Exploring performance related anxiety in brass players

by

Jacobus M. C. van Staden

29659117

Mini-dissertation in partial fulfilment of the degree

MMus (Performing Arts)

Department of Music

Faculty of Humanities

University of Pretoria

Supervisor: Dr C. Panebianco

September 2016

ABSTRACT

Music performance anxiety (MPA) is primarily described as stage fright concerning musicians and performers and affects orchestral and professional musicians severely (Brugués, 2009; Plummer, 2007). As a result, literature on MPA focuses extensively on how it affects professional and adolescent musicians, but limited resources emphasise how it affects brass instrumentalists.

The aim of the study is to investigate the occurrence and experience of MPA in brass players. Further, it aims to explore prominent symptoms in this population and what coping strategies are most effective against MPA. Ten brass (five French horn, three trumpet and two trombone) players, of whom eight are professional and two semi-professional musicians, with varying performance experience, participated in this study.

The study uses a qualitative research approach and falls into the interpretive paradigm. A multiple case study design was followed. The data were collected through semi-structured interviews, probing each participant's reported experiences and coping strategies. MPA inhibits a brass player's musical performance in areas such as musical expression, technical proficiency, physical endurance, tone quality and enjoyment. The results suggest that most of the participants experienced MPA since childhood, regardless of the starting age, and experiences of this condition varied over time throughout adulthood.

The symptoms of MPA manifests physiologically (shaking, dry mouth, increased heart rate, sweating), behaviourally (muscle tension, shaking, dry lips), and cognitively (negative thought processes). First-time experiences of a musically demanding task such exams and Eisteddfods, with intimidating audiences, impacted early signs of severe MPA symptoms such as shaking and had a blunting effect on performance quality. Increased task difficulty, limited performance opportunities, auditions, recitals, and orchestral environments, which exposed the player's performing ability under pressure, had a profound influence on recent experiences of MPA. These situations evoked multiple symptoms such as dry mouth, accelerated heartbeat, shortness of breath, negative thoughts/feelings and self-doubt. Symptoms such as a dry mouth, accelerated heartbeat, shortness of breath, and shaking affects a brass player's musical performance severely, since it inhibits tone quality and influences musical spontaneity. Therefore, these symptoms affect technical proficiency among brass players negatively since performing these instruments are physically demanding.

The results also showed that teachers gave useful advice concerning performing a brass instrument under pressure. The advice was useful among the participants' lived experiences of MPA, particularly regarding early-experienced symptoms. The experiences of MPA in high demanding performance settings resulted in a better understanding of the situation over time, and led to the reported coping strategies against MPA, which enhanced optimal performance and reduced symptoms. The study concludes that MPA adversely affects brass instrumentalists, particularly the physiological manifestation of the condition. More research is needed to identify symptoms unique to this instrument group and the most effective coping strategies.

ACKNOWLEDGMENTS

My sincerest appreciation to my supervisor, Dr Clorinda Panebianco, for her knowledgeable, expert advice, and support offered during the completion of this study.

My appreciation to the ten brass instrumentalists for their time, interest and willingness to participate in this study.

My sincerest gratitude to my French horn teacher, Peter Griffiths for his expert advice and proficiency with regard to being a professional horn player. I am also very grateful to the University of Pretoria for the postgraduate bursaries I was granted to complete this degree.

Lastly, sincere thanks to my father, Sarel and my wife, Ané for their continued support and understanding in fulfilling this achievement.

KEYWORDS OF THE STUDY

Music performance anxiety

Symptoms

Coping strategies

Brass players

Tone quality

Musical expression

Performance

Pre-performance routine

Case study

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

BACKGROUND TO THE STUDY

1.1 Introduction

Performance anxiety may be most primarily described as stage fright. According to Valentine (2002:168) and Williamon (2004:10) music performance anxiety (MPA) has been defined as "the experience of persisting, distressful apprehension about 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". Stage fright may affect anyone including actors, singers, dancers, athletes, musicians, and public speakers. The most common symptoms of stage fright may include dry mouth, sweaty hands, shaking, shortness of breath, and accelerated heartbeat (Valentine, 2002:168; Williamon, 2004:11). But according to Brugués (2009:1), performance anxiety may not be confused with the term stage fright within the three types of symptoms thereof: behavioural (difficulty to concentrate on the task at hand and memorization in the performance or on the instrument), physiological (sweaty hands, shaking, shortness of breath, dry mouth, nausea, accelerated heartbeat, etc.) cognitive (a negative mindset on performance due to self-doubt). Brugués further states that "while stage fright is a normal reaction, performance anxiety is a pathological disorder and necessitates treatment".

Many musicians are affected by MPA on a daily basis (Plummer, 2007). According to Brugués (2009), a number of surveys found that a significant amount of orchestral musicians suffer from MPA. Approximately 70 % of orchestral players reported that it interferes with their performance, and about 16% of them experience it more than once a week (Burgués 2009). Williamon (2004) found that 24% of orchestral musicians are regularly affected by stage fright and that 15% have found it severe in a performance. It is unclear what the percentages of the performers are in brass players. Brass players are as susceptible as other performers, given the technical and physical demands of the instrument. As a result of these physical and technical demands, there are a number of symptoms which can lead to MPA, like heart and breathing symptoms, tension and pain, and nausea and abdominal problems (Slocumb, 2009). Furthermore, Slocumb (2009:54) states the following: "Playing a brass instrument is a physically demanding task. If any component of the physical process of playing is unable to give a full effort due to exhaustion, other components must make up the difference which can adversely affect physical performance".

As a French horn player, I have, at times, experienced difficulties coping with MPA. However, it seems that gaining knowledge of the condition and acquiring performance experience has helped me somewhat to deal with MPA. The demands of being a professional musician and the pressure of performing, necessitates knowledge of and coping strategies of MPA in order to enhance a musically expressive performance. MPA is prevalent amongst my fellow brass colleagues too and the topic is of great interest to them. It would be valuable to explore unique problems and experiences of MPA in brass players. Furthering my understanding of this phenomenon will be of value to my own performance, and that of my adolescent students who are already showing signs of MPA. The study was guided by the following questions: How do brass players experience MPA? How does it impair a musically expressive performance? Are there symptoms unique to brass players? What coping strategies are effective for brass players?

1.2 Aim and objectives of the study

The aim of the study is to investigate self-report experiences of MPA in brass players. Furthermore, it aims to understand how MPA affects the music performance in brass players. The study also seeks to find how brass players manage their anxiety, which strategies and techniques are used and are the most effective in managing performance anxiety.

1.3 Research questions

Main research question:

How do brass instrumentalists experience Music Performance Anxiety?

Sub-questions:

What are the symptoms of MPA in brass players?

How does MPA affect brass players' musically expressive performance?

How do brass players manage MPA?

Which strategies and techniques are most effective in managing MPA in brass players?

1.4 Methodology

The study uses a qualitative research approach and falls into the interpretive paradigm. A multiple case study design is used. It forms part of an instrumental case study and falls within an interpretative approach. It also uses phenomenological elements and falls within interpretative

phenomenological analysis. The data was gathered through semi-structured interviews and were approximately 45 minutes long. The interviews were recorded with an audio recording device and after each interview a verbatim transcription was compiled of what was recorded during the interview. The interviews were coded through the process of inductive coding. Chapter 3 contains a more detailed discussion of the methodological procedure.

1.5 Chapter outline

Chapter 1 is the introductory chapter and provides an overview to the background of the study, the aim of the study, research questions, a brief overview of the methodological process, and a chapter outline. Chapter 2 presents the literature overview, along with a discussion of literature on the phenomenon MPA. Points of discussion regarding MPA includes its definition, symptoms and causes, influence on orchestral and brass players and treatment approaches to the symptoms thereof. Chapter 3 shows a detailed discussion of the methodological procedures used for this study, and includes information regarding the research paradigm and design, the sample, data collection, data analysis and ethical procedures. Chapter 4 presents the results of the analysis. Four main themes and fifteen sub themes emerged from the data analysis. Chapter 5 includes a discussion of the themes in relation to literature on music performance anxiety. Chapter 6 presents the summary and conclusions of the study along with recommendations for further research. A list of sources and appendices can be found at the end of this study.

CHAPTER 2

LITERATURE OVERVIEW

2.1 Introduction

In this literature overview, I aim to further my understanding of the phenomenon of MPA in musicians, its causes, management and treatments and how it affects brass players and their musical performance. The literature overview is divided into four sections. Firstly, I will be exploring the definition and concept of MPA. Secondly, I aim to understand related symptoms and causes of MPA within the literature. Thirdly, I will be exploring literature on MPA in orchestral musicians and brass players. Finally, I will explore available literature on treatments available for MPA, how it can be managed, and how anxiety can be used in a positive way to enhance musical performance.

2.2 Defining the concept of MPA

Valentine (2002:168) defines performance anxiety as "the experience of persisting, distressful apprehension about 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". Brugués (2009:1) defines MPA, as "the experience of marked and persistent anxious apprehension related to music performance that has risen through specific anxiety conditioning experiences and which is manifested through combinations of affective, cognitive, somatic and behavioural symptoms".

In Brugués' (2009) doctoral study *Music Performance Anxiety: A Review of the Literature",* she argues that Performance Anxiety is a generalized term known as stage fright and that it doesn't necessarily focus on the term Music Performance Anxiety (MPA). She argues that MPA occurs in a variety of performance settings, but that it can lead to severity of anxiety disorders such as social phobia. Papageorgi, Greech and Welch (2013) found that MPA has close links with other forms of anxiety, specifically with social phobia. Most music performances takes place in front of an audience, and often involves musicians playing together which requires some form of social and communicative abilities (Kenny & Osborne, 2006; Lehmann, Sloboda & Woody, 2007; Papageorgi, Hallam & Welch, 2007; Valentine, 2002; Williamon, 2004; Wilson, 2002; Wilson & Roland, 2002). In accordance with social phobia when performing, Lehmann et al. (2007:155)

states that the perspective of the Western concert hall tradition, "which is marked by strict observance of performance conventions and great psychological separation of the performer from the audience", puts more stress on the classical performer than performers of light music who performs in more informal environments. Kenny (2006:4) points out that anxiety may be experienced by some people as due to past negative experiences in relation to failure, while others view it as positive "as a way of enhancing their performance". Brugués (2009) further talks about MPA as an isolated disorder, which only affects one part of a person's life and that other co-morbid disorders that may be present in a significant minority of those affected by it, are most commonly known as generalized anxiety disorder. This disorder appears to co-occur in about one-third of those suffering from severe performance anxiety. These individuals usually have a long history of generalized anxiety in most facets of their lives and not solely on performing on stage in front of an audience. She further states that others may suffer from social anxiety, which occurs with interactions with other people as well as the performance setting, which goes together with social phobia. As a result, about 10-15% mentioned above meet criteria for clinical depression (Brugués, 2009).

2.3 Symptoms and causes of MPA

There are three factors that contribute to performance anxiety: The person (trait anxiety), the task, and the situation (Valentine, 2002; Wilson, 1997; Wilson, 2002). A naturally anxious and less experienced performer would perform at their best when performing a well-rehearsed piece for a demanding task. In the contrary, a more relaxed, experienced performer will respond better in a more demanding situation to perform at their best (Valentine, 2002; Wilkinson, 2005; Wilson, 1997; Wilson, 2002). This indicates that a high level of one of these factors can be compensated for by a low level of the other. According to Wilson (2002), a naturally anxious performer should prepare less difficult pieces for either an audition or a performance. However, adequate preparation is necessary with pieces that are more difficult in order to eliminate unnecessarily high levels of anxiety resulting in worry about the level of difficulty.

In addition to the person, the task, and the situation contributing to anxiety, Burgués (2009) found that people who suffer from anxiety disorder or panic attacks are likely to have experienced panic behaviours through their parents and developed these disorders as children. Children are generally not prone to anxiety and they usually like to perform. She further states that the transition between childhood and adolescence can influence the development of MPA. "Innate temperament, increasing cognitive capacity and self-reflective function, type of parenting and other interpersonal experiences, perception and interpretation of surroundings,

technical skill and mastery, and specific performance experiences that may have positive or negative outcomes" (Burgués, 2009:3).

Symptoms of music performance anxiety can be classified within these three fundamental concepts: Physiological, behavioural, and cognitive (Brugués, 2009; Kenny & Osborne, 2006; Müller, 2001; Papageorgi, 2006; Papageorgi et al., 2007, 2013; Slocumb, 2009; Valentine, 2002; Williamon, 2004; Wilson, 2002).

Physiological symptoms are the most common and include increased heart rate, nausea, sweating, dizziness, hyperventilation, and dry mouth (Brugués, 2009; Kenny & Osborne, 2006; Lehmann et al., 2007; Müller, 2001; Papageorgi, 2006; Papageorgi et al., 2007, 2013; Slocumb, 2009; Valentine, 2002; Williamon, 2004; Wilson, 2002). Valentine (2002:168) points out that, physiological symptoms "are a result of over-arousal of the autonomic nervous system" and that over-arousal can also be linked to fear of performance as a result of negative past experiences. Arguably, wind instrument players do suffer from these symptoms when they are performing under pressure, because of the physical demands of the instrument, functioning of the embouchure, and breathing (Müller, 2001; Slocumb, 2009). Physiological symptoms for the brass player may manifest in shortness of breath and compensatory behaviours such as placing unnecessary force on the mouthpiece against the lips. The method is ineffective and results in tiredness and adversely affects tone quality (Slocumb, 2009). Symptoms like increased heart rate can trigger shortness of breath and can lead to weak sound production and a decrease in note accuracy (Slocumb, 2009:2).

The behavioural symptoms include a combination of symptoms including cognitive symptoms such as ruminating, worrying, excessive negative thoughts, sleeplessness and a blank expression of the performance itself (Brugués, 2009; Kenny & Osborne, 2006; Lehmann et al., 2007; Müller, 2001; Papageorgi, 2006; Papageorgi et al., 2007, 2013; Slocumb, 2009; Valentine, 2002; Williamon, 2004; Wilson, 2002). These symptoms often lead to muscle tension which leads to undesirable mistakes in a performance (Lehmann et al., 2007).

Cognitive symptoms are negative thoughts about performing linked with subjective feelings of anxiety. It is a fear of public performance itself, which can lead to negative self-evaluation and resulting in a loss of self-esteem (Brugués, 2009; Kenny & Osborne, 2006; Lehmann et al., 2007; Müller, 2001; Papageorgi, 2006; Papageorgi et al., 2007, 2013; Slocumb, 2009; Valentine, 2002; Williamon, 2004; Wilson, 2002). Lehmann et al. (2007) states that the physiological, behavioural, and cognitive symptoms of anxiety are co-related and could happen

simultaneously. For this reason I believe it is important to determine the origin of anxiety, understand how it manifests in players and how to control anxiety appropriately.

2.4 Arousal in performance

According to Valentine (2002), and Williamon (2004), a substantial amount of arousal can be beneficial to musical performance. When arousal is at a moderate level, the performance is usually at its best. The Yerkes-Dodson law shown in figure 2.1 below illustrates this and is represented in the shape of an inverted U.

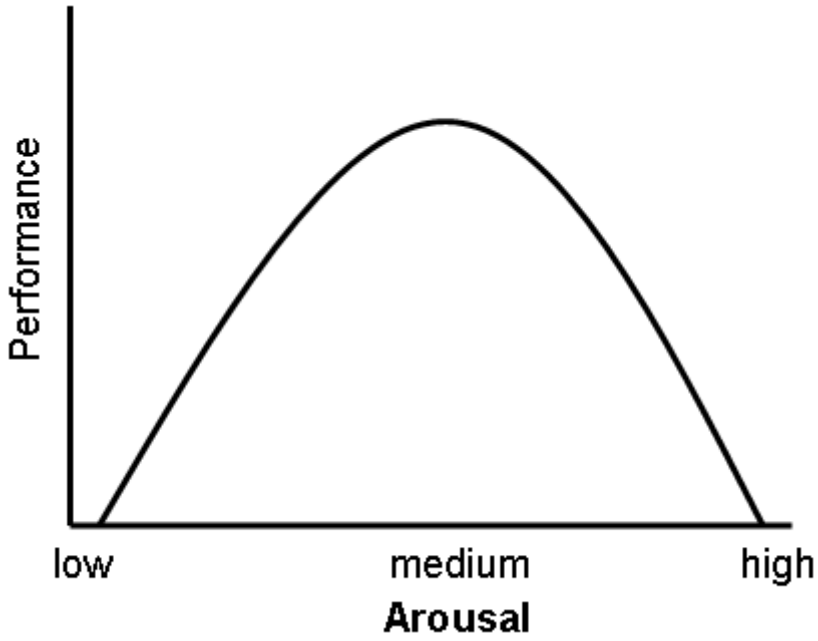

Figure 2.1 The Yerkes-Dodson inverted-U model, measuring the relationship between the level of arousal and performance quality (Williamon, 2004)

This model shows when arousal is at a low level, the performance can be dull and lifeless, similarly, high levels of arousal is also detrimental to a performance (McNally, 2002; Valentine, 2002; Williamon, 2004). A moderate level of arousal ensures a performance optimum level.

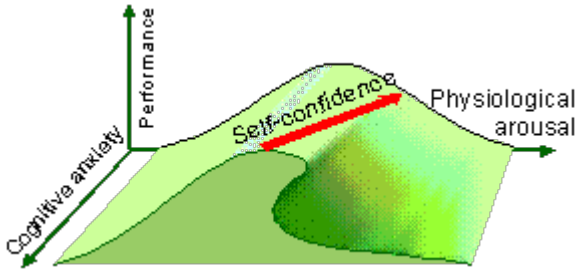

Figure 2.2 Relationship between anxiety and performance (Fazey & Hardy, 1988)

When arousal increases, it amounts to maladaptive anxiety which is harmful to performance quality. Figure 2.2 above suggests that when cognitive anxiety is high in the different physiological aspects and when optimal arousal increases, it can lead to a vicious spiral of negative thoughts and therefore may cause a performance to collapse (Valentine, 2002; Williamon, 2004). When cognitive anxiety is low the Yerkes-Dodson law illustrates that there is little fear of failure and its consequences (McNally, 2002). However, according to Valentine (2002) and Williamon (2004) it is necessary to distinguish between the cognitive components of anxiety and the physiological responses to stress.

2.5 MPA in orchestral and brass players

Lehmann et al. (2007:145) argues that performers aiming to become professional musicians as children or teenagers can experience anxiety even at an early stage. Although during this stage they usually receive more assistance and support from their parents and teachers, "they can also place such an emphasis on achievement that their young musicians feel pressured". They further state that young and older musicians share the same experiences of MPA. Shoup (1995) found that roughly 55% of junior high and high school music students reported experiences of MPA. Based on research, Lehmann et al. (2007) estimate that all performing musicians are affected by various amounts of MPA. In a survey by Wesner, Russel and Davis (1990) on music students, they've found that 61% of these have reported either clear or moderate anxiety when performing; with 47% of them claiming that anxiety is the reason for impaired performances.

