice, and the level of musical achievement. Brodsky (1996) acknowledges the profession's inherent everyday healthy aspects of stress and anxiety. On the other hand, Clark and Agras (1991) observe that the severity of MPA can be such that some musicians have stopped performing. They concluded that MPA can lead to real professional incapacity.

4 Causes and Treatments of MPA

For musicians, the causes of their MPA are only sometimes clear. They can be very complex and might need outside input from professionals who dedicated their lives to understanding this topic to grasp the true nature of their debilitating condition. Because of its complexity and numerous possibilities of origin of their MPA, having a framework is crucial for a start. Barlow's triple vulnerability model explains it very well. The objective of this chapter is to illuminate some of the possible causes of MPA, open the door for further personal investigations, and intrigue musicians to get to know the true nature of their disorder. We chose to look at some of the treatments available, but first, we will explain what performance preparation and imagery are and why they are valuable tools. These are strategies musicians can implement in the long term and throughout their lives. For musicians experiencing a severe form of MPA, different Cognitive behavioral therapies, which work on changing actions and thoughts in connection with future performance experiences, could bring better results. Later in this chapter, we will see why, for some specific occasions, an intervention of medications like beta blockers (propranolol) is the right way to deal with symptoms of MPA and could spark hope and optimism about the future.

4.1 Studying the Causes of MPA Based on Barlow's Triple Vulnerability Model

In his research on anxiety over the last 35 years, Barlow (1988, 2000, 2002) has developed a definition based on the interactions of a triple vulnerability. This combination of different vulnerabilities could favor the development of anxiety, anxiety disorders, and related emotional disorders. The first vulnerability highlighted by Barlow is generalized biological vulnerability, based on the genetic contributions that may underlie the development of anxiety.

4.1.1 Generalized biological vulnerability

According to Barlow (2002), evidence confirms that symptoms such as nervousness, tension, and high emotionality may be genetic. Firstly, a study by Clark et al. (1994) found that neuroticism is strongly influenced by the genes and established that neuroticism and negative affectivity are linked to anxiety. It highlights the possible genetic aspect of MPA, as, for example, Steptoe and Fidler (1987) studied three groups of musicians of different levels

and ages. In each group, however, they found a correlation between perceived MPA and the presence of neuroticism (Brown et al., 1998; L. A. Clark et al., 1994; Trull & Sher, 1994; Zinbarg & Barlow, 1996).

Studies show that the presence of neuroticism could facilitate the later development of anxiety (Gershuny & Sher, 1998) and that measuring it would make it possible to assess anxiety in young adults and that a person with high neuroticism and low extroversion, significantly increases vulnerability to specific anxiety. Craske (1999), Kendler (1995), and Marks (1986) show that defensive reactions to extreme and specific stress situations, such as panic attacks, fainting, and freezing, may have a genetic component and a strong tendency to be inherited. In his book on MPA, Kenny (2011) cites the testimony of musicians who have precisely the same reactions when exposed to a particular stimulus, either from the audition in the first case "But come the audition, (...) I felt a sort of paralysis" (p.60). Alternatively, in concert, in the case of singer Donny Osmond, he felt paralyzed and about to die.

According to Barlow (2000), having this genetic and hereditary vulnerability does not automatically mean that someone will go on to develop anxiety or other adverse affective disorders. On the other hand, they are likely to have a tendency towards emotionality and intense reactions to stress without this being considered out of the ordinary. Clark (1989) follows the same line of reasoning concerning MPA that it should not be systematically treated by psychiatry since this anxiety is, in some respects, a universal feeling shared by performers and is not necessarily bad if we are to believe what artists describe. Barlow (2000) concludes that such a person would have to be exposed to specific, traumatic circumstances at a very early age to develop a psychiatrically treatable anxiety.

4.1.2 Generalized psychological vulnerability: a diminished sense of control

Barlow (2000) points out that the feelings that predominate in people suffering from phobic anxiety explain their general state of mind. The feeling of unpredictability, i.e., that life brings its share of unpredictable events, and that these people feel unable to cope with the unknown of these situations. Barlow (1988) also cites the lack of control that anxious people feel, which explains why they associate their failures and shortcomings with confirmation that they are not up to the job and develop adverse emotional reactions. He contrasts people who have built themselves up in a healthy way and their ability to implement what he calls the "illusion of control. When things don't go as expected or when there's a problem, they attribute it to minor and temporary personal feelings, which helps them maintain a sense of control, even in difficult situations. allowing them to feel in control despite everything. However, what are the origins of this feeling of uncontrollability?

Behavioral studies carried out on animals by Pavlov, Masserman, Liddell, and Gant called them "the experimental neurosis," the anxiety they observed developing during experiments, namely agitation, hypersensitivity, and muscular tension. Mineka and Kihlstrom (1978) point out that the factors expected of all these animals are the essential and vital events in there environmen become beyond their control, to which they have been exposed. By disrupting the most basic needs, such as food and water intake, they have exposed the animal to a form of unpredictability. Moreover, studies have shown significant results when animals are exposed to these negative events early (Insel et al., 1988; Mineka et al., 1986).

Sapolsky and his colleagues (1997) set up neurobiological studies on animals whose

anxiety was triggered by repeated, early situations of unpredictability. They showed that these animals suffer from excessive release of corticotropin (CRF) and stress hormones (mainly cortisol). At the same time, it was observed that the hippocampus degenerated, making it more challenging to regulate cortisol, and that the animals developed a chronic intensive secretion of CRT. These physiological changes, which make the animals more resistant and resilient to these stress hormones, are caused, according to Dienstbier (1989), by the precocity with which they were exposed to these traumas.