Based on a survey of professional orchestra members by van Kemanade, van Son and van Heesch (1995), 59% of them have reported past experiences of MPA in a way that it affected their personal and professional lives (Burgués, 2009; Lehmann et al., 2007). In a survey of professional orchestral musicians, Fishbein, Middlestadt, Ottati, Strauss and Ellis (1988) found that 82% experienced medical problems with 76% of these reporting one medical condition to have interfered with their performances, and that 36% of them have suffered from about four autonomous problems. The most common problems were: 22% lower back problems, 22% neck problems, 20% shoulder problems, and 16% upper back problems. Furthermore, 24% suffer from stage fright, 17% from depression, 14% sleep disturbances, 13% from acute anxiety, and 10% suffer from severe headaches (Burgués, 2009:21). Based on these surveys on orchestral musicians, Burgués (2009:23) found that generally musicians are ashamed of admitting to be sufferers of MPA and that "the more musicians are educated about performance anxiety, the more readily they can recognize its prevalence in other musicians without feeling ashamed".

Papageorgi et al. (2007) found that female performers generally experience higher performance anxiety levels than men. Females also seem to find the presence of the audience more threatening. These gender differences are especially prevalent among children and amateur musicians. The age of young musicians also play a role in their vulnerability towards MPA. It had been shown through case studies that different age groups respond differently towards MPA and that amateurs tended to be much more anxious than children or adults (Papageorgi et al., 2007).

Very few studies have focused on problems related specifically to brass players. Slocumb's Doctoral study *Causes, Effects, and Solutions to Performance-Related Anxiety: Suggestions for the Teaching of Brass Instruments* (2009) is one of the few studies I found focusing on brass players. The aim of the study was to understand the symptoms of MPA within brass players better, and to explore solutions of MPA through sport psychology and relaxation therapies. The study focuses on strategies for the tuition of brass instruments through a pedagogical view together with anxiety management strategies for the brass teacher, however Slocumb's study did not focus extensively on causes and solutions of MPA among performing brass instrumentalists.

Based on the flight or fight reaction that causes most symptoms of MPA to occur, Slocumb (2009:47) categorizes symptoms in brass players as the following: heart and breathing symptoms, tension and pain, nausea and abdominal problems. These symptoms can be classified as physiological symptoms. An accelerated heart rate causes a brass player's breathing to be shorter and shallower, which causes faster and uncontrollable breathing that debilitates musical phrasing. This is challenged with slow abdominal breathing and "acts as an antidote to the heart symptoms of anxiety" (Slocumb, 2009:47). Excessive amounts of adrenaline causes shortness of breath to certain extend that brass players feel exhausted, causing "friction in the breathing motion", which ultimately leads to over-breathing and dizziness (Slocumb, 2009:48). Worry due to inconsistent and bad breathing technique is damaging to musical performance and physical endurance for brass players. Slocumb (2009:48) states the following: "When a brass player breathes incorrectly, more energy is required form the embouchure to make up the difference. Players are largely unaware of this change in their playing and usually blame the resulting short endurance on their own self-perceived deficiencies". With regard to tension, pain and abdominal problems, Slocumb (2009:49) further argues that tension in the jaw can be a serious problem for brass instrumentalists. "Tension in the jaw can cause a nervous tick of constant clinching and lead to more serious problems with the Temporomandibular Joint that controls the jaw" (Slocumb, 2009:49). Nausea causes abdominal problems for brass players, especially diminishing the ability to use proper breathing and diaphragm support (Slocumb, 2009).

2.6 Managing MPA and available treatments

There are many ways to manage MPA. To support this statement according to Valentine (2002:174), states the following coping strategies of performance anxiety:

> Alexander and Feldenkries techniques, anxiety management training, aerobic exercise, autogenic training, attention focusing, cognitive systematic desensitisation, exposure to performance situations, nutritional therapy, development of interests and hobbies outside music, mental rehearsal, positive self-statements, relaxation techniques, muscle tension and finger temperature feedback, prayer, self-hypnosis, yoga, stress inoculation therapy and systematic rehearsal.

Valentine further states, from a sample of 478 different strategies suggested by professional and amateur musicians, that two-thirds focused on emotional coping strategies for instance, prayer and positive self-talk and one-third on problem solving strategies for instance, unprepared technical difficulties. Those whose principal managing style of anxiety were "emotion-focused, reported feeling less self-conscious and distractible", but had more "confidence and competence" than those using problem solving strategies (Valentine, 2002:174). Musicians who focused on problem-solving strategies reported having experienced "fewer disruptive thoughts during their most recent performance" (Valentine, 2002:174). As a result, it can be said that different aspects of MPA can be managed through different techniques.

Literature suggests that anxiety management techniques can be divided into three main categories namely physiological (physical), behavioural and cognitive (Slocumb, 2009; Valentine, 2002). Although there are many techniques used to cope with MPA, the coping strategies referred to in the next section are coincides with strategies used by the participants in this study.

Physical exercise

Taylor and Wasley (2004:163) give a detailed discussion about how physical fitness can be of importance to the well-being of a performer. They argue that "the connections between physical exercise, personal well-being, and performance are easy to overlook" and that little research has been done on how "physical and psychological well-being can interact for the betterment of the musician" (Taylor & Wasley, 2004:163). They combined the use of chronic and acute exercise, with music performance as part of a performance enhancement program to prove their statement on how it can enhance musical performance. They tested these techniques on a group of conservatory students, giving them regular exercises at a moderately intense workout, and

proved that regular physical exercise showed a decrease on the physiological symptoms of anxiety. They proved that being fit as a performer slows the heart rate and blood pressure during a performance and that being physically healthy as a performer can contribute to performance enhancement and the reduction of general anxiety. They also give general guidelines for regular exercise as well as pre-performance guidelines for musicians on MPA (Taylor & Wasley, 2004).

Müller (2001) states that physical fitness is beneficial to the well being of the wind instrument performer. She argues that wind instrument players require a high level of fitness in order to cope with the physical demands of the instrument and that physical and mental fitness is essential in being a professional performer.

Drugs

Musicians use a variety of drugs or substances like alcohol, Valium, beta-blockers and cannabis, in an attempt to treat symptoms of anxiety before a performance (West, 2004:273; Wilson & Roland, 2002:51). Prescribed drugs such as beta-blockers usually have an immediate effect on physiological symptoms of anxiety (Burgués, 2009; Müller, 2001; Valentine, 2004; West, 2004; Wilson, 2002; Wilson & Roland, 2002). According to Wilson and Roland (2002:51), drugs can be ultimately destructive in that performers become dependent on them, which have a negative effect on positive energy in a performance. They further state that although beta-blockers may be the most effective drug to reduce anxiety, "which act specifically to inhibit peripheral autonomic symptoms" through the reduction of heart rate and eliminating "butterflies", the drug has side effects like sleep disturbance, nausea, baldness, tiredness, and loss of sexual potency. Evidence that it may enhance musical performance may not be present (Wilson & Roland, 2002:51). Apart from its side effects, they are "particularly dangerous and occasionally precipitate heart failure" (Wilson & Roland, 2002:51). Müller (2001) argues that beta-blockers are not safe to use for persons suffering from asthma, heart problems and allergens which are associated with breathing problems, especially with regard to wind instrument players.

Brugués (2009) concludes that beta-blockers only reduces the physiological symptoms of anxiety in some way and that it lasts only for a certain period of time and cannot effectively be used in the long term as part of a performance enhancement programme. Due to many of its side effects, it may not be recommended for use among wind instrumentalists. However, it may be recommended to be used occasionally along with psychological therapies (Brugués, 2009). Although musicians suffering from MPA use a variety of drugs, it seems that beta-blockers are a popular choice amongst this population (West, 2004).

Alexander Technique

Various theories suggest that the Alexander Technique (AT) principle helps to reduce the cognitive and behavioural symptoms of anxiety in musical performance among musicians, such as breathing, heart rate, blood pressure, posture, freedom of movement, quality of musical performance, and mental attitude (Hoberg, 2008; Müller, 2001; Roos, 2001; Valentine, 2004). The Alexander Technique is a method of kinaesthetic re-education through control over body movements in relation with the head, neck and back. AT is mostly taught through one-on-one lessons, and occasionally in group lessons. The aim of AT is to reduce tension in the body by means of the "primary control" through the head, neck and spine, which is associated with a "new postural model to verbal instructions" (Müller, 2001; Valentine, 2004:179). According to Valentine (2004), Barry Tuckwell, arguably one of the world's leading French horn players, used this technique to enhance musical performance.

One of the activities associated with the Alexander Technique is breathing, which is essential for wind instrument players and singers. In a study on a group of college music students, it was proven that AT training improved students' breathing problems and resulted in excess energy which improved daily physical and mental well-being (Valentine, 2004). It was found that AT benefitted participants and that it influenced their playing in a positive way. Valentine states that "AT may have beneficial effects on the quality of performance, the mental state of the performer, and may help to modulate increasing variability of heart rate under stress" (Valentine, 2004:189).

Centering

Centering is a focusing strategy originated from the Japanese martial art of *Aikido* and from Western psychology, and was developed in the 1970's by Dr. Robert Nideffer, an Olympic sports psychologist. *Centering* helps to control the body's energy level through relaxation; from higher to lower energy and involves focus and proper breathing technique, which may help to reduce anxiety in brass players (Greene, 2001; Greene, 2002; Osborne, Greene & Immel, 2014; Slocumb, 2009).

Author of *Audition Success* (2001) Don Greene, an Olympic sports psychologist himself, explains why *centering* can be of importance to performers seeking to reduce their anxiety levels. He has worked intensely with a vocalist and a French horn player towards auditions prone to high levels of anxiety, and to succeed through mental preparation. He introduced the *centering* technique into their daily practice routine and gave them instructions on proper breathing techniques (Greene, 2001). This is a valuable source for explaining the *centering* technique and

how musicians can apply it to their performance level. Slocumb (2009:72) explains that the *centering* technique "involves many of the methods used in decreasing the effects of musical performance anxiety". This technique helps to regulate breathing, muscle tension, and a positive mindset about performance quality (Greene, 2001; Greene, 2002; Osborne et al., 2014; Slocumb, 2009).

Eye Movement Desensitization and Reprocessing

Plummer (2007) suggests that Eye Movement Desensitization and Reprocessing (EMDR) can be beneficial in managing performance anxiety in brass players. EMDR is defined as "a systematic clinical treatment for a range of dysfunctions that have resulted from traumatic or other experiences" (Plummer, 2007:9). Although EMDR is mostly recommended by psychologists to treat post dramatic disorder, it can also be an effective treatment for performance anxiety (Plummer, 2007). "Because the psychotherapy component of performing musicians by permanently changing individual neural circuits within the brain, the treatment proves to be a credible and legitimate way of irrational cognitions and negative physiological symptoms associated with performance anxiety" (Plummer, 2007:83).

His motivation why this technique is of importance in managing performance anxiety to brass players, is because brass players require a unique form of muscle control over the technical aspects such as embouchure, tonguing, finger movement, and breathing as well as a positive mindset on performing such an instrument. This technique would inspire brass musicians to eliminate negative feelings about performing a brass instrument and the capacity of freedom of movement to enhance musical performance quality in aspects such as expression and emotion (Plummer, 2007).

2.7 Conclusion

Literature suggests that there are many diverse coping strategies to reduce and manage MPA. While the study of MPA has also been the subject of many books, articles and studies, it provides an overall spectrum of music performance anxiety as a whole but does not necessarily focus on brass musicians. A few studies focus on wind and brass players, containing coping strategies and helpful information on how to enhance musical performance of wind instrumentalists, however, there is a need for further study with regard to brass players. To emphasise this, Slocumb (2009:73) argues that the literature often focuses "on a broad scope of situations involving all forms of musical performance" and advocates for more knowledge on how each area is affected

by performance-related anxiety, which is an important aspect of teaching. The universal nature of MPA deserves further study. Slocumb further states that there is a need for research focusing on perfecting suggested techniques, exploring further methods, and combining this knowledge with a widespread education of performers and teachers which can "enhance musical performance of all genres and lead to a time when performance-related anxiety no longer plagues dedicated musicians who simply desire to perform" (Slocumb, 2009:74,75).

CHAPTER 3

METHODOLOGY

3.1 Introduction

In this section, I will provide a brief explanation of the methodological process to be followed in this study. There will be a brief overview of the chosen research paradigm and the process of data gathering techniques and analysis. This section concludes with the ethical considerations in the research project.

3.2 Research paradigm

This study uses a qualitative research approach and falls into the interpretative paradigm. According to Willig (2008:8):

> … qualitative researchers tend to be concerned about meaning. That is, they are interested in how people make sense of the world and how they experience events. They aim to understand 'what it is like' to experience particular conditions, and how people manage certain situations.

Accordingly, this study explores self-reported experiences of music performance anxiety (MPA) among brass players, a topic which lends itself to a qualitative method of inquiry.
Maree (2007:51) describes qualitative research on the "naturalistic concept" as:

> Understanding phenomena within their naturally occurring context with the intention of developing an understanding of the meaning(s) imparted by the respondents so that the phenomena can be described in terms of the meaning that they have for the actors or participants.

3.3 Research design

This study uses multiple case studies which form part of an instrumental case study design and fall within an interpretative approach (Maree, 2007:57; Thomas, 2011:141; Willig, 2008:79). According to Thomas (2011:10), "Case study is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution,

programme or system in a 'real life' context. Willig (2008:74) argues that case studies are "therefore not characterized by the methods used to collect and analyse data, but rather by its focus upon a particular unit of analysis: the case".

An instrumental case study approach has been followed because the study makes use of qualitative research and identifies the phenomenon of a single case, such as Music Performance Anxiety (MPA), by means of multiple case studies. According to Willig (2008:77), "in instrumental case studies the cases constitute exemplars of a more general phenomenon. They are selected to provide the researcher with an opportunity to study the phenomenon of interest". Thomas (2011:141) maintains that "each individual case is less important in itself than the comparison each offers with the others".

However, the study is not based exclusively on an instrumental case study, but contains phenomenological elements, because the participants describe their lived experiences of MPA over time (Willig, 2008:56; Smith & Osborn, 2003:38). Willig (2008:56) believes that interpretative phenomenological analysis "accepts the possibility of gaining direct access to the research participants' life worlds" and of exploring "the research participant's experience from his or her perspective", such as exploring performance anxiety in brass players in this study. In this interpretative phenomenological analysis, the questions put to the participants were open-ended and non-directive, where the principle, according to Willig (2008:57), "is to provide participants with an opportunity to share their personal experience of the phenomenon under investigation with the researcher", by means of semi-structured interviews which would be analysed and transcribed later.

3.4 Sample

According to Durrheim (2006:49), sampling refers to the "selection of research participants from an entire population, and involves decisions about which people, settings, events, behaviours, and/or social processes to observe". According to Maree (2007:79), "qualitative research is generally based on non-probability and purposive sampling rather than on probability or random sampling approaches". A purposeful sampling strategy was followed for this study. The sample included ten brass players, all of whom shared their views and experiences of MPA, adding useful insights into the experience of music performance anxiety. Eight professional and two semi-professional brass players in Gauteng, of whom seven are male and three female, between the ages of 22-46, were invited to take part in the study. The brass instrumentalists included five French horn players, three trumpet players and two trombone

players. The reason for interviewing both semi-professional and professional musicians was to further explore the trajectory in music performance anxiety in brass players and to discover whether their experience caused them to undergo MPA.

3.5 Data collection

According to Punch (1998:176), "the interview is a data collection tool of great flexibility, which can be adapted to suit a wide variety of research situations". The purpose of qualitative data collection was to focus on the participants' actions and words and to see the phenomenon from the perspective if their personal world view. Willig (2008:76) believes that "since the case study is not itself a research method, researchers need to select methods of data collection and analysis that will generate material suitable for case studies". According to Willig (2008:8), semi-structured interviews in naturally occurring settings may therefore offer deeper interaction and development towards the phenomenon of the case. This group can be identified as "homogeneous", which means "they share the experience of a particular condition, event or situation" (Willig, 2008:61).

The study followed a semi-structured interview schedule. The interview questions probed the participants' background, performance experience, experience of MPA and its symptoms, the duration and nature of those symptoms, and current strategies for coping with MPA. The interview focused further on the participants' view of MPA as unique to brass players, as well as on approaches that help control MPA.

The interviews took place in private settings in Pretoria and Centurion and lasted for approximately 20-45 minutes each.

3.6 Data preparation and analysis

The semi-structured interviews were audio-recorded and then transcribed verbatim. Following the principles of interpretative phenomenological analysis (Willig, 2008:64) and interpretative inquiry (Thomas, 2011:171), the interview transcripts were transcribed and analysed one by one. The transcripts were read and reread several times in order to elicit codes. The data was further organised and explored in detail, allowing for inductive codes to reveal the relation and interrelationship of themes (Maree, 2007:107). The researcher attempted to integrate themes

across the transcripts, identifying shared themes that captured the essence of the participants' experience.

3.7 Research quality

Trustworthiness had to be ensured when analysing data using multiple data sources. Maree (2007:113) states that "assessing trustworthiness is the acid test" of the researcher's "data analysis, findings and conclusions". Once the data were carefully analysed, the themes and subthemes were discussed with independent researchers.

Furthermore, generalization was avoided (Maree, 2007:115) because my intent as a qualitative researcher was to explore the insights from the participants' perspective and experience of the phenomenon.

3.8 Ethical considerations

Informed consent forms were handed out to participants before the data collection process began. These forms gave a detailed explanation of the research procedure, which enabled the participants to understand the aims of the study, and to be aware that they had the right to refuse to take part in the research. The participants were informed that they would remain anonymous, and had the right to withdraw from the study without the fear that they would be penalized (Willig, 2008:19). Permission was granted by each candidate before their interview was recorded.

For confidentiality purposes, all the data that was gathered for this study will remain the property of the University of Pretoria and will be stored for a period of fifteen years for archive purposes. After this period, the data will be destroyed. Chapter 4 will include the results of the study.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter indicates the results of the interview data gathered during the semi-structured interviews with ten brass instrumentalists. The aim of the interview process was to understand brass players' experience of Music Performance Anxiety (MPA) by probing their early experiences, symptoms, coping strategies and views on whether MPA affects tone and expression. Each interview was transcribed and then analysed by means of qualitative coding. Through this process, main themes and sub themes were identified. Top-down and bottom-up (deductive and inductive) approaches were used to analyse the data.

4.2 Main themes and sub themes

The analysis revealed four main themes and several sub themes.

Table 4.1: Main themes and sub themes

Main theme A: Background and early experiences of MPA	**Raw data themes**
Sub themes: i. Playing experience and/or professional experience	*I started French Horn in Grade 8* (6) *I joined the Correctional Services band in 1989* (2)
ii. Earliest experience of MPA	*I got so nervous that I could not move my hands. I totally went blank* (2) *It was a* 'kunswedstryd' (6)
Main theme B: Factors impacting MPA experience	
Sub themes: i. Recent experience of MPA	*I really battled…it was not a pleasant run (1)* *I did not enjoy that (6)* *The mainly major daunting experience (7)*

ii. Circumstances/situations	*The conductor plays a big role in creating anxiety (3)* *I do get more nervous if family is in the audience (8)*
iii. MPA over time	*My inner speech changed (2)* *Everyone gets nervous (4)* *More confidence comes with experience (5)*
iv. Guidance by teacher/s	*None whatsoever (1)* *Never during college (4)* *He also really helped me just get into that mind-set of 'this is going to be good' (8)*
v. MPA affecting tone and expressiveness	*It is a downward spiral (1)* *It will definitely effect your tone (3)* *Anything that affects the body is going to affect the tone (8)*
Main theme C: MPA symptoms experienced	
Sub themes: i. Physiological (physical)	*I feel it in the throat (5)* *Dry mouth (10)*
ii. Behavioural	*I feel very exposed (2)* *Shaky vibrato (5)*
iii. Cognitive	*I panic (1)* *Go blank (7)*
Main theme D: Coping strategies used against MPA symptoms	
Sub themes: i. Substances: drugs/beta-blockers	*Beta-blockers (1)* *Rescue drops or number 8 tissue salts (5)*
ii. Effects and side effects of substances	*Tends to lower your blood pressure (2)* *You get kind of sleepy (9)*
iii. Practical and physical coping strategies	*To be prepared (3)* *Staying in practice (7)*

	I do breathing exercises (9)
iv. Mental coping strategies and pre-performance routines	*Meditation (3)* *Blinkers on (4)* *I talk to myself (7)* *Right mind-set (8)*
v. Alternative coping strategies	*Alexander technique (5)* *I cycle a lot (7)*

Main theme A focuses on the background and early experiences of MPA. Sub themes include playing experience and/or professional experience, and the earliest experience of MPA. Main theme B focuses on factors impacting MPA experience and addresses five sub themes: recent experience of MPA; circumstances/situations; MPA over time; guidance by teacher/s; and how MPA affects tone and expressiveness. Main theme C (MPA symptoms experienced) emphasises the participants' symptoms of MPA and presents their views on whether these symptoms occur only among brass instrumentalists. This theme resulted in the following sub themes: physiological (physical); behavioural; and cognitive. Main theme D (coping strategies used against MPA symptoms) focuses on each participant's coping strategies or experiences of controlling MPA and addresses five sub themes: substances: drugs/beta-blockers; effects and side effects of substances; practical and physical coping strategies; mental coping strategies and pre-performance routines; and alternative coping strategies.

4.2.1 Main theme A: Background and early experiences of MPA

The main focus of main theme A was to gather the participant's general musical background of learning a brass instrument and the development of those skills in becoming a brass instrumentalist. This may have contributed to certain challenges to the participant. When the data had been analysed, the following subordinate themes emerged: playing experience and/or professional experience and the earliest experience of MPA.

Table 4.2: Age, gender, main instrument and starting age of instrumentalists
The ten participants are representative of a homogeneous sample covering gender, age (22-46) and instrument type. Most of the participants started learning the instrument during their early teenage years.

During the interview process, it became evident that most of these participants had learned or also play other instruments thus the reason for listing a main instrument and starting age.

	Gender	**Age**	**Main Instrument and starting age**
1	M	40	French horn. Started playing the piano at the age of 4 and the trombone at 9.
2	F	46	Trombone. Started playing the trombone at the age of 13. Also played the piano.
3	M	45	French horn. This participant did not state his starting age.
4	M	45	French horn. Started playing the French horn at 11.
5	F	43	French horn. This participant did not state her starting age.
6	F	22	French horn. Started playing the recorder at age 4 and the French horn at 14.
7	M	27	Trombone. Started playing the trombone at age 19.
8	M	25	Trumpet. Started playing trumpet at the age 12.
9	M	28	Trumpet. Started playing trumpet at the age 13.
10	M	22	Trumpet. Started playing trumpet at the age 12.

Sub theme (i): Playing experience and/or professional experience

Playing experience and/or professional experience could determine a number of important aspects to the phenomenon of MPA and experiences related to it. The main focus was to gather each participant's duration and level of experience with a brass instrument. Some participants

were semi-professional brass players and others were professional. Age, gender and the level of playing could be of importance to the phenomenon of MPA, as it was evident that the participants became more aware over time that mistakes in a musical performance or a recital could influence their performances negatively. This was elaborated on in main theme B.

Participants 1 and 3 started playing professionally in the military bands after leaving school, and seemingly did not receive tertiary training in music. Participant 3 has 27 years of professional experience as a French horn player. Participant 1 stated that he was destined from an early age to be a good musician, especially on the piano. He also learned and played a variety of brass instruments, before settling on the French horn at the professional level, having already mastered the trumpet:

> Participant 1: I was considered by many a bit of a child prodigy on the piano. I was destined for big things. I have joined the military as principle trumpet player…but about five, six years later there was a need for French horn players and I had always wanted to learn the horn. It always fascinated me, the instrument…21 years…

Participant 2 received tertiary-level training on the piano, but had learned the trombone at school. On joining the military band, she realised that she knew very little about the trombone, although she had never felt any related pressure before becoming a professional trombonist and could not measure herself against other brass players:

> Participant 2: I joined the Correctional Services band in 1989… When I joined the band and I started doing exams there, I realised that I know nothing about the trombone.

Participants 4 and 5 are foreigners, who both settled in South Africa when they joined professional orchestras. They underwent their tertiary music training while they were still abroad. Participant 4 has played professionally from a very early age and has 34 years of performing experience and between 25 and 30 years of professional experience. Participant 5 initially came to South Africa to play for one year and has since followed a professional career as a horn player in this country:

> Participant 4: My first fulltime job was when I was 22…and started playing whilst at college…I was probably 18, when I was doing my first professional…
>
> Participant 5: I have been playing almost 20 years…I came to South Africa to Durban when I was 23…

Participants 6 and 10 are semi-professional brass players. Participant 6 started learning the French horn at school and has often played in symphony orchestras. She studied voice as second instrument and the French horn as the first during her tertiary level training, and changed to singing as her first instrument halfway through her studies. Participant 10 had just completed his degree in music and is focusing on a career in trumpet performance:

> Participant 6: I started French Horn in Grade 8…I have been playing for about eight, nine years now.
>
> Participant 10: I have played in orchestras and bands across all styles. I have only been playing trumpet for 10 years. I started at the church, I have just learned some hymns and then went to Boys High where I picked up music properly.

Participants 7, 8 and 9 are professional brass players in their twenties. Participant 7 started a brass instrument when he was nineteen. He measured himself against others in the same age group who had already mastered an instrument at the music school where he received his tuition, and felt under pressure when performing in front of his peers. But with courage, belief, determination and passion for the instrument, he progressed quickly towards the level of his age group:

> Participant 7: I have been playing since 2007 which probably makes it about 10 years this year…I started recorder a year and a half, then switched to trombone. I was 19. Professionally I can say…six years.

Participant 8 began learning the trumpet informally at age 10, but, since taking it more seriously, he has excelled, becoming a professional trumpeter even prior to his tertiary studies. He has been playing professionally for six years.

Participant 9 began learning music at the age of 4. When he started the trumpet at 13, he felt that he had an advantage in learning the instrument, having received music tuition from a very early age. He has enjoyed many ensemble playing opportunities ever since. He eventually went to university and earned a degree in music. He has 10 years' professional experience.

According to the data, eight of the participants are professional brass players and two are semi-professional. Professional experience was determined and defined according to each participant's view of their level of playing/training on a brass instrument, their tertiary qualification in music, and their regular professional performance or teaching as brass players.

On the other hand, the semi-professional brass players perceive themselves as still training to become professional musicians.

Sub theme (ii): Earliest experience of MPA

According to the data, most of the ten participants experienced no anxiety in the early stages of learning their instruments, because they were playing for the joy of it. It seems that the realisation of the possibility of a bad performance was influenced by expectations or pressure in the performance situation, over, which the performer had little or no control, and this was when they experienced music performance anxiety for the first time.

Participant 1 was a regular performer on the piano as a child and had little fear of performing for big audiences. It was only at the age of eleven that he started to experience MPA. It seems that the performance situation and task mastery of a difficult piece made a significant impact on his performance:

> Participant 1: …I played an Eisteddfod and I was playing a Grade 6 crazy Beethoven piece…I played the first page and my nerves kicked in and I got completely lost and I blacked out and I got up and I walked away… I used to be extremely confident up until that point…I suppose it is an awareness of what could go wrong. It is not so much nerves or fear.

Similarly, Participant 6 experienced MPA for the first time at the age of ten, when she had to perform at an Eisteddfod. She claimed that playing in the afternoon session was more stressful than in the morning session:

> Participant 6: I was playing recorder… I did not know what was wrong with me, because I started to shake…It was a *kunswedstryd*…the afternoon when I had to play alto…I started to shake and I just stopped…So, it was really bad, like experienced that for the first time in front of people and the judges sitting there.

Participant 2 had had little experiences of MPA until she had to play her practical piano examinations at the tertiary level and it seems to have been a very negative experience. Similarly to the experience by Participant 1, the performance situation seems to have made such a significant impact that the participant experienced MPA for the first time:

> Participant 2: The first time I realised that I suffer from that, I did not actually realise it…thought that I was ill-prepared…it felt like I did not have the confidence to perform in

> front of people. I have never had that problem before. I got so nervous that I could not move my hands. I totally went blank…

> Participant 3: …in the youth orchestra is possibly…yes…I mean because you are young you tend to feel a little bit insecure about…especially your playing, because you do not have all that experience.

Participants 4 and 5 experienced MPA for the first time during their tertiary studies. Participant 4 experienced it during his internal brass recitals and it seems that performing was not the greatest consideration, but rather giving a verbal description of the piece prior to performing it was problematic:

> Participant 4: …all your peers, all your colleagues, anyone who plays a brass instrument in the college… they are all sitting there watching you play. But my biggest fear was talking, because we had to talk about the piece before it is played. I am quite happy playing…for me that was a terrifying experience to stand up and talk about a piece…say it slowly and not get laughed at for saying something stupid.

Similarly, Participant 5, who had performed in a music competition, stated that her teacher was at the competition, but did not attend her performance, which made her feel more anxious:

> Participant 5: I have won the state level of an MTNA…my horn teacher used to stay out of the room…he stood outside, because he did not want me to see the reactions on his face while I was playing…in a way it made me more nervous.

Participant 8 recounted that he had played music for enjoyment during his primary school years, and did not realise that mistakes may occur in music, nor did he realise that such mistakes mattered. Only later did he learn, during high school when performing on the piccolo trumpet, that mistakes could occur and he began to get nervous:

> Participant 8: I only just kind of started learning the piccolo…it was not feeling great and already my legs started shaking. I got through it, but it was really, really tough.

Participant 9 stated that he did not get nervous when he was younger because he was not necessarily focusing on being a good performer. He became anxious about performing the moment he started practicing and wanted to do well:

> Participant 9: However, during my varsity years when I started practicing and I actually wanted to put something good on stage, then it came in different phases and variables.

Participant 10 stated that the examination situation influenced his thoughts negatively when it came to performing on the trumpet:

> Participant 10: …I realised the first time that I played an exam that it can kill your playing. It was in grade 8, I did my first exam and literally I could not stop shaking. Although I was not nervous…for the exam itself…my body just like crumbled under the pressure in many ways…I could not get through it.

It became evident that first-time experiences of MPA occurred between the ages of ten and the early twenties, depending on the participant's starting age. It seems that when the participants reached a certain playing level after a few years, they became more aware that MPA can collapse a piece or a performance. It seems that MPA had a negative impact on the performer's attitude to performing and the symptoms were brought about by unforeseen circumstances during highly stressful performance situations, such as recitals, examinations and competitions. The symptoms will be elaborated on in theme C (see 4.2.3).

4.2.2 Main theme B: Factors impacting MPA experience

After the interview process, it became evident that all ten participants have or have had experiences of MPA during a number of different events and phases over time. The interview questions probed whether those situations had changed, and in what way. The data gathered revealed five sub themes: recent experience of MPA; circumstances/situations; MPA changed over time; guidance by teacher/s; and MPA affecting tone and expressiveness.

Sub theme (i): Recent experience of MPA

The interview questions probed the performance situation and the nature and severity of the symptoms. Participant 1's recent experience of MPA was during an opera performance. According to the data, not only was the piece very challenging for the French horn section, but he also felt very exposed every time he had to play a passage during the performances. He said he felt embarrassed every time he made a mistake and that he felt he was performing for his section and not the audience. He stated that he felt as if he was trying to please his colleagues and friends in the orchestra, rather than focusing on the task at hand:

> Participant 1: They [the section] are the first ones that hear the first line of defense and then the rest of the orchestra who are judging you all the time, then the conductor and

> only then afterwards the audience. And so I really battled…I was living on…beta-blocker pills for that whole run…it was not a pleasant run

Participant 2's experience was very similar to that of Participant 1. According to the data, it took place during a symphony orchestra concert and she felt very exposed when she played. She felt that there was a lack of support in the ensemble playing:

> Participant 2: …as soon as I am exposed…I find that I really suffer from anxiety.

According to the data, Participant 4 recently experienced MPA during a double horn concerto performance. He stated that his nervousness manifested in a way that made him feel "fidgety" before the concert.

In a way similar to Participant 4, Participant 5 experienced MPA during a recent solo performance of a work for horn and orchestra. She said it was a "funny experience", that the concert followed after multiple long teaching days and that she did not have time to prepare mentally for the piece. During the concert, the first note of the piece made her feel anxious:

> Participant 5: I thought: oh, no…please do not crack this now…you spend more time worrying…your mind goes off in a whirlwind…

Participant 6 experienced MPA recently during a symphony orchestra rehearsal while playing a solo passage as an orchestral player, not as a soloist. The moment she felt exposed, she started to feel anxious:

> Participant 6: So, when I started to play it I did not know I was only the horn playing…I started to stress a lot. My lips got like really dry and I started to shake…I did not enjoy that.

Participant 7 felt anxious and unprepared during an opera gala concert. He described it as "the mainly major daunting experience" and said it was "a highly professional gig". According to the data, the music was very challenging and he did not receive it in time to prepare for the rehearsals and the concert. However, he felt that playing with other experienced professional performers encouraged him to believe more in himself and to see it as a positive experience.

Participant 8 had recently felt different levels of anxiety when doing a solo performance or an orchestral performance. He said that, during the solo performance, he felt nervous because he was accompanying someone else in their examination in a different social environment and that

he did not want to let the person down. According to the data, he was physically drained, which had added to higher levels of MPA during the examination. During the orchestral experience, he felt that the level of difficulty in some of the parts caused him anxiety, but staying focused had helped him get through it.

According to the data, Participants 9 and 10 recently experienced MPA in uncomfortable performance environments. Both of them played solo performances but in different settings, one an examination recital and the other a ceremonial occasion:

> Participant 9: In the last four, five years I have not been an active recitalist…I think the professional stress of what they physically want from you in a performance is picking up…just performing in the environment of a recital where you have a few adjudicators or examiners before you and there is a certain expectation, brings more stress to the situation…

> Participant 10: …the most recent thing I had was playing *Last Post* this week…and I have not played it in four years. And although I did not crumble, I did not stop playing…I felt like so uncomfortable. I had to play in front of…a few hundred people…obviously it is solo and you have got to start…I think I did not let it get to me…I did not really think about it.

According to the data, these recent experiences of MPA occurred mainly during orchestral and solo performances, one exception being a rehearsal. It seems that exposed passages with high-task mastery contributed to the participants suffering MPA. It became evident during the interview process that the circumstances or the situation of a performance might have a significant impact on performance anxiety owing, to unforeseen circumstances. This paved the way for the next sub theme to emerge from early and recent experiences of MPA.

Sub theme (ii): Circumstances/situations

It became evident that the performance situation or task difficulty, in accordance with social settings and high expectation outcomes, contributed to the experience of MPA among the participants. The interview questions probed the circumstances.

Participant 1 said that the situation of his earliest MPA experience during an Eisteddfod, which was referred to in sub theme one, had an effect on his performance:

> Participant 1: It was in a big hall with at least 400 people in the audience. It was a national Eisteddfod. But up until that point…I used to perform in front of a 1000 kids

> every day…I had a complete blackout and I just did not know what to do. I did not know where to play. I just completely…I went to pieces, totally shattered.

Participant 2 states that she feels intimidated by the environment of a symphony orchestra, which had created earlier experiences of MPA:

> Participant 2: …if you play in a symphonic setup where there are strings, then I find that I am more intimidated. They just have this snobbish air about them and they tend to look at you when you do not sound the way they think you should sound…it is like you need to prove yourself to them before you get accepted.

She stated further that the conductor plays a big role in the orchestral environment and that she feels more confident in her own playing with a conductor who puts her at ease.

Similarly, participant 3 finds that conductors play a significant role in creating a suitable environment for the orchestra, depending on the circumstances. He maintains that a conductor's understanding of the technical difficulties in playing a brass instrument has a considerable role in creating either anxiety or trust for the performer:

> Participant 3: …the conductor that knows anything about, especially horn playing would know how to handle difficult passages…that is why I say conductors…can help you or can really destroy you with certain pieces or in certain circumstances. Conductors that know how the instrument works has got a little bit of sense how to work with people psychologically…

Participant 4 says that maintaining a certain level of playing creates anxiety because of the pressure that individuals put on themselves (inner critic) and also thinks that the technical demands of playing a brass instrument can result in MPA:

> Participant 4: …you are putting pressure on yourself and that is when the nerves come in, more than having to stand up on stage…if you are struggling with your playing…or if your lips are not feeling great…and if you feel that you are struggling technically with some stuff…what you feel your level of playing is at that moment…personally is the biggest one…your personal playing – how you view your own standard and your level; particularly in comparison with the rest of the musicians…the audience for me does not come into any equation…

Participant 5 described her situation when accepting a principal horn position as a young professional horn player, with virtually no orchestral experience, saying that it created higher levels of MPA:

> Participant 5: …most of the time I was in a band…and then I was playing all these symphonies and stuff…and you are in the job and now you have got to just get it done…then you realize how exposed something is…then the nerves kind of kick in, sometimes at the most inopportune moments…

Participant 6 feels more pressured in an orchestral environment than when playing a solo concert:

> Participant 6: …I think it is because there are more instruments and sometimes the French horns are exposed…because sometimes French horn players tend to say things…there are constantly things to worry about when you play in orchestras…especially when you are the leader of the section, then all the pressure is on you and French horns are very unpredictable…

It became evident during the data analysis that these experiences occurred during her time of playing mainly in student orchestras.

Participant 7 feels under pressure when playing first trombone in a symphony orchestra, but depending on the difficulty level and the circumstances, which would contribute to higher levels of MPA. He stated that playing with skilled musicians, helps him to play with more confidence and focus on the positive aspects of performing.

Participant 8 stated that he feels most nervous when playing solo performances, but has found a way of coping with this. He also feels more comfortable in an orchestral environment, but becomes nervous as soon as he feels exposed. He says further that he feels more nervous when his close relatives are in the audience:

> Participant 8: …I do get more nervous…if family is in the audience…maybe it feels judgmental in a sense…they have invested so much in me…it is like you have to…prove yourself.

Participant 9 maintains that the acoustics or the circumstances of a performance venue can influence MPA. However, the recital environment makes him feel more nervous regardless of the acoustics in the concert hall:

> Participant 9: …the physical place where you perform also…bring some challenges. Even if you have a nice acoustic, just performing in the environment of a recital where you have a few adjudicators or examiners before you and there is a certain expectation, brings more stress to the situation…

Participant 10 described the environment of his fourth year recital as being comfortable, and said that he was not nervous during the performance. He attributed this to having done sufficient preparation. However, he admitted that he was more anxious about it in preparation for the recital:

> Participant 10…in the weeks leading up to it I was more nervous than anything else…'I cannot play this'…'it is just never going to work'…when I came to recital I was so comfortable and although just before I went on I was nervous. The entire recital I felt so comfortable.