4.1.3 The development of a sense of control

It is essential to identify the crucial early experiences in humans that may predispose to the development of chronic anxiety (and depression). Researchers ((Nowicki & Strickland, 1973; Rotter, 1954) have developed the concept of the "locus of control". When people believe that their performance or the events that happen to them depend on them, they are said to have an internal locus of control, and vice versa; those who believe they have no control over what happens to them have an external locus of control. It is a concept close to "selfefficacy," which Bandura (1999) explains as someone's belief that they can achieve their goals.

Understanding children's sense of control and the consequences of early exposure to specific traumas is crucial. Bowlby (1988), Chorpita and Barlow (1998) examined attachment theory and found that ambivalent parents (Ainsworth & Bell, 1970) tended to induce a sense of control in their infants. As the baby has to develop strategies to attract the parents' attention (Spangler & Grossmann, 1993) because they are too preoccupied with their own traumas, he grows up with the feeling of having to exert control over his environment in order to receive the nourishment he needs to survive (Ainsworth & Bell, 1970; Bowlby, 1980), but of not being able to do so. (Brown et al., 1998) state that "a family environment characterized by limited opportunity for personal control will lead the child to develop anxiety and a sense of relative uncontrollability. What is more, according to some researchers (Chorpita et al., 1998; Cole & Turner, 1993; Hammen et al., 1988; Nolen-Hoeksema et al., 1992) this harmful environment and the vulnerabilities it engenders in young children could be a breeding ground for the development of anxiety. On the other hand, secure parents (Ainsworth & Bell, 1970) who allow children to explore the world and expose them to unexpected environments without putting them in dangerous situations will have children with a healthy sense of control.

We show here the intrinsic function between the different forms of vulnerability in Barlow's model (2002) and how they influence and depend on each other. Between 30% and 50% of variance depends on genetic factors, and neurobiology points to active biological mechanisms, notably the release of stress hormones and physiological modification of the cortisol receptors that control them. However, these phenomena are triggered by repeated early psychological processes. Kenny (2011) explores various therapies in her book "The Psychology of Music Performance Anxiety," we will draw on it to highlight three therapeutic approaches that we feel are relevant to tackling the management of music performance anxiety.

4.2 Performance Preparation and Imagery

According to Easterbrook (1959), the musician needs to anticipate the performance and prepare all the aspects that will enable him to control it since, at the time, he will not be able to concentrate on all the critical parameters simultaneously. The more excited or anxious you are, the more your attention span is reduced. Indeed, Easterbrook hypothesizes that stress or high levels of emotional arousal cause a reduction in the information a person can process simultaneously. As a result, attention is focused on the most salient, central parameters to the detriment of those on the periphery. The decline in the skills required for performance will likely lead to a drop in performance quality. This process is known as "perceptual narrowing" (Kahneman, 1973).

4.2.1 Preparing for performance

Kenny (2011) explains that when someone is nervous about their performance, this can lead to preoccupation with external stimuli, such as negative thoughts about oneself or attention to audience reactions, making it difficult to concentrate on the task itself. Consequently, it may be necessary for anxious performers to prepare themselves by visiting the performance venue and practicing there. It reduces the need to concentrate on all the technical and emotional aspects required on the day of the performance, which can increase confidence, reduce anxiety, and improve the quality of the performance. Before each performance, musicians are advised to warm up in the concert or audition hall to test the acoustics, control the temperature, and get used to the light.

4.2.2 The role of imagery

Imagery-based teaching is based on the idea that students can be helped to improve their technical and musical performance through analogies involving metaphors or images that may or may not reflect physical reality (colors, materials, emotions). Vocal pedagogy is a perfect example since the instrument to be trained is both internal and invisible and has become a central tool for communicating the technique needed to achieve a beautiful sound (Tamborrino, 2001). Because of their complexity, there are many different vocal pedagogical methods. Vennard (1958) tried to organize these methods and identified six main approaches. Mental imagery means seeing, hearing, and feeling things as if they were real (Kosslyn et al., 2001; D. Pearson, 2007), even when there's nothing around us to provoke them, by multisensory means - visual, auditory, and kinaesthetic such as sight, hearing, and touch. It is an essential part of how our mind works. In sports, imagery means that people imagine how they behave and how they could behave to become better at what they do. It can happen consciously or unconsciously. For example, someone may see images or feel like they are moving, even if they are not doing so. Imagery is helpful in sports because it can help improve physical performance (Corrado et al., 2014, 2019).

As I see it, this can apply in the study of an instrument when a movement is perfectly understood but still in the process of acquisition because of parasitic tensions. By imagining it, feeling it physically, and conceptualizing the sound that should be associated with it in reality, we can create an ideal movement as a goal to be achieved in the current study. Morris et al. (2005) proposed a definition of imagery in the field of sport: "the intentional or

unintentional conception or regeneration of an experience produced from memorial information, concerning quasi-affective and quasi-sensorial features that may occur in the absence of the tangible stimulus antecedents usually associated with the real experience" (p. 19) In other words, imagery consists in creating or remembering an experience, whether voluntarily or involuntarily, using information stored in one's memory. This experience evokes emotions and sensations similar to those the person would have in a real-life situation, even if nothing concrete occurs. To create images, the most common sensory approaches are visual and kinesthetic (bodily experience when performing a movement) (Guarnera et al., 2016). These processes involve the creation, observation, maintenance, and modification of visual mental images without the need for external visual information. Creation means forming mental images without there being anything to see, maintenance means keeping these images in short-term memory, observation means analyzing them in the mind to understand how they are made or what parts make them up, and modification means being able to alter these mental images in different ways.

In creating music, I have used this process, observing it with colleagues and experimenting with it with my students. It combines a narrative with phrasing to create a musical interpretation. We can associate emotions with a passage to establish an evolution in its musical structure or compare sounds with colors or materials to develop the auditory imagination and improve the bowing technique of the string musician. Individuals can shape, transform, or rotate images in their imagination as if they were real (J. Pearson & Kosslyn, 2013). Therefore, to improve learning, performance, and other imagery-related outcomes (such as self-efficacy, anxiety regulation, and cognition), this practice of mental imagery should be regularly integrated into routine programs.

4.2.3 Mirror neurons

When we interact socially, our brains involuntarily reproduce the neural patterns of what we observe, imagining ourselves performing these actions or feeling the emotions expressed by the person acting (Rizzolatti & Sinigaglia, 2016). It is how "mirror neurons" get their name, as they reflect the brain activity of the individuals we interact with, just as a mirror reflects our image. Using brain imaging techniques, researchers have confirmed the existence of these "mirror neurons" in human beings. This discovery has greatly influenced the field of neuropedagogy. These neurons influence the way we learn, as human beings have a natural tendency to learn by observing and imitating the gestures and actions of their peers. It enables them to acquire skills and knowledge that help them understand the intentions of others, adapt to cultural norms, and interact socially (Balestra, 2017).

Kenny (2011) cites a study using functional magnetic resonance imaging (fMRI) that found that mirror neurons not only help us understand actions and imitate movements we already know but are also involved in learning new, complex actions. These neurons are active when we perform, observe, or imagine a movement. The Suzuki music teaching method exploits our brain's learning ability by observing and imitating actions. Some researchers suggest that actions can be represented sensorially in the brain (Stöcker & Hoffmann, 2004). Based on my own experience, I can say that instrument learning is created by observing the teacher or other students in the class. The concept of mirror neurons has recently attracted much attention. It has challenged the idea that to learn a new motor skill, one must first have a conceptual understanding of "what" to do and has highlighted the importance of "how" to do it (Kenny, 2011).

4.2.4 Imagery in reducing performance stress

In the context of musical performance, using mental imagery while including technical and emotional aspects can help improve memorization. Introducing more imaginative elements into music learning can also boost motivation (Holmes, 2005). This approach is instrumental because, as mentioned at the beginning of this paragraph, musicians are often confronted with "perceptual narrowing" (Kahneman, 1973), and reinforcing the memorization of a piece through imagery can be beneficial. In addition, this technique can also strengthen the emotional connection with the music being played, as well as the senses related to listening, vision, and body perception, which are essential for optimal technical execution. (Dunbar-Wells, 1999). Finally, it can help before a performance to focus on a thought or sensation linked to confidence. Some people concentrate on their breathing to ease anxiety and reduce automatic reactions due to stress. These strategies have a dual effect: they help to distract the performer from negative inner thoughts that could interfere with performance (Liston et al., 2003; Zinn, 2000).

However, while imagery can be a valuable tool in the performance preparation toolbox, it is no substitute for solid, consistent practice to achieve mastery of the physical demands of the task at hand. Once the required skill has been acquired, confidence in one's ability to perform the task optimally under pressure appears to be one of the most critical factors contributing to consistent optimal performance (Moritz et al., 1996). According to Kenny (2011), mirror neurons are activated not only when we perform movements but also when we express the emotions of others and even when we anticipate emotions such as anxiety. For example, imagine that a person feels anxious about a future event; this simple anticipation can trigger physiological and physical reactions in the moment. In a study on Imagery-Based treatment for MPA (Finch & Moscovitch, 2016), participants were asked to imagine themselves "in control" of the performance while in a relaxed state. Results indicated that, compared with the pre-test, participants rated the quality of their performance progressively higher at the post-test. It has been shown that by practicing self-imaging in each of the situations in the anxiety hierarchy while in a state of complete relaxation, arousal can be used by musicians in a variety of ways to anticipate the heightened arousal that may accompany performance (Moritz et al., 1996).

4.3 Cognitive Behavioral Therapies

Kenny (2011) explains that all three treatments - behavior therapy, cognitive therapy, and cognitive-behavioral therapy-are based on common principles, although the available therapeutic resources are employed to varying degrees. Experts Blagys and Hilsenroth (2002) have identified a specific set of distinct CBT (Cognitive Behavior Therapy) approaches within the psycho-dynamic and interpersonal approaches to psychotherapy as a whole:

Since cognitive-behavioral therapists adopt a psycho-educational approach, they communicate explicitly to patients the details of the treatment and the specific methods that will be used to help them manage their symptoms. They regularly provide patients with treatment materials and recommend that they follow them. Firstly, the agenda is established, as the session is

structured with a precise orientation that defines its content and cognitive therapy pays particular attention to discussion during sessions. Secondly, this approach involves using homework and activities outside the sessions to enable patients to practice and reinforce the skills acquired during therapy, thus promoting the maintenance of progress made after therapy has ended. In the third stage, the therapist provides the patient specific strategies to modify their behavior. Cognitive-behavioral therapists see their role as being centered on psychological education. This concept describes a teaching and learning process focused on developing new thoughts and behaviors aimed at helping the person better manage their symptoms and adopt more adaptive behaviors. Behavioral therapy is based on the idea that emotions and actions are influenced by thoughts, i.e., beliefs or ideas about oneself and others. In cognitive-behavioral therapy, therapists assess, challenge, and help patients to modify the erroneous or distorted thoughts associated with their symptomatic behaviors. Behavioral therapies focus primarily on modifying dysfunctional behaviors that occur when individuals experience anxiety (Blagys & Hilsenroth, 2002).