It seems that unforeseen circumstances in highly stressful situations led to these participants experiencing higher levels of MPA than usual. According to the data, these circumstances were mainly orchestral and solo settings and were influenced by acoustics, audiences, conductors or adjudication panels. There were other social settings, such as those involving family, relatives and colleagues. The following keywords seemed to represent the main contributors to MPA in the performance situation: Eisteddfod (400 people); environment of a symphony orchestra; conductors, pressure; exposed; French horn players tend to say things; first trombone; feels exposed (relatives); acoustics and fourth year recital.

Sub theme (iii): MPA over time

The analysis of the data revealed that, since experiencing MPA for the first time, the participants experienced different levels of MPA over time. The interview questions probed whether these experiences have been less frequent and whether performance experience may have contributed to there being fewer MPA experiences over time.

Participant 1 said his experience of MPA did not change over time, but that he became even more prone to it prior to a performance. According to the data, he was less prone to MPA on the French horn when he was younger and seemed not to care what others may have thought in the past about his playing:

> Participant 1: …I am nervous before every performance, and particularly on the horn. The horn makes me nervous. It is a scary instrument. It is an unforgiving instrument…it goes back to my experiences…you are just happy to play the horn and to play the right notes…and you are not really aware of the pressure that is on you…you do not really care that much.

However, he concluded that with more experience, he has learned to handle MPA:

> Participant 1: The older I get and the more experienced I get, I think the less it bugs me, and because I am more experienced I know I can fake my way through a lot of stuff. I can get away with a lot more.

According to the data, Participant 2 has learned to cope with MPA more positively over time. She said taking up singing helped her use her diaphragm better, which improved her breathing, confidence, positive thinking and self-talk when performing on the trombone. It became evident that she prefers not to play in a symphony orchestra any more:

> Participant 2: ...it tenses me up too much. I cannot cope with the stress.

As for Participant 2, the data revealed that voice training has helped Participant 6 to be more comfortable performing the horn in front of an audience. She stated that playing the French horn in her home-town seemed to contribute to MPA when playing the horn. This was before she moved to Gauteng because of the competitive environment in a smaller music community. However, according to the data, she still experiences MPA, but is able to handle it better.

Participant 3 maintained that with more experience comes wisdom and understanding in handling stressful situations. He has learned to cope with it better, and it has become "more manageable". He further stated that he feels more in control of MPA and has a better understanding of his personal limitations and shortcomings, and therefore does not experience MPA as often as before. However, he also states that anxiety will always be part of performing and that it could be put to positive use in a performance:

> Participant 3: …I think a little bit of anxiety is a good thing actually, because also lack of any anxiety could also make you play badly, because anxiety tends to keep you on your toes.

Participant 4 finds it easier now that he has more experience and that he has found a way of handling pressure. He explained further that anxiety is often self-inflicted through negative thoughts about performing, but that he experiences MPA less often than before. Like Participant 3, he also stated that everyone experiences anxiety and that it is a natural aspect of performing:

> Participant 4: …I mean it is natural. If you do not get nervous, then there is something wrong with you…everyone has got a bit of…adrenalin has got to kick in a bit.

However, he concluded that MPA could get more difficult to cope with as one grows older, as one becomes more aware of mistakes or limitations in one's playing, which could result in added professional pressure in performing, possibly indicating that he still experiences MPA:

> Participant 4: As you get older you can feel some aspects of the playing need more attention that you have usually given in the past.

Participant 5 found that she copes with anxiety better when she feels more confident in her playing ability and that, over time, she is not as nervous about performing as she would have been in the past. Having experienced stressful situations in the past now helps her to perform with more confidence. She further says she still becomes anxious when performing the better known and challenging horn solos in the orchestral repertoire, but that she has learned to use positive self-talk in handling the situation and to focus on enjoying it rather than to worry about it.

There was change in Participant 7's experience of MPA over time. From very negative earlier experiences he gradually learned to cope with anxiety. In the beginning he questioned his performance ability and compared himself to other musicians. He said that his efforts to improve his sight-reading and technique gave him more confidence, which resulted in better coping mechanisms. He finds confidence in his ability to face fear rather than fighting it.

Participant 9 states that MPA becomes worse over time, but that it relates to the regularity of performing:

> Participant 9: It has increased. I think it relates to…how fit are you to go on stage. So the moment…where you have not been actually a recitalist or whatever, then it increases.

He further concluded that participating more as a performer helps to control MPA and that anxiety is something that will always happen, depending on the circumstances of different performance-related environments. However, learning to cope with different environments will help to control MPA positively over time.

According to the data, the effect of MPA has changed positively for Participant 10 over time. He stated that nerves form part of performing and performing more often and gaining experience in solo and orchestral playing, together with sufficient practice and constantly improving his technique has helped him to grow more in confidence. In this way, he is able to handle MPA better than before.

The data revealed that these participants regularly experience MPA and it seems more manageable for them than before for the majority. Apparently, from the participants' point of view, having experienced stressful performance situations in the past creates an awareness that MPA may occur in any kind of performance situation, from solo recitals to orchestral concerts. According to the data, the participants seem to understand their strengths and weaknesses better as far as their instruments are concerned. The participants are generally more aware that MPA could ironically contribute to long-term self-confidence when performing on brass instruments.

Sub theme (iv): Guidance by teacher/s

The data revealed that most of the participants received some guidance on handling MPA when performing on a brass instrument. The interview questions probed the advice given and whether it could have had a positive influence on coping with MPA when playing a brass instrument.

According to the data, Participant 1 seems to have had no guidance on how to handle MPA from any teacher while attending instrumental lessons. He states that he was not advised on the mental challenges of performing, but learnt through experiencing highly demanding performance situations and learning to handle MPA in those circumstances:

> Participant 1: …no one really prepped me for that kind of thing other than exposure to situations like that. So. Lots of concert performance.

Corroborating the above statement, he stated that a colleague and friend who is a brass player gave him some guidance about performing under pressure and the psychology of playing a brass instrument. In recounting this, he explained that having been part of the military band had developed his mental strength, enabling him to handle pressured situations and focus on the positive aspects of performing.

Participant 2 did not receive guidance from anyone about handling MPA, and declared that she personally discovered techniques on how to handle it. Participant 3 stated that he received very little advice and insufficient guidance on how to handle MPA and that music teachers could address the psychological affect it has on performing more often. He argued that teachers should inform students about the impact anxiety might have on a performance, but that it should not be the main focus of performing. He stated that some students might be more prone to anxiety than

others and that, if a student did have MPA problems, these should be addressed. He further stated that students who are natural performers might not experience high levels of anxiety and that the teacher should not expose a student to a situation that could lead to MPA before a performance, but rather should not focus on it.

According to the data, Participant 4 did not receive any guidance on handling MPA during his tertiary studies. He received advice from his first horn teacher during his school years. The teacher had had a number of setbacks in his personal playing career owing to an accident, and he had given advice on what he had personally discovered about handling MPA; he used the term 'blinkers on', which enhanced his mental focus and eliminated negative thinking processes when performing:

> Participant 4: …for him it was a case of problem with the playing and the pressure putting on himself. And I think the whole 'blinkers on' thing helped him and he used to preach that to his students as well.

Participant 5 stated that she genuinely had not suffered from MPA during her tertiary studies and that her teacher felt it was unnecessary to focus on this when one did not suffer from it. She stated that, while she was at university, another horn student had suffered from MPA and that her horn teacher recommended that she use beta-blockers. She continued that her high school teacher believed that preparing sufficiently for a performance, eliminates the fear:

> Participant 5: …my high school teacher always said: 'if you have practiced and you are prepared and you know you can do what you are there to do…then you should not be'…

Participant 6's horn teacher during high school suggested relaxation techniques before playing a concert. She was also advised to avoid salty food and apples prior to performances.

Participant 8 had a teacher who had recently guided him on the psychology of performing, which helped him in a number of ways to eliminate MPA:

> Participant 8: He is the only one really that has helped me with…psychology behind playing…not just about the nerves and all that, but you know all sorts of aspects of music and playing trumpet…he also really helped me just get into that mind-set…

Participant 9 had done his own research into MPA. He said he attended performance ethics discussions and received advice about performance-related issues from different lecturers and

fellow students while at university. It seems that he was not given advice by any brass teacher about handling MPA.

Participant 10 received advice on MPA from his current trumpet teacher. He stated that his teacher is a firm believer in sufficient practice and had recommended that it would eliminate fear and doubt when it came to technical challenges on a brass instrument and would support one's ability to handle pressured situations when performing. He explained further that his teacher recommended using beta-blockers for highly stressful performance situations, which he had personally found to be beneficial in handling MPA.

It became evident that some of the participants had been given advice by their teachers on controlling MPA. It seems that the advice showed positive results when dealing with occasions when MPA could occur during performances. The advice seemed to be mainly on controlling the physical symptoms of MPA and overcoming mental problems in performing a brass instrument with regard to technical difficulties that may lead to possible MPA. However, a few participants were not advised on MPA, and they viewed it as something that could have contributed to more positive results when performing under pressure.

Sub theme (v): MPA affecting tone and expressiveness

During the interview process, the questions probed each participant's own view on how MPA affected tone and expressiveness for brass instrumentalists. It appeared that MPA has a definite effect on a brass player's tone and ability to perform expressively.

Participant 1 described MPA as problematic in terms of the effect it might have on a brass player's body efficiency, which may influence almost every technical aspect and would influence a brass player's efforts to perform expressively:

> Participant 1: Drastically…when you are nervous you constrict…you are not as free and free to perform as you are concentrating more on being accurate and not knocking notes over than actually just go and singing through big phrases…everything tends to sort of close up and that restricts your airflow, because you are concentrating on not shaking and vibrating the right notes…airflow affects tone. Tone affects musicality…it is a downward spiral.

Participant 2 stated that MPA restricts a brass player's ability to play with emotion and a full quality of tone, because anxiety influences both body and mind:

> Participant 2: …it definitely affects the tone…it gets out of tune, it does go thin and it can sound a bit shaky…expressing yourself is to me almost impossible if you have a serious MPA situation, because I feel limited. It feels like I am trapped inside myself…you cannot give any emotion to anything…

Participant 3 stated that MPA affects a brass players' breathing and that habitual problematic breathing techniques develop, which could mean irregular breathing methods, affecting tone and expressiveness:

> Participant 3: …if you breathe more quickly and you breathe shallower, it will definitely affect your tone…it could also be a problem when you have a long phrase…because you breathe more quickly and more often because of your heart tempo and because of anxiety…I think that is a big problem with anxiety, because it is a very physical thing; the anxiety and as well with playing the brass instrument…

Participant 4 explained that MPA would not necessarily influence certain aspects of playing a brass instrument, but that anxiety exposes a brass player's weaknesses when he or she is overcome with anxiety:

> Participant 4: …you cannot say nerves affects all sorts of things…if you are nervous…those nerves…will chisel away at your weakest points. Those nerves will find the weakest points, either in your playing or your ability…if you find it hard to express yourself in phrasing and in playing a phrase in the right way…that is going to be a lot worse with nerves for sure. Any little chink in your armoury those nerves go for…it could be anything. You then try to do other things which are maybe not technically correct…

Participant 5 stated that symptoms such as a dry mouth and shaking caused by anxiety, influences brass players' breathing and as a result affects their tone, dynamic range and expressiveness so that these are somewhat limited:

> Participant 5: …if you have got a dry mouth that can really affect you…that shake in the sound can really throw you for a loop…and if you are not breathing properly as well…and you are breathing really shallowly, then you are not going to make your phrases…You can either be forcing, because like your chops are tired…because you are not breathing properly…your dynamic range goes from mezzo piano to a mezzo forte, instead of you do not take the chance to play really softly or really loudly, because you are nervous you are afraid something is going to happen. So, it can affect how expressively I play.

Participant 6 stated that MPA influences brass players' tone and that they use shallow breathing and excessive mouthpiece force to compensate for excessive shaking of the arms or hands. This causes the body to constrict, fighting against MPA.

Participant 7 stated that brass players suffering from anxiety use restricted diaphragm support and inconsistent airflow, resulting in a weak tonal quality. According to the data, he suggested that brass players should play with confidence and self-belief, seeking to perform with expressiveness rather than allowing anxiety to control the thoughts. He stated further that MPA affects most musicians and that it would challenge anyone's playing ability. Brass players should face it rather than fighting against it when performing.

Participant 8 maintained that the body responds to anxiety and therefore tenses up; that it would affect a brass player's technical proficiency and breathing in many ways and, as a result, would influence tone and musicality, owing to the physical nature of brass playing:

> Participant 8: …anything that affects the body is going to affect the tone…if one is nervous one might have a tendency to tense up and if you tense up, your tone is going to tense up…if one is focused too much on hitting the right notes…then you know musically it is going to be dead, which then also will affect the breathing.

He further suggested that brass players should seek to concentrate on one weak aspect when practising and performing, so that when anxiety occurs, it need not influence one's musicality so much:

> Participant 8: …let your sound be your teacher…find one aspect of it and focus on that…I focus on the air…one has to focus on the technique and really get that good and practise analytically…

Participant 9 said that bad acoustics could also play a role in a brass player's ability to play with a good tone. He further stated that brass players tend to take alcohol before concerts and that it could hinder their ability to perform musically. He suggested that brass players should experiment with the possible outcomes that MPA could have in different contexts and find ways of performing in more comfortable and suitable environments. A player could also do physical exercises to build confidence and follow appropriate diets to help toward the best performance. Participant 10 concluded that a brass player's tone quality is affected by breathing incorrectly to counter anxiety and the symptoms like shaking, which makes the body feel tense:

> Participant 10: …for tone…if you are not breathing correctly, if you are shaking if you are worried about something else…you cannot focus on breathing properly. You cannot focus on making a nice sound…then the sound has to be bad – a very close sound, sometimes very rough…if the stress is getting the way of you playing your instrument…you are not going to be able to phrase nicely.

He further said that MPA hinders a brass player's physical proficiency owing to a tensed posture, which would make it difficult for a player to perform expressively and establish a confident stage presence:

> Participant 10: …physically it drains you…it affects you physically…because brass playing is very, very physical…just the physical effects that MPA has…you are very hindered then in expressing yourself or phrasing properly…if you are battling with MPA…you will not really have a good presence on stage either.

The data revealed that MPA has an effect on a brass player's ability to perform expressively and with a good quality of tone. It was found that symptoms like shaking and trembling could result in brass players performing with a weak posture, which would result in shallow breathing and would make it difficult to control phrasing on the appropriate instrument. It was revealed that difficult technical aspects of brass playing, such as breath control would be more exposed when the player was suffering from MPA and would result in a forced quality of tone. Musicality would then be affected.

4.2.3 Main theme C: MPA symptoms experienced

After the participants had described their experiences of MPA, the interview questions probed their symptoms while experiencing anxiety, mainly in performance situations. They also expanded their views on the specific symptoms that could have an effect on brass players, specifically when it comes to performance-related difficulties. During the interview process, the participants were asked their opinion on symptoms that may be unique among brass instrumentalists, particularly regarding MPA among brass players. The objective was to determine whether they viewed their own symptoms in comparison with what other brass instrumentalists experienced, or whether this was a general perception of what they had also seen in others. The symptoms experienced by the participants during the early stages of MPA were mainly shaking, sweating hands and panicking.

After analysing the data, the various symptoms experienced were divided into three basic categories: physiological, behavioural and cognitive symptoms. As a result, the following three sub themes emerged: physiological (physical), behavioural and cognitive.

Sub theme (i): Physiological (physical)

Participant 1 states that shaking, shortness of breath and a dry mouth could be a "nightmare" for brass instrumentalists, as these could have serious effects, brass instruments being generally exposed when performing. However, such symptoms also affect individuals differently:

> Participant 1: …I would say the symptoms are very specific to brass. I would say…to all wind instruments generally…you know there is no hiding it. You cannot…it is difficult to hide in a brass section...I think it is very specific from person to person.

Participant 2 experienced heart palpitations, a dry mouth and shallow breathing when suffering from MPA. He stated that these symptoms, as well as shaking, are unique to brass instrumentalists and that they are worse for her as a trombonist:

> Participant 2: And I sometimes find that if it is really hectic I start shaking…I think those are the most common if they really suffer from serious MPA…specifically those are my worst symptoms.

According to the data, Participant 3 experienced physiological manifestations of an accelerated heartbeat when suffering from MPA. He stated that an accelerated heartbeat might cause a number of other symptoms to occur in brass players when they are undergoing MPA. He argues that an accelerated heartbeat could most likely cause shallow breathing with a spiral effect of other symptoms occurring simultaneously:

> Participant 3: …I think it is probably true to everyone that your heart tempo rises…because of that you have to have a lot of breath control…your heart goes quicker and you have got to take more oxygen, then it can also influence the way you breathe to play the instrument…you may breathe more shallowly or more often…and that will all lead to a little bit of a domino effect which makes it difficult.

Participant 4 is not familiar with any of the symptoms of MPA. He says he doesn't experience any physical manifestations when feeling anxious, but that he does experience nervousness:

> Participant 4: I do not really have any symptoms that I can really sort of say I have got sweaty hands or shortness of breath…I just go into a little zone and I do not say much. I probably fidget a bit. You know when you say 'symptoms'… I thought about fidgeting.

Participant 4 could not illustrate the specific symptoms that may be unique to brass players, but could not say what other brass players might experience:

> Participant 4: No idea. I know what is unique to me, but I cannot speak for every other brass player...I do not really have any symptoms…

Participant 5 experiences an anxious feeling in her throat when she suffers MPA and argues that the symptom help her focus on improving in areas where other symptoms might occur:

> Participant 5: I feel it in the throat. It is like butterflies…I mean it is not like your throat is closed. Mine has like a flutter there. But it is not like the butterflies in your stomach… It is something I have got to concentrate on which is actually good, because then if you are concentrating on your breathing to breathe properly…you know you are going to have a better result.

She concluded that a symptom like a dry mouth would affect brass and wind players more directly than it would instrumentalists, depending on their embouchure and air for creating a sound.

According to the data, Participant 6 experiences dry mouth when undergoing MPA, but it seems that she has never experienced shortness of breath while feeling anxious. She affirmed that a dry mouth and shaking would be symptoms unique to brass instrumentalists and that breath control and lack of diaphragm support may also be affected as a result of these symptoms. Participant 8 also suffered from dry mouth symptoms when experiencing MPA.

Like Participant 5, Participant 8 stated that it would be difficult to classify certain symptoms as being unique to brass players, but mentioned that a dry mouth would be the unique symptom most recognisable to brass players:

> Participant 8: …I do not know how much of this is just brass, but obviously the dry mouth…you just cannot tone properly and your multiple tonguing goes out the window…

He confirmed that, owing to the physical challenges that brass instruments pose, any physical symptom experienced by brass instrumentalists could affect their performance because of anxiety:

> Participant 8: …if anything that somehow debilitates…you know affects the body. That is going to affect the performance, because for us…we are taking every ounce of energy in our body and squeezing it through a hole like that.

According to the data, Participant 9 suffered from dry mouth symptoms, especially when he has done excessive physical exercise prior to a performance. He stated that a dry mouth could be the most common symptom affecting a brass instrumentalist:

> Participant 9: …I think dry mouth is the most common symptom for any brass player walking on stage, because it affects your whole recital…everything that you play…if your mouth gets sticky, then it really becomes a problem.

He indicated that breathing difficulties could be a problem for any brass player who may be physically unfit and argued that MPA should not necessarily affect brass players' breathing in general. He argued that brass players who are physically fit pay more attention to developing their breathing capacity and control by taking part in physical exercise as well as practising breathing methods. He concluded that a dry mouth would be the worst possible symptom for brass players who suffer from MPA.