According to Kenny (2011), behavior therapy is based on three principles that underlie the main theoretical models derived from learning theory. Behavior can be understood through the concepts of learning and conditioning, and these same learning principles apply to all types of behavior, whether conventional or atypical. Atypical behavior is considered a normal and valid response to unfamiliar learning situations, and it is possible to unlearn and modify behaviors, including thoughts and emotions.

Classical conditioning, as described by Pavlov (1927), is a form of learning in which an individual learns to link a neutral stimulus (called the "conditioned stimulus" or CS) originally with no positive or negative behavioral effect- to a biologically significant stimulus (called the "unconditioned stimulus" or US) that triggers an innate, often reflex response, such as pain, noise, or sudden loss of support (Watson & Rayner, 1920). By repeating this connection, the first neutral stimulus starts to gain the ability to trigger a conditioned response. The theory of operant conditioning, as developed by Skinner (1965), is based on the idea that behavior is shaped by its results. Rewarding actions makes them more likely to occur again, whereas those that get punished are less likely to be repeated. For example, if a child receives praise (a positive consequence) for tidying his room (his behavior), he is more likely to repeat this action in the future. Conversely, if children are reprimanded (a negative consequence) for not doing their homework, they will be more likely to do it next time to avoid reprimanding.

Although both forms of conditioning involve a learning process, they differ in nature and mechanism. Classical conditioning is passive in nature, involving automatic, involuntary responses to stimuli without the implication of reward or punishment. For example, a dog salivates when it hears a bell associated with food. Operant conditioning, on the other hand, is active, associating a voluntary behavior with a consequence, requiring the active involvement of the learner, who performs a specific action to receive a reward or avoid punishment. An example would be a dog sitting on command to receive a treat. Another distinction lies in the timing of the stimulus versus the response. In classical conditioning, the response occurs after the stimulus, whereas in operant conditioning, the response precedes the stimulus. Behaviors are thus reinforced or punished, influencing their likelihood of repetition. For example, a child may adopt good behavior by anticipating a reward or avoiding punishment.

4.4 Pharmacotherapy for Anxiety Disorders

Kenny (2011) states that in the musical field, many artists resort to medication and other substances to manage their anxiety before performing on stage. A study based on the 2015 Musicians' Health Survey questionnaire presents exciting data on the use of betablockers (such as propranolol) (Boor, 2017). According to the "1987 ICSOM Medical Questionnaire" (Fishbein et al., 1987), at the time, 27% of musicians surveyed reported using beta-blockers to combat performance anxiety. By 2015, this had risen to 70%, with 90% using these drugs for auditions, 74% for solo performances, and 36% for orchestral concerts. This significant increase, from 27% in 1987 to 70% in 2015, is striking. However, Kenny (2011) points out that most of the studies carried out 30 years ago on the effects of these drugs on artists still needed to meet current standards of ethical research. Moreover, these studies were not anonymous, which may have influenced musicians' responses at the time, for fear of reprisals. In order to gain a better understanding of how anti-anxiety medication works, it is helpful to analyze the mechanism of anxiety in the brain.

4.4.1 Anxiolytic medication

Kenny (2011) refers to the work of Grey and McNaughton (2000) to explain anxiety in the brain and the action of anxiolytic drugs on the brain system. Anti-anxiety drugs, known as anxiolytics, affect a part of the brain known as the septo-hippocampal system. They disrupt the brain's control over a specific type of activity called "theta" in the hippocampus. This "theta" activity is how this brain system reacts to external sources of excitation or stimulation. When the activity of the septo-hippocampal system is too high, a person may feel more threatened by his or her environment, which can trigger fear or anxiety. In other words, the drug acts on this system to reduce anxiety by influencing the way the brain reacts to external stimuli. In the brain, in addition to the hippocampal system, there are several other networks of nerve cells (neural networks) that also play a role in generating theta activity. Anxiolytic drugs, which reduce anxiety, affect some, but not all, of these neural networks (Kenny, 2011).



Figure 2: Mechanism of septo-hippocampal system (Brandão et al., 2008)

Different parts of the brain activate depending on the type of threat they are facing. When confronted with things learned to be dangerous, the brain's behavioral inhibition system (septo-hippocampal system) kicks in and freezes you. However, when confronted with something one's brain recognizes as an immediate danger, like pain, it activates a different system (the amygdala-DPAG axis). One will have an active defensive response (Kenny, 2011).

The "freeze," stopping to move under the effect of fear, can be linked to various anxiety disorders. There are at least four types of freezing, each linked to specific parts of the brain. Sometimes, a combination of conditioned "freeze" and stimulation of the dorsal aspects of the periaqueductal gray (dPAG) can mimic panic disorder with agoraphobia. A brain chemical called serotonin affects the activated and deactivated cells that form part of the brain's defense system in the brain's periaqueductal gray area. It is crucial to understand how this area of the brain creates different types of "freezing" responses, as this helps us to better understand different anxiety disorders, such as panic disorder and generalized anxiety disorder (Brandão et al., 2008).

In light of these explanations, it is easy to understand why Grey and McNaughton (2000) found that anxiolytic drugs affect anxiety-related behaviors but not fear-related behaviors such as avoidance, escape, and freezing. They may, therefore, affect anxiety and symptoms such as self-critical thoughts, anxiety, and repetitive thoughts. Gray and McNaughton (2000) also note that when the amygdala is activated alone, it provokes a fear response; when the hippocampus is activated alone, it leads to excessive anxious thoughts; but when they are activated together, it engenders a series of behaviors we call anxiety.

4.4.2 Beta-blockers

We mentioned in chapter 3 of this thesis that, according to Kenny (2011), the highest degree of musical performance anxiety is panic attacks and is mainly present in musicians at orchestral competitions. The most disabling symptoms are trembling, a racing heart due to the acceleration of the heart rate, sweating, and muscle tension. As mentioned at the beginning of this paragraph, studies show that many musicians use beta-blockers during auditions. Here, we examine the effect this drug has on the brain.

Kenny (2011) describes that when we feel stress, our bodies produce certain hormones, such as noradrenaline (norepinephrine) and adrenaline (adrenaline). These hormones bind to specific sites called adrenergic receptors, triggering common physiological responses to anxiety. There are two types of these receptors: alpha receptors, which affect smooth muscles such as those in the intestines and constrict blood vessels, and beta receptors, which affect skeletal muscles, causing tremors, accelerated heart rate, dilated bronchi, and blood vessels. Beta receptors include beta-1, which affects the heart, and beta-2, which influences blood circulation in the arms and legs, as well as the bronchi. Beta-blockers bind to beta-adrenergic receptors and thus prevent noradrenaline and adrenaline from attaching to them, thus blocking the physical responses of anxiety, such as accelerated heart rate (Kenny, 2011).



Figure 3: Mechanism of Adrenergic Receptors (Jähnichen, n.d.)

Fig. 2: Adrenergic receptor subtypes. (A) The physical consequences of catecholamine attachment to the designated receptor. (B) The attraction of each catecholamine to the various receptor subtypes.

Propranolol attaches strongly to both beta-1 and beta-2 receptors, but it doesn't cling as strongly to beta-3 receptors (Bylund, 2015). No wonder it is the drug of choice for musicians in orchestral competitions. Its ability to block beta-1 and beta-2 sensors allows it, as mentioned above, to intervene in symptoms such as tremors and racing heart. Kenny (2011) confirms that beta-blockers, in addition, seem to offer greater efficacy to musicians presenting somatic manifestations of their anxiety, such as palpitations, hyperventilation, tremors, and sweating (Gates et al., 1985; James & Savage, 1984). On the other hand, they seem less effective for musicians confronted with the cognitive or psychological effects of anxiety, such as low self-esteem, social phobias, or generalized "floating" anxiety, as observed by Lehrer et al. (1990).

4.4.3 Beta-blockers and severe MPA

In certain situations, beta-blockers may be recommended, as suggested by various studies (Kenny, 2011). Nubé (1994) concluded that these drugs can be beneficial in targeting specific aspects of musical performance anxiety. For example, they can reduce bow arm tremor in string players, a problem that can affect both bow control and vibrato quality, thus influencing the sound of the instrument.

Kenny (2011) also points out that beta-blockers can be considered as a short-term means of helping individuals facing severe anxiety related to their musical performance. Even so, it is essential to note that if anxiety is at a level requiring regular use of these drugs, it is advisable to seek psychological treatment to learn how to manage this anxiety on one's own better. Beta-blockers have tangible beneficial effects, such as reducing dry mouth in brass

players and reducing tremors in string players. These physiological manifestations of anxiety can disrupt performance, and by alleviating them, musicians can play their instruments more fluidly, similar to less stressful situations where these symptoms do not occur. However, the suppression of autonomic arousal due to anxiety can also influence musicians' emotional experience. Some report that the use of beta-blockers before a performance can reduce their level of engagement or intensity. Furthermore, musicians whose performance anxiety manifests itself primarily as emotional or cognitive symptoms are generally not candidates for the benefits of beta-blockers. In such cases, some form of psychological therapy may be more appropriate to find relief (Kenny, 2011). Lederman (1999) offers a balanced perspective on the use of beta-blockers by performers. He points out that if anxiety is severely disabling, these drugs can be considered a viable treatment for musicians struggling with high levels of anxiety.

On the other hand, Nubé (1994) points out that, in addition to their benefits, betablockers can also negatively affect other aspects of a musical performance, such as rhythm control and emotional connection to the music. He stresses the crucial importance of dosing these drugs precisely to achieve the necessary effects while minimizing side effects. Evidence suggests that low doses can improve performance by managing unwanted physical manifestations. However, higher doses have been associated with performance deterioration, as demonstrated in a study involving professional singers (Gates et al., 1985). Equally, Birk (2004) has argued that there are situations where acquired anxiety can only be overcome by progressive exposure to anxious stimuli, and the use of beta-blockers and benzodiazepines may hinder this exposure process, limiting the ability to reduce or extinguish the anxious response.

Medication is a critical component in treating numerous anxiety disorders, but it is typically not a primary treatment approach for specific phobias and performance anxiety. For these conditions, using drugs is discouraged because it can negatively affect the success of exposure therapies and the reduction of fear reactions. This interference with exposureextinction is an undesirable side effect of medication, and it should be avoided as much as possible when treating these disorders (Birk, 2004). Wilhelm and Roth (1997) conducted a study where they divided 28 individuals with flight phobias into two groups. One group received a drug called alprazolam, which is used to reduce anxiety, while the other group received a placebo during their first flight. In a subsequent flight, they observed that the individuals who had taken the actual medication experienced significantly higher levels of anxiety compared to those who had taken the placebo. It suggests that the individuals who received the placebo might have actually benefited from the exposure on their first flight and decreased their fear. In the case of both specific phobias and performance anxiety, the use of benzodiazepines can also disrupt exposure therapy and is generally not the best option. However, there are instances where short-term use, with appropriate precautions, may offer some benefits for specific phobias (Birk, 2004).

4.5 Neurolinguistic Programming (NLP)

Neurolinguistic programming might be another alternative option for combating MPA. Let's see the process of development and possible interventions against anxiety.