According to the data, Participant 10 seemed to have suffered from a dry mouth even after taking beta-blockers in an attempt to reduce the physical symptoms of anxiety, which will be considered further in the discussion on main theme D: 'coping strategies'. Participant 10 seemed to be extremely concerned about dry mouth symptoms when performing on the trumpet. He found that he noted its occurrence among brass instrumentalists and had even experienced it after using beta-blockers. He said further that the 'fight versus flight' mode of arousal could cause additional symptoms, which may affect the body in controlling the instrument owing to lack of adrenalin.

Sub theme (ii): Behavioural

Regarding behavioural symptoms, Participant 1 experiences shakiness. As a result, he explained that physical exhaustion could determine his mood, that it may have an effect on his concentration and that it makes him feel more anxious:

> Participant 1: …it differs on my mood…if it is a Friday night after a long week and I have got a gig. I am as nervous as hell, because I know I am tired. Concentration levels go out and you start making mistakes more…

He further stated that his performing ability "dissipates" when performing after taking alcohol. Participant 2 discovered that, when she had once eaten badly during long rehearsals, followed by a concert, this influenced her concentration levels. Alcohol, caffeine and a bad diet had an effect on her performances in that she often struggles with shakiness as a result:

> Participant 2: I cannot have any alcohol, because it dulls me and it makes me anxious in the sense that I am scared that I will not be able to perform the way I would have if I did not…coffee I do not like to have either, it tends to dull me and make me tired.

According to the data, Participant 3 suffered from shaking. He added that low quantities of caffeine did not have a bad effect, but that he preferred not to take it before concerts. He stated that alcohol has a calming affect on him but that he does not take any before concerts, because it affects his tonguing. He said that shaking could also be a common symptom among brass instrumentalists.

Participant 4 stated that dystonia, which one of his colleagues had suffered from, could be worrying for brass instrumentalists because of anxiety or putting too much pressure on oneself:

> Participant 4: …he had to give up playing because of dystonia which is a common brass playing thing…an uncontrollable shaking of the lips…I have heard of it. A lot of brass players suffer from dystonia…that is nerves…as far as I know that is purely just the pressure…

According to the data, Participant 5 seems to have suffered from shaking as a result of taking caffeine before concerts:

> Participant 5: …I cannot drink coffee before I play…I get this vibrato that we do not want when I am nervous.

Participant 5 argued that a symptom like shaking would not necessarily be unique to brass players, but that it could affect other instrumentalists as well. She stated that a friend, a string player, recalled having once struggled with shaking which affected the control of the bow hand tremendously:

> Participant 5: …I cannot even say…that we get a shake in our sound. But they also get…bow shake…I cannot even say that is unique.

According to the data, Participant 6 suffered from an accelerated heart rate, which also triggered shaking.

Participant 7 said that he experienced symptoms such as "shivering", that he felt "constricted" and "being tense" when suffering from MPA. He affirmed that shortness of breath could be one of the symptoms that are unique to brass players, but states that MPA may affect brass players psychologically:

> Participant 7: Well, they tend not to blow more air through the instrument and they panic…and some of them actually like stress and they go blank…and that is one of the symptoms that really is a challenge to other brass players.

Participant 8 states that he suffers from shaking when experiencing anxiety prior to performances and, as a result, specifies that it can be caused by eating badly before a performance:

> Participant 8: For me the shaking legs are probably because…I have also always find that I battle to eat before a performance…especially a solo thing…I do not want to eat and it is usually a struggle. So then obviously the blood pressure goes down…I force myself to eat before a performance-lots and lots of pasta or something…

Participant 9 suffered from anxiety when he had difficulty in coping with the acoustics in the concert hall or the environment of the concert, mainly when it came to recitals.

Participant 10 said he mostly struggled with shaking:

> Participant 10: Was that first exam where I could not stop shaking…I could not play.

He also indicated that shaking could possibly be the most common symptom among brass players, because it would affect some important aspects of brass playing, such as breathing and physical control of the instrument.

Sub theme (iii): Cognitive

Participant 1 stated that he starts to panic and experiences negative thoughts when performing exposed solo passages. Participant 2 stated that she was easily intimidated by other musicians, which made her feel anxious and prone to experiencing negative feelings about performing. This influenced her concentration and focus. Participant 3 experiences negative feelings about

conductors when they show lack of professionalism and understanding of orchestral playing in an orchestral environment.

It seemed that Participant 5 often experienced negative thoughts while performing:

> Participant 5: …you spend more time worrying about: 'Oh, I must not crack it, I must not do this and I must not do that', instead of worrying about: 'I must just breathe and sit and play.' Your mind goes off in a whirlwind…

According to the data, Participant 7 seemed to feel "mind blocked" and experienced negative feelings about performing when exposed to challenging performance environments.

Participant 8 experiences self-doubt when feeling exposed in an orchestra or when performing in front of close relatives.

According to the data, performance situations like recitals triggered symptoms of anxiety for Participant 9, particularly during stressful performances. Participant 10 experienced self-doubt about his personal playing ability, especially when it came to recitals and solo performances.

The table below illustrates each participant's symptoms experienced within the three categories:

Table 4.3: Participants' physiological, cognitive and behavioural symptoms

	Physiological	**Cognitive**	**Behavioural**
1	Dizziness, dry mouth	Panicking, negative thoughts	Shakiness
2	Heart palpitations, dry mouth, shallow breathing	Negative feelings	Shakiness due to bad diet; alcohol, caffeine
3	Accelerated heartbeat	Negative feelings	Shaking
4	None	None	None
5	"Flutter in the throat"	Negative thoughts	Shaking due to caffeine
6	Dry mouth	None	Shaking due to increased heart rate
7	None	"Mind blocked", negative feelings	"Shivering", "constricted", "being tense"
8	Dry mouth	Self-doubt	Shaking due to bad diet
9	Dry mouth	Negative feelings	Situational stress

10	Dry mouth	Self-doubt	Shaking

The data revealed that physiological symptoms experienced among the participants were mainly a dry mouth, with some experiencing heart palpitations, shortness of breath and dizziness. Cognitive symptoms were mainly negative thoughts and feelings about performing under pressure with some experiencing self-doubt and panicking. Behavioural symptoms mainly included shaking and seemed that alcohol use, caffeine and bad diet hindered the severity of the symptom.

The data revealed that what the participants saw as symptoms unique to brass players resulted in perceptions rather than what could be called truly unique to brass players, as the data revealed many similar symptoms that were general to performers. The table below illustrates that the symptoms could be classified mostly as physical symptoms and are a reflection on personal experiences:

Table 4.4: Perceptions of symptoms unique to brass players

1	Shakiness, shortness of breath and dry mouth (all wind instruments)
2	Shallow breathing, heart palpitations, dry mouth and shaking
3	Accelerated heartbeat and shaking
4	Dystonia
5	Shaking not necessarily unique, rather dry mouth in wind players
6	Dry mouth and shaking
7	Shortness of breath
8	Dry mouth
9	Breathing problems
10	Dry mouth and shaking

4.2.4 Main theme D: Coping strategies used against MPA symptoms

Because MPA applied to all the participants being interviewed, they were asked to describe the various techniques used for coping with the symptoms of MPA. There were five sub themes: substances: drugs/beta-blockers; effects and side effects of substances; practical and physical coping strategies; mental coping strategies and pre-performance routines; and alternative coping strategies.

Sub theme (i): Substances: drugs/beta-blockers

The data revealed that a number of substances were used to reduce the symptoms of MPA. Participant 1 said that the practice of taking a substance, whether a beta-blocker or any pill of the same kind, helps him feel calmer in attempt to reduce or eliminate the possible physical manifestations of anxiety. According to the data, it seems that it is a remedy to prevent MPA and the participant states that knowing he has taken something, regardless of whether it works or not, produces calmness and the confidence to be able to perform spontaneously.

> Participant 1 …I do take…beta-blockers…that is the physical shakiness. And I am not convinced that these pills work, but I do believe very firmly in the…idea of taking a pill…it is like just having a little bit of a safety net underneath you…it allows you to…feel a little bit freer to play, knowing that you have got a pill, whether it works or not, irrelevant.

He discovered that beta-blockers reduce the physical symptoms of MPA and help regulate the heartbeat. He believes that it could be beneficial for brass players who struggle with MPA. He admitted that he takes 10 mg approximately an hour before a performance, but claimed that it recently failed to work because he still experienced MPA.

Like Participant 1, Participant 2 took beta-blockers to control the physical symptoms of MPA. Under stress, it helped her to stabilise her heartbeat and the beta-blockers apparently did not reduce her adrenalin level, which was needed for alertness when she was performing.

Similarly, Participant 3 also used beta-blockers for MPA. He found that it helped reduce his heart rate and stabilised it, and it subsequently also reduced his shaking, stabilised his breathing and improved his focus, which eliminated negative thoughts about performing, especially in auditions. He stated that the use of beta-blockers could have a positive impact on the psychological aspects of performing. According to the data, he prefers not to take alcohol or caffeine before concerts, but would occasionally take alcohol before certain concerts that are environmentally relaxed, such as light music or outdoor concerts.

Unlike Participants 1, 2 and 3, Participant 4 seemed to have never taken beta-blockers. He argued that he noticed other musicians suffering from a slow heart rate and believes that musicians using beta-blockers would not be able to produce enough adrenalin to perform spontaneously. He admitted to having drunk alcohol prior to performances.

Participant 5 acknowledged having taken beta-blockers once with a colleague who seemed to have used beta-blockers regularly to combat MPA. She recalled that this was prior to a chamber work for solo winds and orchestra. She experienced low concentration levels and her thoughts had wandered during the performance. She claimed not to have used beta-blockers ever since. She prefers using tissue salts and Rescue Remedy drops for MPA, as these have no side effects:

> Participant 5: …they are homeopathic…just calms you down a bit and it is something you can give the baby…it is for anxiety and nervousness…these rescue drops and number 8 is magnesium basically…Margaret Roberts wrote a book about each one…she is an amateur pianist and so she found that she was getting ready for a concert and she was struggling with a bit of cramp in her hand or tendinitis or something, and she obviously knows…that the magnesium supplement helps for that…she realised when she got on stage that she was nervous.

Participant 6 explained that she took beta-blockers once before an audition to study music at a tertiary institution. She did not feel ready, with little time to prepare for the audition, and took the substance because she was experiencing high levels of MPA. Similarly to Participant 5, she said she felt too relaxed, which resulted in a lack of focus and concentration during the performance. She stopped taking beta-blockers after that.

Participant 7 claimed not to have taken beta-blockers or any other substances to control MPA. He stated that he had taken only Coca-Cola and large quantities of water before performances, not on account of anxiety levels, but to gain high energy levels. It was an attempt to stay hydrated.

According to the data, Participant 8 had taken beta-blockers on a number of occasions, primarily for recitals and solo performances, but has not used them since his fourth year BMus recital. It helped reduce the physical symptoms of anxiety. Participant 9 has used beta-blockers to control the symptoms of MPA on a number of occasions, but stated that it triggered dry mouth symptoms. He said he would not recommend alcohol prior to performances but that he used ginger brandy for a few years and that the ginger supplement created moisture in his mouth, which prevented the dry mouth symptoms.

Participant 10 says he took beta-blockers called “Pur-blocka” for “big performances” which was prescribed by his doctor and carries a generic label. He says he took only 10 mg, which seemed enough to reduce shakiness and constrained his adrenalin. Like Participant 1, he believes the thought of taking a beta-blocker calms him down and creates a placebo effect:

> Participant 10: I think it is more mental in your head. Kind of like 'I took something so I will be fine'. The placebo effect.

According to the data, the participants used beta-blockers to control their physical symptoms of MPA, such as a dry mouth, an accelerated heartbeat and shaking. However, it was shown that the participants used the supplement to prevent the symptoms from occurring prior to stressful performance situations. The data revealed that some of the participants used it to reduce mental nervousness and a few tried alcohol. The majority of the participants experienced side effects after taking either beta-blockers or other supplements, such as alcohol and caffeine.

Sub theme (ii): Effects and side effects of substances

It was shown that the side effects of beta-blockers, alcohol and caffeine produced different outcomes for particular performances among the participants when using the supplement. The interview questions probed the side effects of these substances and whether they produced positive or negative results during performances.

Participant 1 believes that the side effects of beta-blockers are a topic for further research. He had heard different opinions from a number of doctors about the use of beta-blockers and is consequently cautious about using them:

> Participant 1 …One doctor will say you can take up as many as 20 in a day…another doctor has said: 'Avoid them at all cost'…So, I have had complete opposite sides of the spectrum advice…but the original purpose of those pills is for people with heart palpitations…So, it basically regulates the heart beat and I think that is why doctors are nervous…

He also prefers not to take alcohol prior to performances, because it tends to ruin the performance.

Participant 2 found that beta-blockers stabilise the heartbeat, but that they do not take away mental anxiety before concerts. She was still alert, producing enough adrenalin to help her perform. She thinks that the side effects of beta-blockers could be low blood pressure and depression if they are used over long periods and could have negative effects:

> Participant 2: …it tends to lower your blood pressure, because it is a high blood pressure pill and it also causes depression…if you take it constantly for a long period, then you will find that you get depressed.

Participant 3 found that beta-blockers control the heart rate and eliminate the physical symptoms of anxiety. He stated that beta-blockers were successful in eliminating performance fear and helped stabilise his concentration levels. He could not recall having experienced any side effects.

Participant 4 expressed his concern about beta-blockers being recommended to combat MPA as they are thought to slow down the heart rate, and inhibit both the adrenalin and the musical spontaneity:

> Participant 4: I have seen people take these things and then they realise the next performance they were still nervous…if it slows down your heart rate too much…then you are not producing enough adrenalin to actually get excited in the performance.

Participant 5 argued that beta-blockers inhibit the adrenalin needed for performing spontaneously. To a certain extent they made her feel careless about the need to perform well:

> Participant 5: …I hated it. That was the first and only time I ever took beta-blockers, because it was just like I could not care less and that is not the point. We are there, because we are passionate about music.

While using beta-blockers, Participant 6 became aware that, during performances, the side effects included weakened diaphragm support as well as the loss of concentration and focus. She says they influenced her performance negatively:

> Participant 6: …I remember me trying to use my support when I played…the muscles did not want to work to get the support…I do not think it is good if you are too relaxed on stage. You have to be aware of everything…when I am on stage I need to be stressed in a way so that I can focus more.

Participant 8 found that he had dry mouth symptoms irrespective of whether he was using beta-blockers or not. He initially thought the symptoms were a side effect, but realised that he had nevertheless been experiencing dry mouth symptoms. He maintains that beta-blockers limit the physical symptoms of anxiety as well as the adrenalin, but psychologically he would still be anxious:

> Participant 8: …mentally I would still be really nervous. All the Inderal (substance) did was sort of hinder a lot of the physical manifestations of the nerves…it is taking away a little bit of the adrenalin like in your body.

According to the data, Participant 9 experienced side effects like dry mouth and sleepiness. He argued that beta-blockers had a calming effect and limited his performance adrenalin, so there was a generally negative impact on his performance:

> Participant 9: …it makes you calm and to a certain extend you need to ask yourself 'do you want to be calm?' You know, because yes, you do want to stress, but I mean sometimes you can get so calm that you cannot focus anymore. You get kind of sleepy.

Like Participant 8, Participant 10 stated that he was uncertain whether dry mouth was a side effect caused by beta-blockers or a general symptom of anxiety, but argued that this was indicated on the leaflet of the substance he used. He further stated that, according to some instrumentalists, beta-blockers hinder adrenalin and spontaneity in performing musically. However, he did not experience any difference in his spontaneity regarding his own playing. He argued that it eliminates the fear that the physical symptoms of MPA could affect a performance negatively:

> Participant 10: …I do not think it inhibits your ability to make…music, but to perform, because some people say like it inhibits kind of your spontaneity and you are kind of dull…I do not find that. I still feel that I can get what I want from the music and I do not need to worry…

The data showed that the side effects experienced among the participants were experienced mainly while they were using beta-blockers. The side effects were a dry mouth, a slower heart rate, sleepiness and a lack of adrenalin. The majority of the participants believed that the side effects of beta-blockers produce negative outcomes in musical performances, as they inhibit the performer's adrenalin, resulting in lack of focus and concentration, which might influence the spontaneity in performing and musicality. However, some participants believe that the calming effect of beta-blockers might mean fewer technical flaws in a performance. They reduce a number of physical symptoms of MPA, and may therefore have more positive results and act as a safety net for performers struggling with MPA.

Sub theme (iii): Practical and physical coping strategies

The data showed that the participants follow physical coping strategies, such as breathing exercises, physical exercising, adequate preparation and a good diet.

Participant 1 explained a breathing technique he learnt from a friend, which had helped relieve stress when he was approaching a difficult passage in a performance:

> Participant 1: …just before the moment you have got to play, you block and you put as much pressure outwards as possible, and then release…but you really force it until your veins pop out…and then you relax, breathe naturally and then play.

He further said that correct breathing by means of deep breathing and immediate release of the air into the instrument before passages is important in regulating a consistent airflow and may therefore also improve phrasing and relieve the tension of MPA during a performance.

Participant 2 found that vocal training helped her focus more on breathing and it seemed that her trombone playing has benefitted from it. She believes that physical fitness would be beneficial to a brass player's general well-being:

> Participant 2: …it has been proven that when you are fit that you sleep better, you concentrate better and you feel better. So, it definitely has to have an effect.

Participant 3 believes that adequate preparation is key to eliminating anxiety and being able to perform naturally:

> Participant 3: …I think the best way to limit that is to be prepared in a way that you absolutely know to play something, because that is…the worst reason for anxiety…

He further states that fitness levels wouldn't have any effect on MPA, especially in players who are naturally anxious:

> Participant 3: …I do not think that being more fit will change anything when you are nervous…it is always good to be fit and to have a bit of control over your body. But if you are prone to nerves and anxiety, then it will happen, never mind how fit you are.

Participant 4 maintained that adequate preparation is essential to maintaining the desired level of playing, which could prevent fear of failure when exposed to high task mastery, and he believed that this helped him control his anxiety levels. He also stated that deeper breathing helps regulate his heart rate when he is feeling anxious:

> Participant 4: …if you are about to play a little solo line or you know there is something coming…just any wind player would be taught the same thing…I was taught this in college, is to slow the breathing down, start taking deeper breaths and then that just slows the heart rate down and that just makes it a bit more in control of what you are doing.

Participant 5 stated that adequate preparation on the instrument is beneficial to feeling prepared, by making it pleasant for oneself to perform in front of an audience.
Participant 7 believes that various methods of physical preparation and practice methods helped him to perform with more confidence:

> Participant 7: …I try to associate myself…with other people…get to play more outdoor gigs and play with other people. And also do more technical work…Staying is practice...that it important for you to cope with that. And knowing that you are not in competition, even though there is…

He further stated that sufficient rest before concerts helped him feel positive and energised and that physical exercising helped enhance his personal well-being and mental focus.

Participant 8 has benefitted from a consistent practice routine as well as a balanced diet, and says these are essential to maintaining a healthy mind-set when it comes to performing:

> Participant 8: …any brass player physically one has to…maintain that…by doing these technical exercises and all that and keeping as flexible as you go…just constantly keeping that technique up and obviously trying to improve it all the time…then just before…performance make sure I eat properly, drink lots of water and get myself in the right mind-set.

Participant 9 has used various methods, such as breathing exercises, a healthy diet and practice routines to enhance optimal performance when attempting to eliminate MPA:

> Participant 9: So I do breathing exercises which are really good…there are breathing exercises you can do beforehand which makes it…controllable and by studying pieces beforehand and making sure that you are taking breathing into account and stress factors into account…I do not eat any meat before concerts. So, I stick to things like noodles, pastas…pap works very well…and not…too much salt, too much sugar. So, I work towards…performing more and taking less things beforehand and just watching my diet.

According to the data, he also used breathing exercises as a "technical approach" to achieving better results in terms of musical phrasing. He stated that when practising a piece of music, one should work out the breathing to focus on musicality and the flow of phrasing, which would eliminate technical issues.

Participant 10 believes that adequate preparation, especially regarding endurance for highly demanding performances, is essential in generating confidence and mental fitness in brass players:

> Participant 10: …I think, good preparation can solve any MPA to a large extend. You can really calm yourself…if you prepare well enough, practice enough, you know the work, you can play it…then there should not be a problem…if I practice properly, then I know it will be a good performance.

Participant 10 experienced some discomfort in his back and neck muscles caused by anxiety while preparing for a recent recital, and found that physical exercise helped relieve stress and muscle pain:

> Participant 10: …I do try run quite a bit…with anxiety I found my neck and my back has taken such a hit last week before my recital. It was really bad…I had to go to physio and I had to make sure I was doing the right exercises…doing the right exercises make your body strong…being fit physically as a brass player is beneficial to you playing your instrument…to be able to have better breathing or…to have more control of your instrument.

Most of the participants believe that adequate preparation on their instruments, by means of a regular practice routine, was beneficial in avoiding high levels of MPA when preparing for stressful situations, such as solo recitals and orchestral performances. A healthy diet, physical exercise and techniques such as breathing exercises also helped reduce MPA levels and improved general wellbeing. It seemed that breathing techniques were used while experiencing MPA in the performance, but a healthy diet, physical exercise and practice routines were followed to prevent MPA occurring prior to the performances.

Sub theme (iv): Mental coping strategies and pre-performance routines

The data showed that mental techniques such as positive thinking, meditation, positive self-talk and visualisation could be used to reduce MPA. The techniques would also form part of a pre-performance routine practised among the participants.

According to the data, Participant 1 seems to use pre-performance relaxation to enhance his focus and concentration levels before performances. He prefers to arrive at the concert venue well ahead of the performance to ensure that there is enough time to focus on a warm-up routine and relaxation:

> Participant 1: I like to be early at a gig…I am renowned for that. I hate rushing. Running and grabbing your horn, put in your mouthpiece and then blowing, that is impossible.

Participant 2 stated that positive self-talk helps her to keep focused and calm while performing. She refers to this as "inner-speech". According to the data, she prefers not to see her family and friends before highly demanding performances, because this inhibits her focus on the event. Like Participant 1, Participant 2 used the same type of pre-performance routine, which included a warm-up routine and relaxation techniques:

> Participant 2: …I like to be there way on time…and maybe go through one or two lines that I am hesitant about or worried about. And I like to warm up thoroughly and just do the things that you need to do…

Participant 3 believes that visualisation techniques and meditation may be beneficial to enhancing a performer's mental focus and could diminish MPA considerably. He stated that it helped when he applied the technique to his playing:

> Participant 3: Sort of meditation also sometimes helps to just think about what you are doing…and just visualise yourself performing this well in a way…sometimes being on your own without mingling with too many people…I think it has got a beneficial effect if you do it properly…if you can focus a bit more on your mental preparation...

Participant 3 said he does meditation together with taking beta-blockers as part of a pre-performance routine for highly stressful situations, such as an orchestral audition:

> Participant 3: …I think that has got a really beneficial effect if you can focus a bit more on your mental preparation for it (audition). And if you then take a bit of beta-blockers it could result in a fairly manageable situation.

Participant 4 uses the mental technique of "blinkers on", which is a visualisation technique he learned from his first horn teacher and which he has used it for mental preparation before performances:

> Participant 4: …I like to just sort of focus before I am doing it…one of my older…first horn teachers in England…his whole thing was 'blinkers on' which is where I got that whole focusing from…sort of imagining a horse with blinkers on going into a race…you are blocking out all external things – audience, even conductors…

Unlike Participants 1 and 2, Participant 4 prefers not to arrive at the concert venue too early and admits to having taken alcohol before performing in an attempt to eliminate unnecessary destructive thoughts about a demanding performance:

> Participant 4: …if it is…a performance I am worried about, then I actually will not get to the venue too early…I would rather be in another location to wait…and then warm up and rest and then have a quick glass of wine and then hope for the best…just get on stage and go do it. I do not like to overthink it (the performance)…then I like to just sort of focus before I am doing it.

Participant 5 seems to have used a combination of different mental techniques, such as positive self-talk, self-reflection and focusing on positive moments in the music to enhance her concentration levels whenever negative thoughts appear, regarding her ability to execute difficult passages that would influence the quality of her performance. She also stated that one should look for the beautiful moments in playing music that might help one to enjoy the experience rather than allowing the destructive thoughts to interfere. She said that being nervous about a performance seems normal and that she takes "a few moments of quiet time" before performances in order to focus on the task at hand. She does not allow herself to be influenced by other musicians, which might reduce her focus:

> Participant 5: …before concerts I go off and I do not stand around and chat with everyone…I have got to kind of focus a bit…it is a job to do, but you want to make it as pleasant for yourself as possible, let alone for the audience that is paying to be there.

Participant 6 has used a pre-performance visualisation technique:

> Participant 6: Normally before I go on stage I walk around like an idiot up and down the whole time, talking to myself…telling myself I can do it…

She believes that arriving at the venue in advance is essential, to allow enough time to work through the necessary technical issues that might make a performer feel anxious, such as fingering and challenging passages. This technique has helped her eliminate negative thoughts about difficult moments in the music.

Participant 7 practises positive thinking and self-reflection as a mental technique to enhance his mental preparation and focus. He explains that he goes through a number of routines prior to performing, including calling up mental imagery and going though mental rehearsal:

> Participant 7: …depending on the circumstances. I try to be there early. Then I will just warm up and do breathing exercises and just go through the music, like just sight the music without playing…

Participant 8 says he uses performance visualisation as a mental technique, which helps him with mental focus and enhances the quality of his performance in high-pressure performance situations:

> Participant 8: ...just got myself into the mind-set of 'this is going to be good. I am going to walk on and have fun and it is going to be brilliant'. Keeping a positive mind-set.

Participant 10 seems to have used mental imagery and mental preparation in terms of dealing with negative thinking about performing and said it helps when focusing more on breathing in combination with a structured practice routine. He maintains that a pre-performance routine, especially before a solo recital, consisting of a daily sufficient practice routine is necessary in order to build up enough endurance to minimise fear when it comes to fatigue of the embouchure during the concert:

> Participant 10: …If I practise properly, then I know it will be a good performance. And that is mental practise as well…efficient and the right practise…a month before, if I am running through it like the program just to test my endurance that I am pushing, pushing, then I am able to get through. If I am not running through it…when I get to the performance I feel very…a bit more nervous about it actually, because I do not know if my lips will hold out.

The participants applied techniques like positive self-talk and positive thinking to reduce negative thoughts about performing when suffering from MPA. Pre-performance routines were also used in an attempt reduce MPA prior to certain events during which the participant was aware that challenging moments or stressful situations in a particular performance could have affected the quality of the performance.

Techniques such as meditation, self-refection, performance visualisation and mental imagery enhanced the participant's mental strength and focus before and during highly anxious performance situations. It seems that the above mental techniques were applied together with physical techniques such as breathing exercises and physical preparation as a technique for generating a unique tool to counteract the cognitive and behavioural symptoms of MPA.

Sub theme (v): Alternative coping strategies

It became evident that, as alternative methods to taking drugs, physical and mental techniques were used to prevent MPA. The questions probed the specific techniques to see whether they could be practised to prevent specific aspects of MPA and its outcomes.

Participant 3 focused on mental imagery and rehearsal techniques in visualising the performance situation as a positive experience and claimed that it had a good effect on performance. Participant 4 had one Alexander technique session and said it made him focus more on posture and breathing. He maintained that focusing on posture and breathing makes one aware that the body can function more efficiently under stress:

> Participant 4: ...I think it would probably help people, because you are focusing then on yourself…you are focusing on your own body and your own breathing and that is exactly what you have to do. You know when you are performing you have to focus.

He stated further that the Alexander technique would help musicians to focus positively on controlling the body and mind, lessening weak posture and negative thoughts about performing:

> Participant 4: …the only thing you can control is yourself and what you are doing. You cannot control what anything else is happening around you…I would think that Alexander technique would be a very good way of…controlling stuff and controlling your body. Sitting with the right posture is going to help your breathing…

Participant 5 used the Alexander technique for the principles of breathing and posture but not when suffering from MPA:

> Participant 5: I have done Alexander, but not as a means to an end to cope with plain stress…I think it has helped…if you are sitting properly and you are breathing properly…you are actually feeling better.

Participant 7 maintains that physical exercise helps maintain a healthy mind in achieving certain goals:

> Participant 7: I cycle a lot just to like pace myself…for a certain goal…that actually guides me. Physically fit and mentally focused as well. The most natural way…

Participant 8 has a more pronounced mental approach than that of Participant 7 and has done breathing exercises to relax and conserve positive energy when feeling anxious about

performing. He says that thinking positively during performances helped him concentrate on the technical and psychological requirements of trumpet playing and was a means of finding joy in music. Participant 9 seemed to have taken advice on an alternative method of keeping the inside of the mouth moist, which was taking mint and a piece of lemon or ginger, and rubbing the tongue against the pallet as remedies against dry mouth symptoms.

According to the data, Participant 10 uses breathing exercises and the Alexander technique, but has not relied on this in terms of help with MPA. He says he focused more on mental imagery and rehearsal in visualising the performance and maintained that it helped him remain focused for performances. His breathing has benefitted from doing physical exercise in combination with a consistent practice routine:

> Participant 10: If you do some cardio and that will help you breathing…it just helps the efficiency of your body and also in the consistency of playing from day to day…if your body is in good shape, you are healthy, I believe then it should help to a large extend then keep you playing well, if you practise.

The data revealed that the participants tried alternative methods like the Alexander technique to enhance their breathing methods, playing posture and performance visualisation. It became evident that they used the Alexander technique not only to counteract the symptoms of MPA, but also to enhance personal growth as a brass instrumentalist and improve general posture and breathing. Breathing exercises, physical exercise and positive mental imagery were integrated with practice routines in order to improve technical proficiency on the instrument in an effort to eliminate weaker aspects playing when the participants had expressed concern about those areas.

4.3 Conclusion

This chapter presented a detailed IPA (interpretative phenomenological analysis) of the research data. Four main themes: background and early experiences of MPA, factors impacting MPA experience, symptoms of MPA, and coping strategies used against MPA symptoms emerged from the analysis. Fifteen sub themes emerged and were presented under the four main themes. The findings will be discussed in relation to the existing literature in the next chapter.

CHAPTER 5

DISCUSSION

5.1 Introduction

The aim of this study is to investigate self-reported experiences of music performance anxiety (MPA) among brass players. The symptoms and causes of MPA were discussed and ways in which brass players deal with anxiety were explored in order to cast light on strategies and techniques that could be effective in managing performance anxiety.

This chapter includes a discussion on the interview data according to the results of the semi-structured interviews. The main themes that emerged from the interview data; the background and early experiences of MPA; factors impacting on the experience of MPA; the MPA symptoms experienced; coping strategies for controlling MPA symptoms; and sub themes, such as playing experience and/or professional experience; the earliest experience of MPA; recent experience of MPA; circumstances/situations; MPA over time; guidance by teacher/s; how MPA affects tone and expressiveness; physiological (physical) factors; behavioural and cognitive aspects; substances: drugs/beta-blockers; effects and side effects of substances; practical and physical coping strategies; mental coping strategies and pre-performance routines; and alternative coping strategies will be discussed with reference to the current literature on the causes and treatments of MPA in general and in brass and wind players in particular.

5.2 Main theme A: Background and early experiences of MPA

Sub themes such as playing experience and/or professional experience; and the earliest experience of MPA emerged from the data. All of the ten participants in the study were between 22 and 46 years old; three were female and seven were male. Eight were professional brass players (6-30 years professional experience) and two were semi-professional brass players (8-10 years playing experience). All the participants perform regularly. Five were French horn players, three were trumpeters and two were trombonists.

The starting age on a brass instrument varied from 10 to 19. Most of the participants agreed that starting to play a brass instrument at an early age was advantageous when it came to enhancing their musical development. Piano lessons at an early age had benefitted some of the participants

in developing their motor skills to adapt to a brass instrument later. One participant saw himself as a child prodigy on the piano and felt the need to master three brass instruments. Performing on the piano became more challenging, as he was pressured into delivering consistently high-level performances. However, participants who started later adapted quickly. Exposure to brass music from an early age influenced one participant to pursue playing a brass instrument later on.

The data showed that specialised brass tuition encouraged most of the participants to become professional brass players. Not all of them had received specialised brass tuition before pursuing a professional career. For example, one participant had had no trombone lessons before joining the military band, but was motivated to improve her technical abilities on the instrument. Five participants completed a music degree at the tertiary level, majoring in a brass instrument, and although three of the participants had never studied music at the tertiary level, they still followed a professional career in the military service bands.

Early experience - Eisteddfods and music exams

A number of the participants had learned a second instrument before the age of ten without experiencing MPA in their early musical development. However, first-time experiences of MPA occurred among these participants when they were between the ages of ten and fourteen. The results showed that MPA had a negative impact on their performances and the symptoms were reported as being severe. Performance situations such as Eisteddfods and music examinations evoked MPA resulting in a negative approach to the performance itself. It seemed that these situations created higher personal expectations and resulted in an awareness of possible disappointments or failures during a performance.

The South African violinist and pedagogue Alan Solomon discusses the influence of MPA in music performance in his book *Why Are You So Nervous?* (1978), where he states that he experienced MPA for the first time after the age of 10 when he played in an orchestral audition for a well-known conductor. The expectation was overwhelming and he claims that it affected his performance negatively on that occasion. Kenny and Osborne (2006) state that children usually enjoy performing music and rarely experience MPA, unlike adults. Similarly, Brugués (2009:3) argues that young children generally enjoy performing music and rarely experience MPA. However, she claims that MPA occurs during the transition from childhood to youth for a number of reasons, such as:

> …innate temperament, increasing cognitive capacity and self-reflective function, the type of parenting and other interpersonal experiences, perception and interpretation of surroundings, technical skill and mastery, and specific performance experiences that may have positive or negative outcomes.

One participant in this study experienced no MPA when he performed in a recital at the age of 5 and felt very confident. However, during an Eisteddfod five years later, when he was ten, he had an intense experience of MPA. He claims that this has been affecting his performances negatively ever since. However, the size of the audience of 400 people and the performance situation of an Eisteddfod contributed to the severity of his MPA experience, which resulted in a complete dissipation of the performance. In relation to the findings, Burgués (2009:9) states that "MPA increases with audience size and perceived importance of the performance". Sinico, Gaulda and Winter (2012) found that the performance situation could determine a number of different MPA experiences. They argue that an audience consisting of relatives could be as intimidating as a full audience of unfamiliar listeners and found that performers with social phobias experience higher MPA levels than do non-socially phobic performers. One participant reported variation in her experiences of MPA, while performing in two sessions during an Eisteddfod when she was 10. In the first session, she did not experience any anxiety, but in the second session she felt very anxious. The reason for this could be that she had been satisfied with her performance in the first and felt that she had to deliver the same level of performance in the latter session.

Later experiences: examinations and recitals

Unlike the participants who experienced MPA in their early teens, other participants experienced MPA in their late teens and early twenties. MPA usually occurred during demanding performance situations, such as recitals, music examinations and competitions. According to the data, the performance situations at the tertiary level seemed to affect the severity of MPA, which became more intense among a number of the participants. Participant 5 admitted that having seen that her horn teacher was present at her performance in a National music competition seemed to add more pressure: "He stood outside, because he did not want me to see the reactions on his face while I was playing"…"in a way it made me more nervous…". Participant 4 was more anxious about giving a verbal description of a piece than performing it in front of a group of other college brass students in an examination:

> I am quite happy playing…[but] for me that was a terrifying experience to stand up and talk about a piece….

According to Storts (2008), public speaking relates to performance anxiety. She measured levels of presentation anxiety among tertiary students and found that public speaking correlates positively with presentation anxiety and negative self-talk. However, negative self-talk has a greater influence on presentation anxiety.

Although one participant did not experience severe MPA in his early twenties, he experienced higher MPA levels during a student concert performing with other music students. He stated that he felt pressured to deliver a good performance, as he was one of only a few brass players amongst many other instrumentalists. Similar findings are evident in numerous sources: Kenny and Osborne (2006:107) argue that students who have less musical training and are involved in "less technically demanding performances" demonstrate lower levels of MPA than those of students of the same age who are more highly trained, but increased commitment to music would lead to "greater expectation from self and others regarding performance standard and quality". Further, a number of studies revealed, according to Wilkinson (2005:11), that music students at the tertiary level reported levels of anxiety higher than those of students studying other courses and argued that, in a survey of MPA in music students, it was reported that 53% experienced anxiety at a "pathological" level.

Papageorgi et al. (2007:85) argue that age could influence "individual proneness toward anxiety", finding that the transition period between childhood and youth appeared to have had the maximum influence when it came to experiencing anxiety. However, some professional performers continue to find anxiety a challenge throughout their adult years.

The participants in this study experienced levels of MPA as young adults higher than when they started learning a brass instrument, which is congruent with existing literature. In her study on performance anxiety among adolescent musicians, Papageorgi (2006) argues that younger students, those who are between the ages of 12 and 15, experience MPA less intensely than those aged between 16 and 19, as they view "themselves as more successful, have a more positive musical identity and put more effort into practice". However, it was found that students aged between 12 and 15 generally work "towards lower Grade levels, which were less demanding and required less practice in comparison with the more advanced Grades of the older students" (age 16-19). It was also found in a study that trait anxiety and social anxiety were responsible for MPA among music students aged between 15 and 19 (Brugués, 2009; Kenny & Osborne, 2006; Papageorgi et al., 2007).

The early experiences of MPA examined in this study correlated with the starting age and the first-time performance opportunities. Increased task difficulty and exposure to more demanding performance situations seemed to evoke more intense MPA levels among the participants when they were between their mid-teens and early twenties. A number of factors influenced the severity of their MPA, which was evident in both their early and later experiences.

5.3 Main theme B: Factors impacting MPA experience

Sub themes such as the recent experience of MPA; circumstances/situations; MPA over time; guidance by teacher/s; and how MPA affects tone and expressiveness emerged from the data. It was evident that MPA increases under circumstances like orchestral and solo performances, recitals and auditions, and influenced by factors such as audience size and acoustics. The aim was to determine whether the participants cope better in these situations over time and whether teachers' advice had positive outcomes for reported performance situations.