4.5.1 What is NLP

In the 1970s, Richard Bandler, a mathematician and information scientist, and John Grinder, a linguist, founded the field of Neuro-Linguistic Programming (NLP). They pioneered a novel approach to identifying and codifying successful techniques from diverse practitioners and theories. Their goal was to create models and strategies to be shared with others, enabling them to emulate and attain optimal performance (Tosey & Mathison, 2010). According to Wake and Leighton (2014) NLP serves as a model for human interaction and communication, enabling the examination and replication of excellence across various clinical and non-clinical contexts. It places a focus on individuals' subjective experiences and their constructed realities. This approach delves into how internal representations of experiences and self-communication, as well as communication with others, are integral aspects. Nonverbal communication plays a significant role in NLP (Tosey et al., 2005).

NLP practitioners not only study theories but also pay attention to how people use language, including the words they choose, their tone of voice, how fast they speak, their gestures, movements, and even their breathing patterns (Anderson, 1986). They believe that everyone has the potential to tap into their resources for personal growth. Also, NLP emphasizes the importance of individuals taking responsibility for managing their own thought patterns, language, emotions, experiences, and physical responses. NLP is a solution-oriented approach, not concerned with digging into the origins of issues but rather with inspiring positive behavioral changes. It concentrates on strengths, explores opportunities and solutions, emphasizes feedback instead of 'failure,' and encourages trying different approaches when something is not compelling (Linder-Pelz & Hall, 2007).

NLP experts stress how the words we use have a significant impact on our beliefs and how we see ourselves. Negative thoughts and beliefs can hold us back, and NLP aims to help people change these unhelpful patterns. It is all about boosting personal growth and building a more positive self-image (Kudliskis & Burden, 2009).

4.5.2 NLP techniques on MPA

Some techniques, such as positive affirmations, where you tell yourself encouraging things, vividly imagine successful outcomes, create anchors or triggers linked to positive feelings, change your perspective on situations (reframing), act out scenarios (roleplaying), and have inspiring role models can potentially bring about a rewiring of the brain. This rewiring process can lead to more effective learning and positive changes in behavior. These strategies help individuals develop new thought patterns and responses, contributing to personal growth and improved conduct (Kudliskis & Burden, 2009). While various techniques within NLP could potentially benefit musicians dealing with Music Performance Anxiety (MPA), the concept of the "reframing technique" has particularly piqued my interest. I hope this technique can be applied effectively to alleviate MPA.

4.5.3 Reframing

Reframing negative thoughts is an essential component of Cognitive Behavioral Therapy (CBT), and one of its specific approaches, is cognitive restructuring. In this process, individuals are guided to become aware of their negative thought patterns and then, over time, transform them into more positive and constructive ways of thinking. This technique is a fundamental part of psychotherapy and has been employed effectively to help individuals alter their thought processes and improve their mental well-being. It is not a new concept in the realm of psychotherapy, and it has proven to be a valuable tool in helping people make positive changes in their lives (Beck, 1997). This technique could be used by musicians experiencing MPA, as dealing with negative thought patterns is a significant obstacle.

Reframing involves a communication technique that focuses on shifting an individual's perception of the meaning or "frames" associated with words, phrases, and events. This concept sets NLP apart from various therapeutic approaches that precede it. By reframing, responses, and behavior can be altered by changing how the event is perceived. Essentially, framing offers a method to replace the original meaning of an event with a fresh and more positive perspective. Importantly, reframing does not necessarily demand finding a positive reinterpretation of every situation. What truly matters is the willingness to engage in self-reflection and explore different interpretations, which is sufficient to initiate change in thoughts and behavior. The key here is the openness to reexamine one's perceptions and the actions taken. This willingness forms the core of the reframing process (Wuryaningrum & Mulyono, 2023).

5 Discussion

The first question we address in this thesis concerns the categorization of music performance anxiety among the various anxiety disorders. Is it an integral part of social phobia, as currently classified in the DSM-V and ICD-10, or is it a distinct condition with its diagnosis? Our answer to this question, based on Kenny's insights, is that contrary to popular belief, music performance anxiety is a distinct disorder. We identify three different sub-types of MPA, not due to their severity but based on their specific causes and symptoms. There is focal anxiety, which is limited to specific situations to which musicians are exposed by their profession, such as competitions, auditions, or playing a solo at a concert. Co-morbidity, when MPA co-occurs with at least one other disorder. Finally, there is panic anxiety, which involves an extreme stress reaction, leading the musicians to lose their nerves during auditions. There are some similarities between certain types of musical performance anxiety and specific social phobia. However, the fundamental difference between the two disorders lies in the fact that the musician is confronted with a real audience. In contrast, the social phobic feels judged by an imaginary one. Moreover, the musician's anxiety is triggered by their negative self-evaluation during performances, often due to extreme perfectionism.

Another question raised in this thesis is what causes MPA and what treatments are available to deal with it. As for the causes, the research was based on Barlow's triple vulnerability model, which provides a solid and varied overview that explains the sub-types outlined above. Like the definition developed in the first two chapters, the explanation of the causes of this disorder can provide answers for musicians, making them aware of the reality of their problems and, in some cases, the seriousness of the situation. It can be a starting point for taking action and beginning in-depth work on oneself. In the case of teaching, educators must realize that their students are not lacking in willpower but that taboo surrounding MPA needs to be lifted. It is time for some teachers to change the judgmental, guilt-ridden attitude they impose on students and instead help them to identify their discomfort and support them in search for appropriate, effective solutions, thanks to the treatments available to musicians. As for existing treatments, the answer is that they do exist, but they are underdeveloped, and only a handful of options are available. The world of sports has made considerable strides in this area, but when it comes to music performance, there are too few solutions that address the unique specifics of playing a musical instrument. In many cases, utilized methods are imbued with sport, the only common denominator being performance.