Recent experience of MPA

The participants could readily draw on and describe their most recent experiences of MPA. The most stressful situations evoking MPA for the participants were recitals, auditions, solo passages and exposed orchestral parts. However, recitals were perceived to be the most stressful, even more so than auditions, whereas solo passages were more stressful than *tutti* playing. This finding contrasts somewhat with that by Vervainioti and Alexopoulos (2015:200), who found that auditions cause the highest levels of MPA among professional musicians, because "they combine scrutiny and evaluation, which affect the musician's career progress". This also relates to the difficulty of the task. In a master's dissertation on MPA attitudes among staff in conservatoires by Wilkinson (2005:10), it was found that the flight-fight response can be caused by various threats within stressful performance situations, such as audiences, adjudication panels and fellow musicians, causing the body to react strongly to the physical symptoms experienced because of anxiety and bringing about a negative influence on the performance.

Two participants, who are French horn players, experienced their worst MPA while performing a solo piece with a symphony orchestra. Zhukov (2009:2) found that "a public recital is more stressful than a private performance" and that "solo playing is more traumatic than playing with others". The data showed that, although most of the participants had experienced MPA in similar situations, different circumstances had had different effects on the participants' performances. It was also evident that factors that were beyond the participants' control played a significant role

in their experience of MPA. Factors like the size and familiarity of the audience, audience proximity, acoustics, conductors and adjudication panels prompted high expectations of the performance itself in relation to mastery of the task in these challenging performance contexts. Zhukov (2009:2) maintains that "surprisingly, not the size but the proximity of the audience triggers greater anxiety". The findings in the data revealed that the audience triggered greater anxiety levels for some of the participants. One participant reported increased MPA during performances when some of his close relatives were in the audience, irrespective of the importance or difficulty of the task. However, another participant pointed out that the audience does not trigger anxiety, but that it requires greater concentration during performances.

Circumstances/situations

The data showed that most of the participants felt that their colleagues exacerbated their experiences of MPA. They felt they were being judged when they played exposed passages during orchestral rehearsals and performances. Their experience of MPA was often acute during rehearsals. One of the participants felt intimidated by the conductor and other fellow musicians, especially string players, in an orchestral environment. This finding correlates with the study by Vervainioti and Alexopoulos (2015:199), who found that the professional musician's work environment is "competitive and insecure due to high ambitions, few available jobs, and diffidence". They found that jealousy or personality clashes cause MPA among musicians' relationships in the professional working environment.

One of the participants experienced self-doubt whenever she played principle horn and was sensitive to the negative attitude towards her from other players in the horn section. This exacerbated her experiences of MPA when she played solo passages. This experience was echoed by two other participants, who also reported higher MPA levels when playing in a principal position. MPA was reportedly severe in performance situations like examination recitals and solo performances for five out of the ten participants. Three participants (trumpet players) experienced MPA while playing a solo performance. However, the performance situations differed: one was a solo recital and another was an unaccompanied solo performance. Yet another was a chamber music recital. Participant 10 experienced limited MPA during his solo recital, although he had had sufficient time for preparation. He said he had felt more anxious a few weeks before, when preparing for it, than during the actual performance.

In relation to the reported experiences, Papageorgi et al. (2007:87) found that "outcome expectations within a musical performance context may influence a person's vulnerability to experiencing anxiety". They argue that "anxiety-provoking cognitions are influenced by the

properties of the external test environment (such as task difficulty, time, adequacy of preparation) and by the individual characteristics of the person who experiences the situation (in terms of their success and failure expectancies, the perceived probability of failure, the level of aspiration, the perceived importance of the task)".

Two participants said that they felt more at ease with knowledgeable conductors who could help mediate the experience of MPA by being more understanding of the challenges and technical demands of brass. Conductors exacerbate anxiety by exposing the player during technically difficult passages. In concurrence, Vervainioti and Alexopoulos (2015) measured job-related MPA among orchestral musicians, 57% of whom felt that conductors exacerbated MPA. Kenny, Driscoll and Ackermann (2016:6) compared MPA levels among orchestral musicians performing on stage and in the orchestra pit and found that musicians performing more in the pit reported greater MPA levels. Factors like "bullying, lack of artistic integrity, task difficulty, and social tension within the ensemble" were more of a concern among these musicians. They also found that orchestra pit musicians reported greater psychological anxiety, as they are often invisible to the audience and distinguish themselves as being in a supporting role to those performing on stage.

MPA over time

The analysis of the data showed that, for most of the participants, their experience of MPA improved over time. However, two participants found that their MPA worsened over time, as performing became a more threatening experience. One participant claimed that the experience had remained constant. According to Sinico et al. (2012), literature reveals that MPA remains relatively stable over time among professional musicians, but may differ according to individuals and whether they are more prone to it. However, they argue that anxiety could therefore change over time and become increasingly intense.

As far as performance is concerned, experience and frequency have an effect on MPA. One participant experienced MPA intensely when he started playing the trombone. He started learning to play the instrument when he was nineteen, which is significantly later than the other participants. However, consistent improvement in his technique and increased opportunities for performance showed that his MPA declined as he gained more experience. However, for Participant 9, the severity of MPA increased as time passed, owing to fewer performance opportunities:

> It has increased. I think it relates to how fit are you to go on stage. So the moment where you have not been actually a recitalist then it increases.

Another participant mentioned that MPA increased over time, especially for aging brass players facing retirement, as the technical demands of the instrument become increasingly challenging, leading to a decline in technique and the quality of performance. Vervainioti and Alexopoulos (2015) stated that older professional musicians are more concerned about their technical abilities in comparison with younger musicians.

The data showed that, for a number of the participants, gaining more experience when it comes to coping with difficult performance situations is beneficial to handling stressful situations. Four of the participants stated that anxiety would be a normal reaction to musical performances and that musicians should view it as positive. Wilson and Roland (2002:53) maintain the same, stating that "perceiving pre performance anxiety as a normal and helpful aspect of performing can be an important cognitive strategy". Most of the participants felt that MPA was a positive response to the need for musical excellence in highly demanding performance situations. Two of the participants pointed out that attending singing lessons was particularly effective when it came to handling MPA over time. Singing proved to enhance their breathing when playing their respective brass instruments, as well as allowing them to feel more comfortable on stage performing in front of audiences.

Guidance by teacher/s

A few of the participants learned about coping with MPA from their brass teachers. The advice focused on overcoming the physiological and cognitive symptoms of MPA. One participant's trumpet teacher advised him to use beta-blockers, another suggested a healthy diet, and yet another focused on the psychology of performing the trumpet at the professional level. Three participants received no guidance from a music teacher on handling MPA. A teacher at the tertiary level did not find it necessary to give advice regarding MPA, because, according to the teacher, it seemed that there were no severe signs of anxiety. Another participant mentioned that his French horn teacher focused on the impact of MPA among most of his students, as the teacher personally suffered from MPA owing to a severe accident that had prevented him from performing for some time. According to the participant, the teacher had discovered a focusing method called 'blinkers on', which he taught to his students. This helped him to overcome MPA and eliminated negative thoughts.

Participant 3 was of the opinion that music teachers in general are not addressing MPA often enough, especially when it comes to students who are generally more prone to anxiety.

However, he argued that music teachers should not focus on issues of MPA among students who show more natural performing qualities. Research by Slocumb (2009:71) on the causes and effects of and solutions to MPA in brass instrument teaching maintains that brass students should acknowledge MPA by discussing possible coping techniques with their teachers. Teachers would thereby play an important part in identifying problems in performance-related anxiety where possible, and should advise students on strategies for managing MPA. He further suggests that:

> A teacher can also encourage the student to structure achievable goals for both short and long-term achievement. The achievement of short-term goals builds confidence in the student whereas long-term goals pertain to broad areas of improvement based on the needs of the student and the expectations of the teacher.

MPA affecting tone and expressiveness

This study revealed that physical symptoms such as dry mouth and shaking impact negatively on technical proficiency in brass players, resulting in poor tone quality as a result of ineffective breathing, which limits spontaneity in musicality and phrasing. According to Slocumb (2009:68), a combination of shallow breathing and body tension would cause symptoms such as dry mouth to become severe among brass instrumentalists. He found that "for the brass performer, dryness in the mouth is harmful to the ability to vibrate lips in a mouthpiece and causes discomfort in the embouchure that can adversely affect response and tone production."

Slocumb (2009:47,48) further argues that symptoms like heart palpitations could have an adverse effect on a brass player's ability to perform spontaneously. He argues that heart palpitations result in breathing problems as well, which lead to negative thoughts, distracting the brass player from performing the task at hand. He maintains that heart palpitations can be controlled by slow, deep breathing which would slow the heart rate down to a normal rate. In contradiction of Slocumb's statement, one of the participants pointed out that MPA might affect every brass player differently, as it would aggravate specific weak points that may occur from person to person. It became evident that tone quality and expressivity are influenced by MPA among brass instrumentalists.

5.4 Main theme C: MPA symptoms experienced

A number of studies have found that the symptoms of MPA can manifest in physiological, behavioral and cognitive experiences (Brugués, 2009; Kenny & Osborne, 2006; Müller, 2001;

Papageorgi, 2006; Papageorgi et al., 2007, 2013; Slocumb, 2009; Valentine, 2002; Williamon, 2004; Wilson, 2002; Zhukov, 2009). Symptoms of MPA may be linked to over-arousal in an individual or a performer's "autonomic nervous system". Over-arousal may occur due to the fear of performing related to negative past performance experiences. Research by Lehman et al. (2007) and Wilkinson (2005) reveals that the physiological, behavioral and cognitive symptoms of MPA could also be co-related and can occur simultaneously. The sub themes that emerged from the data were the physiological (physical); behavioural; and cognitive manifestations of MPA.

The data showed that the participants had experienced physiological, behavioural and cognitive symptoms. It also showed each participant's perception of MPA pertaining to brass players. Many similarities in their personal experience of performing on a brass instrument were found, which related to the existing literature on symptoms among musicians, especially wind instrument players. Slocumb (2009) argues that brass players could experience specific symptoms when suffering from MPA owing to the physical demands of the instrument. It is clear that brass players need certain physical capabilities if they are to maximize the quality of their performance. Accordingly, one participant pointed out that a brass player's body would respond naturally to any stressful performance situation, because playing a brass instrument is a physically demanding activity. However, three of the participants argued that certain specific symptoms might not necessarily occur among brass players, but that every player would experience symptoms pertaining to their personal experience.

Physiological (physical)

Six of the participants found that dry mouth was the most severe of the physiological symptoms. A further three participants suffered from accelerated heartbeat. Participant 5 experienced an uncomfortable feeling in her throat, which could be classified as a physiological symptom: "I feel it in the throat. It is like butterflies…". The data revealed that three participants suffered simultaneously from more than one physiological symptom:

Participant 1: Dizziness and dry mouth;

Participant 2: Dry mouth, heart palpitations and shortness of breath;

Participant 6: Dry mouth and increased heart rate.

The above-mentioned symptoms were reported as having mostly affected the quality of tone and breathing. According to Slocumb (2009), dry mouth would play a main role in affecting a brass player's embouchure and would therefore reduce tone production. As a result, he identified symptoms such as heart palpitations, shallow breathing, tension and pain, nausea and

abdominal problems to be symptoms that could be experienced directly by brass players, because they rely on breathing and the formation of the embouchure to produce a quality sound on the instrument (Slocumb, 2009:47). One participant stated that an accelerated heartbeat may trigger a number of symptoms for brass players and would result mostly in shallow breathing. These results are borne out in heart rate (HR) testing conducted by Iñesta, Terrados, Garcia and Pérez (2008) among professional musicians, including wind players. The tests showed that musicians reported higher HR levels during public performances than in rehearsals, especially among soloists. The results revealed moderate to heavy work intensity levels among performing musicians regarding heart rate levels during a musical performance.

Behavioural

The most severe behavioural symptom, experienced by seven of the participants, was shaking. However, according to one participant, a symptom like shaking would not necessarily be common among brass players, as other instrumentalists, for instance, string players, would also suffer from shaking hands. However, a dry mouth, more than any other symptom of MPA, would apply particularly to brass and wind instrumentalists. Similarly, another participant argued that a dry mouth would affect brass players. Müller (2001:12) argues that behavioural symptoms are directly associated with performers who try to prevent MPA from occurring or who are afraid of it. The consequence is body tension.

According to Participant 4, dystonia ("an uncontrollable shaking of the lips") may be a symptom which could have serious consequences for brass instrumentalists. He witnessed a former colleague suffer from it: "…he (a horn player) had to give up playing because of dystonia, which is a common brass playing thing…A lot of brass players suffer from dystonia…". Research on focal dystonia in musicians by Jabusch and Altenmüller (2006:1) describes it as "a task-specific movement disorder which manifests itself as a loss of voluntary motor control in extensively trained movements". They found that MPA is linked with focal dystonia, and those affected may suffer the termination of their musical careers. They measured focal dystonia diagnosed among professional musicians, including brass and wind instrumentalists, and the results showed that piano and string instrument players were more severely affected. However, in treatment approaches to embouchure dystonia, only 15% reported an improvement, which suggests that once the player has been affected the treatment process may be prolonged. They also found that most of the patients affected were classical musicians. None of the participants in this study reported being affected by dystonia.

Three of the participants reported that taking alcohol and caffeine prior to a performance aggravated shaking and also influenced their concentration levels, in turn contributing to higher levels of MPA. A bad diet also resulted in low concentration levels. Mood and fatigue influenced the shaking as well. A study on drugs in musical performance by West (2004) found that lifestyle drugs, such as alcohol and caffeine, are often used among musicians, as they act as a nerve stimulant. However, West states that musicians commonly using alcohol for MPA "can become trapped in a downward spiral, in which they come more and more to rely on alcohol and without it become ever more anxious" (West, 2004:274). He further argues that larger amounts of caffeine can increase anxiety and affect muscle control.

One participant suffered from situational anxiety and was affected by bad acoustics during a recital. Another participant mentioned that shaking contributed to body tension and he felt restrained from performing with spontaneity. To support the findings in the data, a number of studies on the symptoms of MPA and its causes revealed that behavioural symptoms are a result of negative thoughts about performing and manifest through subjective feelings of anxiety (Brugués, 2009; Kenny & Osborne, 2006; Lehmann et al., 2007; Müller, 2001; Papageorgi, 2006; Papageorgi et al., 2007, 2013; Valentine, 2002; Williamon, 2004; Wilson, 2002). As stated in the literature, the behavioural symptoms experienced among the participants seemed to result in subjective feelings of MPA. Wilkinson (2005:10) clarified that behavioural symptoms of MPA "are sometimes visible to observers, and include tensed shoulders, a shaky voice or hands, pacing, inordinate preparation of the instrument and also avoidance behaviour".

Cognitive

The most common cognitive symptom, experienced by six of the participants, was negative thoughts and feelings about performing, although one participant also suffered from self-doubt. The data showed that three participants suffered from more than one cognitive symptom:

Participant 1: Panicking and negative thoughts;
Participant 2: Intimidated by others and negative feelings;
Participant 7: Negative feelings and mind-blocked.

Literature suggests that the cognitive symptoms of MPA are subjective feelings of anxiety and negative feelings about performing (Valentine, 2002; Williamon, 2004). According to Williamon (2004:11), these symptoms are often a result of aggravated self-worth regarding performance success. Sinico et al. (2012) discovered among the differences in state and trait anxiety among flute players that they reported feeling "higher levels of anxiety during performances in front of audiences than in everyday life". The symptoms experienced by the participants can therefore

determine that highly demanding tasks that aggravate MPA resulted in the performer developing negative thoughts about performing through self-criticism and loss of self-esteem.

5.5 Main theme D: Coping strategies used against MPA symptoms

The analysis of the data revealed that the participants used various strategies for coping with MPA. The strategies focused on reducing symptoms and managing anxiety, which enhanced their performances. The techniques were applied both while they were experiencing MPA and prior to stressful performance situations. The coping strategies are classified within the following sub themes: Substances: drugs/beta-blockers; effects and side effects of substances; practical and physical coping strategies; mental coping strategies and pre-performance routines; and alternative coping strategies.

In a sample of amateur and professional musicians recorded by Wolfe (1990, a), it was found that coping strategies such as relaxation, breathing exercises, physical activity, coaching, sufficient practice and preparation were the most commonly used coping strategies against MPA. A review of the literature on MPA by Brugués (2009:106) found that "musicians who used emotion-focused strategies reported more positive effects on performance than those using problem-orientated strategies".

Substances: drugs/beta-blockers

A number of studies revealed that musicians commonly use beta-blockers to control symptoms of MPA, as they immediately reduce the physiological symptoms of anxiety (Brugués, 2009; Müller, 2001; Valentine, 2004; West, 2004; Wilson, 2002; Wilson & Roland, 2002). In relation to the literature, the data revealed that the participants suffered mostly from physiological and behavioural symptoms and it was reported that beta-blockers had been used by most of the participants in an attempt to reduce symptoms like a dry mouth and shaking. The substances were reported to have had the immediate effect of reducing their symptoms, but their effect lasted for only a short period. These symptoms were experienced mostly during highly anxious performances and so the substances were used prior to the events.

Two of the participants had never used beta-blockers, but they experienced fewer physical symptoms. Beta-blockers had a positive effect on the majority of the participants' performances, but only for those who experienced higher levels of physical symptoms. In accordance with the findings in the data, research by Brugués (2009) found that beta-blockers for the most part reduce the physical symptoms of MPA. However, although they have the immediate effect of

reducing the symptoms, but would not be beneficial over a long period of time for musicians experiencing problems with MPA. In a study on approaches to treatment for MPA by Kenny (2006), she argues that beta-blockers are reported to be most effective for musicians suffering primarily from physiological symptoms and appear to be less effective for those showing higher levels of behavioural and psychological anxiety.

A few participants reported that beta-blockers had a negative effect on the quality of their performance as it reduced both their ability to focus and their adrenalin levels. However, three of the participants claimed 10 mg was enough to moderate negative physical symptoms, without affecting adrenalin levels during their performances. West (2004:279) found that beta-blockers are used mainly by people suffering from high blood pressure but stated that quantities of 40 mg and lower would be ideal to control situational anxiety. As was also stated in the literature, three participants reported that it was situational stress that most often affected their performances and that the use of beta-blockers had a positive effect in making it easier to perform in public recitals and auditions, because their dry mouth and shaking symptoms had declined significantly.

However, one participant had used beta-blockers once during a solo performance and did not enjoy the effect it had on her performance. She argued that beta-blockers would not have the lasting effect of enhancing musical performance among musicians considering the effect they had on her concentration levels and lack of adrenalin. Although she suggested that supplements containing magnesium extract such as number 8 tissue salts and rescue drops would be a more natural supplement for reducing the symptoms of MPA, as there are apparently no side effects. However, research on self-help treatments for anxiety disorders by Jorm, Christensen, Griffiths, Parslow, Rodgers and Blewitt (2004) reported that supplements containing magnesium would not necessarily be effective against MPA, since there is little evidence that they reduce anxiety. But the writers found that combining magnesium supplements with anxiolytic medication reduces anxiety and has proved to be effective over a short period among a group of women suffering from a combination of depression and anxiety.

Three of the participants, all in the same age group (40-46), found that beta-blockers stabilised their heartbeat under stress, but also reduced shaking for one of them, while another reported easier breathing. Another four participants, all in the same age group (22-28), used beta-blockers during performances in recitals and auditions. They used beta-blockers, largely because they experienced high levels of anxiety prior to these performances and not because of the reported physical symptoms. Over time, MPA has had such an influence on Participant 1 that he

used beta-blockers for most performances. It was irrelevant whether or not the substance worked against MPA, but it calmed him mentally, which created a placebo effect:

> …I am not convinced that these pills work, but I do believe very firmly in the idea of taking a pill, it is like just having a little bit of a safety net underneath you…

Severe to mild side effects were reported among the participants as a result of using beta-blockers, which are discussed in the next sub theme.