Subsequent studies could involve a more in-depth analysis of the particular indicators of MPA. Utilizing established treatments that have been thoroughly examined for these distinct symptoms could pave the way for creating an all-encompassing treatment plan specifically designed to target MPA. The examples could be taken from a field of sports where performance anxiety management has been researched much more. This idea emphasizes the importance of exploring more in-depth investigations into tailored MPA interventions. By examining the nuances of a tailored technique, researchers could gain insights that help fine-tune and improve therapies designed for MPA. The potential benefits of bringing proven methods from the sports context into the musician's world, offering new ways

to tackle MPA and enhance the well-being and performance of musicians. The ongoing confusion and the lack of agreement among scientists about the exact definition of Music Performance Anxiety (MPA) continue to cast a cloud of uncertainty over musicians' experiences. This vague situation sustains the prevailing taboo and the widespread sense of shame that comes with MPA in the music world.

Barlow Found there are three sub-types: focal, extreme anxiety in a specific situation, and having no issues in other parts. Comorbid: where it is mixed with other disorders, especially with depression. Panic: People must understand that there might be hereditary and biological predispositions (attachment theories). Could there be one multidimensional treatment strategy for MPA? Teachers could have a better practical understanding of student's MPA. Facing MPA on stage is like sharing your deepest, private feelings with a crowd, most of whom you do not even know. It leaves you feeling incredibly exposed and can chip away at your self-confidence. However, having a teacher who understands what you are going through and offers kind, expert support can create a deep connection between teacher and student. In my opinion, this connection makes the learning experience more productive and enjoyable for both of them. Some students might struggle with MPA because of early attachment issues they inherited. Learning about MPA could help these students see why they feel at a disadvantage compared to others. Understanding this might make them less likely to compare themselves to classmates and, as a result, feel less ashamed. Students are not only body moving and brain memory. Teachers have to incorporate and be curious to investigate student's feelings and sensations. Adding to the problem is the need for more specific treatments tailored just for MPA. This gap not only makes it harder for music teachers and institutions to address the issue but also makes students more hesitant to talk about it. In the competitive music scene, students often worry that admitting they struggle with MPA could hurt their careers. This issue extends beyond individuals and affects orchestras and music schools as well. It is pretty surprising to see how few therapy options are available for musicians in these settings, especially compared to the strong support systems in sports.

Given these complex challenges, it is essential to encourage open conversations about MPA with clear definitions and effective treatments. CBT stands out as one of the extensively studied and effective approaches for dealing with Music Performance Anxiety. It places its focus on guiding individuals to develop new thought patterns and behaviors, which are geared towards helping them manage their symptoms and adopt more effective responses. However, it's important to acknowledge that not everyone readily embraces this form of treatment, mainly because it involves seeking professional assistance, which can be a challenging decision to make.

It's crucial to understand that CBT may not be the ideal choice for all musicians dealing with MPA. There are alternative options worth considering, including performance preparation, visualization techniques, and learning strategies that draw from observation and imitation, as previously discussed when we touched upon mirror neurons. Another key part of tackling MPA is through pharmacotherapy, especially using beta-blockers like propranolol. Given their popularity among musicians, it's crucial to have open conversations about their potential pros and cons. It's quite surprising that despite being a go-to choice for many students and professional musicians, there hasn't been much talk about them. I'm hopeful that open discussions about this will start soon, especially between teachers and students. We need to break the silence and get talking about beta-blockers in the context of MPA. There's

another potential approach to Music Performance Anxiety and that's through the use of Neuro-Linguistic Programming (NLP) techniques. While NLP might not have the best reputation among scientists and academics, it's been put to good use by many people who have experienced positive results. Even though there's a lack of peer-reviewed scientific evidence, it is time we put some more serious studies into this.

Expanding our toolbox for treating MPA benefits everyone. It gives individuals more choices to consider when addressing MPA, letting them pick the approach that suits them best. This approach can help musicians overcome their struggles and make the music world more supportive and compassionate. One crucial aspect is supporting and educating musicians to reduce feelings of guilt and take proactive steps to cope with MPA. It can be achieved through various means, making tools and resources for dealing with MPA more accessible, particularly for students who may be more vulnerable to performance anxiety. It could involve offering specialized courses or seminars on MPA within music education institutions, inviting guest lecturers who are experts in MPA to share their knowledge and experiences, establishing direct connections between universities and specialists who can guide managing MPA, and even creating dedicated library sections with relevant literature on anxiety and MPA. The goal is to normalize discussions about MPA, making it an integral part of a musician's journey and creating an open dialogue between teachers and students. Furthermore, it is vital to encourage the music industry to break the silence surrounding MPA and address it as a prevalent and impactful issue within the field. It entails acknowledging the existence of MPA, validating the experiences of musicians who suffer from it, and collectively working towards reducing the stigma associated with performance anxiety. By openly discussing MPA, musicians can find comfort in knowing they are not alone in their struggles, and the industry can actively support those affected. Additionally, there is a need for responsible institutions, such as orchestras and music organizations, to take proactive steps in providing essential tools and resources for managing MPA. It includes ensuring musicians can access various forms of help, from therapeutic interventions to self-help strategies. These institutions should remain updated with the latest research findings and developments in the field of MPA to ensure that their support systems are evidence-based and effective.

The exploration of unique and specific differences between Music Performance Anxiety (MPA) and Performance Anxiety (PA) opens up exciting possibilities for the field. To begin with, it is crucial to categorize MPA as an independent disorder officially. While it shares some characteristics with PA, its nuances, triggers, and effects are distinctive to the world of musicians. This reclassification would help refine diagnosis and treatment approaches explicitly tailored to MPA. In addition, there is an essential area that needs further investigation: the long-term effects of MPA on musicians. Most studies conducted thus far have been cross-sectional, meaning they gather data at a single point in time. It is imperative to delve into how MPA manifests over time to gain a more comprehensive understanding. Do the effects of certain treatments fade out, potentially leading to the recurrence of MPA in the future? Understanding the temporal aspect of MPA will help design more effective and sustainable interventions. Moreover, it is crucial to explore whether different treatments are better suited for musicians at various stages of their careers or different age groups. The dynamics of MPA could vary significantly between a young music student's first recital and a seasoned performer's hundredth concert. Tailoring treatment approaches to align with these varying career stages and age groups could lead to more precise and successful outcomes for

individuals.

Looking back at my thesis, I would structure Chapter 3 differently. Instead of separating causes on one side and listing three therapies on the other, I would associate specific causes and their symptoms directly with suited types of treatment. The thesis emphasizes that, given the complexity of MPA, there is no single miracle treatment, but that they complement each other according to the specificity of each individual.

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7 Appendix

Below are some statements about how you feel generally and how you feel before or during a performance . Please circle one number to indicate how much you agree or disagree with each statement.								a t.	
		Stron Disag	itrongly Disagree				Stron Ag		
K_1	I generally feel in control of my life	6	5	4	3	2	1	0	
K_2	I find it easy to trust others	6	5	4	3	2	1	0	
К_3	Sometimes I feel depressed without knowing why	0	1	2	3	4	5	6	
K_4	I often find it difficult to work up the energy to do things	0	1	2	3	4	5	6	
K_5	Excessive worrying is a characteristic of my family	0	1	2	3	4	5	6	
K_6	I often feel that life has not much to offer me	0	1	2	3	4	5	6	
K_7	Even if I work hard in preparation for a performance, I am likely to make mistakes	0	1	2	3	4	5	6	
K_8	I find it difficult to depend on others	0	1	2	3	4	5	6	
K_9	My parents were mostly responsive to my needs	6	5	4	3	2	1	0	
K_10	Prior to, or during a performance, I get feelings akin to panic	0	1	2	3	4	5	6	
K_11	I never know before a concert whether I will perform well	0	1	2	3	4	5	6	
K_12	Prior to, or during a performance, I experience dry mouth	0	1	2	3	4	5	6	
K_13	I often feel that I am not worth much as a person	0	1	2	3	4	5	6	
K_14	During a performance I find myself thinking about whether I'll even get through it	0	1	2	3	4	5	6	
K_15	Thinking about the evaluation I may get interferes with my performance	0	1	2	3	4	5	6	
K_16	Prior to, or during a performance, I feel sick or faint or have a churning in my stomach	0	1	2	3	4	5	6	
K_17	Even in the most stressful performance situations, I am confident that I will perform well	6	5	4	3	2	1	0	
K_18	I am often concerned about a negative reaction from the audience	0	1	2	3	4	5	6	
K_19	Sometimes I feel anxious for no particular reason	0	1	2	3	4	5	6	
K_20	From early in my music studies, I remember being anxious about performing	0	1	2	3	4	5	6	

		Strongly disagree					Strongly Agree		
K_21	I worry that one bad performance may ruin my career	0	1	2	3	4	5	6	
K_22	Prior to, or during a performance, I experience increased heart rate like pounding in my chest	0	1	2	3	4	5	6	
K_23	My parents almost always listened to me	6	5	4	3	2	1	0	
K_24	I give up worthwhile performance opportunities	0	1	2	3	4	5	6	
K_25	After the performance, I worry about whether I played well enough	0	1	2	3	4	5	6	
K_26	My worry and nervousness about my performance interferes with my focus and concentration	0	1	2	3	4	5	6	
K_27	As a child, I often felt sad	0	1	2	3	4	5	6	
K_28	I often prepare for a concert with a sense of dread and impending disaster	0	1	2	3	4	5	6	
K_29	One or both of my parents were overly anxious	0	1	2	3	4	5	6	
K_30	Prior to, or during a performance, I have increased muscle tension	0	1	2	3	4	5	6	
K_31	I often feel that I have nothing to look forward to	0	1	2	3	4	5	6	
K_32	After the performance, I replay it in my mind over and over	0	1	2	3	4	5	6	
K_33	My parents encouraged me to try new things	6	5	4	3	2	1	0	
K_34	I worry so much before a performance, I cannot sleep	0	1	2	3	4	5	6	
K_35	When performing without music, my memory is reliable	6	5	4	3	2	1	0	
K_36	Prior to, or during a performance, I experience shaking or trembling or tremor	0	1	2	3	4	5	6	
K_37	I am confident playing from memory	6	5	4	3	2	1	0	
K_38	I am concerned about being scrutinized by others	0	1	2	3	4	5	6	
K_39	I am concerned about my own judgement of how I will perform	0	1	2	3	4	5	6	
K_40	I remain committed to performing even though it causes me great anxiety	0	1	2	3	4	5	6	

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Declaration of academic honesty

Hiermit erkläre ich eidesstattlich, dass ich die vorliegende Arbeit selbstständig und ohne fremde Hilfe verfasst habe. Alle Stellen oder Passagen der vorliegenden Arbeit, die anderen Quellen im Wortlaut oder dem Sinn nach entnommen wurden, sind durch Angaben der Herkunft kenntlich gemacht. Dies gilt auch für die Reproduktion von Noten, grafische Darstellungen und andere analoge oder digitale Materialien. Ich räume der Anton Bruckner Privatuniversität das Recht ein, ein von mir verfasstes Abstract meiner Arbeit auf der Homepage der ABPU zur Einsichtnahme zur Verfügung zu stellen.

Linz, 6.11.2023

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