Effects and side effects of substances

Although a number of the participants found that beta-blockers were helpful in managing MPA, others reported side effects that had a negative impact on their performances. In a study on MPA by Wilson and Roland (2002:51), it was found that beta-blockers would not necessarily leave the positive effect of improving musical performance when a player is suffering from MPA, but that "they seem less than ideal because of possible side-effects such as loss of sexual potency, nausea, tiredness, and blunting of effect". West (2004:279) argued that "views vary about the appropriateness of using beta-blockers to ease symptoms of anxiety and help performance", and that it may be beneficial to many musicians when they are suffering from severe symptoms before highly demanding or important performances and should be taken frequently under medical supervision. One participant has heard different opinions from a number of doctors about the use of beta-blockers, which are initially prescribed for patients suffering from heart disease. He expressed concern that doctors are unsure about advising musicians on the use of beta-blockers to prevent MPA, as individual musicians would have unique personal symptoms and would also display different side effects when using them. He argued that this would be a topic that could be further to show how beta-blockers could affect musicians, specifically over a long period. Another participant believes that the continuous use of beta-blockers could cause depression.

It became evident that the three female participants in this study experienced similar situations, which demonstrated the following side effects of using beta-blockers: tiredness, a deadpan expression and low blood pressure. To corroborate the reported side effects, West (2004:279) discovered through a study on the use of drugs in musical performance that the side effects of beta-blockers are usually mild and may cause low blood pressure and dizziness in persons with normal blood pressure. The drugs have been developed to control high blood pressure. They also found that beta-blockers can "cause tiredness or reduce physical endurance". Furthermore, the side effects of beta-blockers contributed negatively to their performances, according to three

participants: they inhibited the adrenalin levels to a certain extent, so that the participants were unable to produce the energy they needed to perform and the necessary musical expression they desired. Dry mouth appeared to be a side effect for three participants (trumpet players). They are in the same age group and gender. Two of the participants also experienced a decline in performance adrenalin while it remained unchanged for the other.

The study revealed that 50% of the participants experienced a decline in adrenalin during musical performances when they were using beta-blockers. However, not all the participants reported that beta-blockers affected their performances negatively.

Practical and physical coping strategies

The following practical and physical coping strategies were among the most commonly used techniques against MPA and were widely used to enhance musical performance as well: physical preparation, such as practice routines, physical exercising, breathing exercises and a healthy diet.

Four participants benefited from breathing exercises against symptoms like shortness of breath and accelerated heartbeat, and mainly used the beta-blockers to enhance their musical phrasing. Vocal training benefitted one participant, who learnt more advanced breathing techniques, which enhanced her tone quality and breathing on the trombone. Vocal training is reported to enhance breathing and voice quality, as it improves the vocal chords, and expands the lung capacity and use of the diaphragm simultaneously (Sataloff, 1986). Another participant focused on consistent deep breathing, which reduced MPA. He argued that it would help wind players suffering from accelerated heartbeat, because the heart rate would normally slow down with deeper breathing at regular intervals. One participant focuses more on breathing when practising a piece of music, thereby enhancing his musical phrasing. He mentioned that it would help brass players to focus more on breathing rather than the music itself, which would encourage improved musical phrasing by focusing on difficult passages. In agreement with the above findings, Slocumb (2009:58) mentions that deep breathing would have significant results on brass players suffering from MPA, especially among students applying irregular breathing habits to their playing when symptoms of MPA occur:

> The player must consciously breathe slowly and deeply. Slowly, the tension in the chest releases, making it easier to maintain a slow and deep breath. Simply stated, slow and deep breathing is the antithesis of tension.

The majority of the participants committed themselves to regular practice routines, which enhanced their preparation for highly demanding and stressful performances and proved beneficial in handling MPA. Strategies such as technical exercises combined with a focused practice routine not only increased their stamina, but also reduced technical flaws and hesitation over difficult phrases. Improved quality of performance and confidence in difficult performance tasks were one result of the strategies applied. Three of the participants found that a healthy diet was a successful as aspect of a coping strategy against MPA. It was shown that a healthy diet had the significant outcome of enhancing concentration levels and mood. One participant stated that he avoids foods containing protein prior to performances because protein tends to enhance physical symptoms like dry mouth. He prefers taking carbohydrates, which help to maintain energy levels.

A bad diet affects concentration and mood and may hinder a performer's focus. Müller (2001:21) stated that processed foods contain excessive amounts of salt, which would increase blood pressure, affect concentration and evoke fatigue. She suggests that musicians, specifically wind players, should follow a natural and balanced diet, but that larger quantities of fluids are essential, as this would prevent exhaustion and dehydration when performing.

Physical exercise, especially running, combined with sufficient rest was practised by three of the participants. It proved to enhance their personal well-being, which in turn was beneficial in handling MPA. The techniques were applied to practice routines for improved stamina on the instrument but were also found to be goal orientated. In a study by Taylor and Wasley (2004:165) on physical fitness, they found that physical exercise and a healthy diet could be beneficial to the well-being of musicians and could help control stress levels associated with being a professional musician. As well as a healthy diet, they argue that "physical activity positively stimulates muscular development in a number of ways to deal with the demands placed on the body". In relation to Taylor and Wasley's findings, one participant said he suffered from a stiff back and neck when preparing for a solo recital and stated that physical exercise helped release the stress levels in his body. He argued that it would improve brass players' physical capabilities on the instrument, as physical exercise enhances the breathing capacity and muscle control.

A study by Müller (2001) conducted on MPA in wind players reveals that wind instrument performers require a balance between mental and physical strength if they are to maximise a level of proficiency on the instrument. Müller found that physical well-being in a wind player would therefore have its advantages when performing on the instrument under stress, owing to

the physical demands of performing on a wind instrument. However, Participant 3 argued that physical exercise would not necessarily reduce MPA among musicians regardless of their level of fitness:

> ...I do not think that being more fit will change anything when you are nervous. It is always good to be fit and to have a bit of control over your body. But if you are prone to nerves and anxiety, then it will happen, never mind how fit you are.

Similar to Müller's findings, Iñesta et al. (2008:10) proved that heart rate levels are increasingly higher among professional musicians and argued that "musicians, especially soloists, must be aware of the energy surge their heart will need while performing in a concert, and must be ready for it both with psychological coping techniques and by undergoing and adequate physical conditioning".

A sufficient daily practice routine combined with physical exercise and breathing techniques proved to be a beneficial pre-performance routine, applied over a number of weeks between two participants. It showed enhanced performance quality in factors such as technical abilities and musical excellence as well as shown greater performance endurance particularly during solo recitals.

It is therefore vital for brass players to implement a balance between physical and mental coping strategies, as the data showed that an accelerated heart beat influences the severity of a number of physical symptoms, especially shortness of breath. Therefore, the severity of MPA in wind and brass players can influence factors like posture, breathing and stamina, which are linked with the physical demands (Müller, 2001; Slocumb, 2009).

Mental coping strategies and pre-performance routines

Mental coping strategies such as positive thinking, meditation, positive self-talk and visualisation included the techniques most used among the participants against MPA. The strategies were beneficial in reducing anxiety with regard mainly to behavioural and cognitive symptoms. Osborne et al. (2014:4) found that a combination of cognitive and behavioural techniques like cognitive restructuring (replacing negative thoughts with more positive views about the performance), "attention control and behavioral rehearsal, relaxation and mental skills training" would be the most effective against the treatment of MPA. In accordance to the techniques being identified, Taylor and Wasley (2004:166) believe that "a pre-performance routine (i.e. the hours just before a performance) be designed to provide consistency in building one's mental and physical state for performance".

Finally, Connolly and Williamon (2004:232) found that highly skilled musicians use two fundamental approaches to optimal concert performances:

- A long-term commitment to high-quality physical, technical, and artistic preparation;
- The development of an individualized, flexible pre-performance routine that includes physical activity, nutrition, and rest, as well as warming up using mental, emotional, technical, and musical strategies.

The findings in the data are congruent with the literature. The participants used some of the above-mentioned strategies, but also focused on warm-up routines and time efficiency. These techniques were used as part of a pre-performance routine prior to highly anxious performance situations such as recitals, auditions, solos and orchestral performances. These routines were performed merely to prevent MPA from occurring during the performance and enhancing optimal performance. For four of the participants, time efficiency was an important consideration to allow for focus on pre-performance routines. It seemed that arriving well in advance of the performance allowed for sufficient time to emphasise techniques like warm-up routines, relaxation, breathing exercises, mental focus and preparation. One participant prefers not to arrive at a performance too early. He argued that he tends to overthink about the performance and that it lessens his focus during the performance itself. However, arriving well on time seems appropriate to avoid being worried about the performance and it seemed to have shown an improved focus on stage.

Three participants used positive self-talk and self-reflection against negative thoughts to enhance their mental strength and calm prior to stressful performances. Another five participants benefited from performance visualisation techniques such as meditation, mental imagery and mental rehearsal to enhance mental focus before performances where uncontrolled external distractions would interfere with a demanding performance and inhibit MPA. In relation to performance visualisation techniques, Participant 4 uses the term “blinkers on” as a focusing technique to enhance his concentration levels and manages to eliminate unnecessary distractions during performances: “sort of imagining a horse with blinkers on going into a race…you are blocking out all external things”. This technique could be related to cognitive restructuring. According to Osborne et al. (2014:4), “cognitive restructuring techniques identify and challenge negative, self-defeating, task-irrelevant thought patterns and replaces them with more adaptive and realistic views”.

According to the data, Connolly and Williamon (2004:226) showed that mental imagery and rehearsal would help performers suffering from MPA and could be integrated with behavioural performance visualisation and performance practice:

> Mental rehearsal can be particularly effective during early stages of learning, when novel insights and ideas about the task can be formulated, and during the later stages to reinforce cultivated performance strategies.

In accordance with performance visualisation and mental imagery, a study carried out on cognitive-behavioural therapy by Wilson and Roland (2002:53), found that one particular aspect of cognitive-behavioural therapy called *stress inoculation* would be beneficial in controlling negative thoughts about particular performance situations and stated "that it is important to implant realistic expectations about what will be experienced during performance as well as promoting optimistic self-comments". Therefore, through cognitive-behavioural therapy, performers would view an important performance as positive and would see that substances like beta-blockers may therefore hinder the adrenalin flow in performing instinctively (Nagel & Himle, 1989; Papageorgi et al., 2007; Valentine, 2002; Williamon, 2004; Wilkinson, 2005; Wilson & Roland, 2002). However, one participant mentioned that the use of beta-blockers combined with meditation was beneficial in reducing physical symptoms and could control negative thoughts. According to Osborne et al. (2014:4), "pre-performance routines which combine psychological and behavioural components decrease the likelihood of choking, compared to singular methods of deep breathing, cue word, temporal duration or no routine control".

Although the participants used their own mental techniques and pre-performance routines, Wilson and Roland (2002) found that in an interview study carried out on successful professional performers, they viewed MPA as normal and an important part of performance preparation. They viewed MPA as a feeling of positive energy and increased mental focus, which influenced their performances positively.

Alternative coping strategies

A number of the participants experimented with and used alternative coping methods as a performance enhancement strategy. Of all the alternative coping methods available participants in this study chose the Alexander Technique (AT).

Three participants used the Alexander Technique in an attempt to develop their playing posture and breathing and the data showed positive results. It seemed that the AT was not used to counteract symptoms of MPA, but rather used as a method of controlling MPA, as AT focuses on the body in terms of the playing posture and natural breathing, which controls the heart rate and

improves general focus. Nielsen (1988) and Valentine (2004) found that orchestral musicians often used the Alexander Technique, whereas Valentine (2004:185) found that the AT "can be almost as effective as beta-blockers in preventing inappropriate responses to stress". AT would be more beneficial than beta-blockers, since it was found that AT reduced the heart-rate and improved natural breathing. It was further reported that AT resulted in improved focus, breathing and excess energy among the musicians tested, who also reported improved general well-being (Valentine 2004).

Participant 4 believes that brass players could use the Alexander Technique as part of a performance enhancement programme to improve general posture and breathing:

> …I think it would probably help people, because you are focusing then on yourself. I would think that the Alexander Technique would be a very good way of controlling your body. Sitting with the right posture is going to help you breathing…

Two participants believed in exercise like cycling and a balanced routine incorporating cardio and performance practice, which enhanced body efficiency, breath control and mental fitness under stress over a sustained period. One participant experimented with various natural remedies, such as taking mint, lemon and ginger, and by rubbing the tongue against the pallet against dry mouth, which had positive results. Another participant combined mental techniques like positive thinking together with physical techniques like breathing exercises, thereby enhancing his focus. Positive thinking during performances evoked positive thoughts about the enjoyment of music rather than having subjective feelings about performing.

Greene (2001), a sport psychologist, found that *centering*, a focusing technique originated from the Japanese martial art of *Aikido* and from Western psychology, integrated with natural breathing, would be an ideal strategy for controlling a performer's thoughts and improving focus in preparation for difficult performance tasks. In this study, it was used by two performers suffering from MPA, one a singer and the other a French horn player. It was found that the technique helped reduce MPA levels and achieved optimal performance in their respective auditions. The principles of Greene's *centering* technique as part of a performance psychology skills training package against MPA were tested among 31 conservatoire students by Osborne et al. (2014) and proved to enhance performance preparation in terms of mental rehearsal and focus, which evoked positivity with regard to performance practice outcomes and resulted in enhanced public performances. *Centering* has been combined with positive self-talk and breathing, evoking positive thoughts about performing through breathing methods (Greene, 2001; Greene, 2002; Osborne et al., 2014).

5.6 Conclusion

The data showed that first-time experiences of MPA had a significant influence on the participants' performance outcomes and that continued experience of these conditions created understanding of the phenomenon in relation to enhancing the quality of musical performance under pressure. Circumstances like auditions, solo recitals and Eisteddfods created high expectations of the outcomes and in turn entrenched fear of the performance itself, which manifested through self-doubt and situational anxiety. These circumstances evoked physiological, behavioural and cognitive symptoms, among which dry mouth and shaking were reportedly the most severe. Techniques for reducing anxiety symptoms are adequate preparation, along with breathing exercises, a healthy diet, pre-performance relaxation and visualisation, positive thinking and self-talk and mental imagery and rehearsal. It was also concluded that the techniques could be integrated into a pre-performance enhancement programme to evoke optimal performance over sustained periods.

Chapter 6

CONCLUSION

6.1 Introduction

This research explored the impact Music Performance Anxiety (MPA) has on musical performance in brass players. It investigated the background and early experiences as well as long-term influences on musical development and sought to identify unique symptoms amongst brass players. Chapter 1 presents an overview of the study and includes the background, the aim of the study, research questions, a summary of the methodological process and a chapter outline. Chapter 2 provides a literature overview of Music Performance Anxiety among orchestral musicians. Chapter 3 presents a detailed discussion of the methodological processes the study followed. Chapter 4 shows the results of the data analysis. Chapter 5 includes a discussion of the results. Chapter 6 summarises and presents the conclusions of the research. The main research question and the four sub-questions are addressed in this chapter.

6.2 Addressing the sub-questions

The main research question of the study was: **How do brass instrumentalists experience Music Performance Anxiety?** The four sub-questions will be addressed before a discussion of the main research question.

Sub-question 1: What are the symptoms of MPA in brass players?

The analysis of the data showed that brass players experience a number of symptoms during MPA. The most common symptoms are a dry mouth, shaking, accelerated heartbeat, negative feelings/thoughts, and self-doubt. Based on current literature on MPA, these symptoms are classified under three fundamental concepts: physiological (e.g. dry mouth, accelerated heartbeat), behavioural (e.g. shaking), and cognitive (e.g. negative cognitions, feelings of self-doubt). The participants of this study stated that physiological symptoms such as dry mouth and shaking are the most debilitating indicators of MPA since performing a brass instrument is a very physical task. It also became evident that severe shaking was reported during first-time performance situations such as exams and Eisteddfods. Furthermore, participants reported that a dry mouth was also common, however, some reported that this was a result of taking beta-blockers. They also found that beta-blockers and a bad diet contributed to behavioural

symptoms like shaking. Dry mouth symptoms had the biggest effect on technical aspects of brass playing such as tonguing, formation of the embouchure and tone quality. This in turn aggravated negative thoughts during performances as a result. The participants were concerned that physiological symptoms hindered technical proficiency, which could result in deteriorating performance.

Most participants experienced multiple MPA symptoms simultaneously. Accelerated heartbeat triggered shortness of breath which had an impact on tension of the embouchure and parts of the upper body, such as the neck, back and chest. Cognitive symptoms such as negative thoughts/feelings and self-doubt experienced, therefore influenced physical symptoms in a negative feedback loop. Performances of perceived higher demand such as solo recitals, auditions, solo orchestral performances and competitions, seemed to aggravate physical symptoms and were commonly and frequently experienced during these events. The participants expressed concerns regarding physical endurance, which led to self-doubt and negative thoughts.

An interesting finding of this study was that conductors had a marked influence on experience of MPA in orchestral musicians. Overly critical, demanding and/or impatient conductors exacerbate feelings of MPA in brass players, often fostering feelings of self-doubt amongst the players. The study also revealed that fellow musicians and colleagues can have a significant impact on MPA, to the extent that a degree of bullying and social tension is felt. This was also experienced among pit musicians. The study suggests that pit musicians experience an equal amount of anxiety than stage musicians.

Sub-question 2: How does MPA affect brass players' musically expressive performance?
The study found that symptoms such as severe dry mouth and shaking has a negative impact on expressive playing in that it limits performers' technical abilities on the instrument with regard to articulation. It affected nuanced legato and staccato playing, and performers often felt musically restricted as a result. Accelerated heartbeat and shortness of breath inflicted irregular breathing habits resulting in poor tone quality, aggravated body tension and resulted in limited ability for playing optimally shaped and sustained musical phrasing. Interestingly, the study found that the negative side effects of beta-blockers influenced performance energy, which led to the performer feeling dull with constrained focus, which restricted musical expression. The results of this study concur with Slocumb (2009) who also found that shallow breathing and heart palpitations directly influences spontaneity and musical expression among brass players.

These symptoms inflict negative thoughts during performances where musical expression is essential for optimal performance.

Sub-question 3: How do brass players manage MPA?

The majority of the participants used beta-blockers prior to highly stressful performances, mostly involving solo performances. The substance used acted towards the prevention of severe reported physical symptoms such as dry mouth and shaking. The substance was mostly reported to have had a positive effect in reducing the symptoms and also resulted a significant decline in body tension and accelerated heartbeat. However, the use of beta-blockers, caffeine and alcohol also presented a number of side effects: dry mouth, shaking, tiredness and deadpan expression. Although, caffeine and alcohol was not used to reduce symptoms or combat MPA. The participants felt that these side effects did not have a significant impact on musical spontaneity, with the exception of two participants who reported limited ability regarding musical expression.

The study found that the participants used other coping techniques such as practice routines, physical exercising, breathing exercises and a healthy diet. Although, breathing exercises were mostly effectively used against accelerated heartbeat and shortness of breath, breathing exercises and practice routines also prompted improved technique. Furthermore, participants mentioned coping strategies such a healthy diet, physical exercise, and the Alexander Technique to enhance physical conditioning and personal well-being. An interesting finding was that some participants mention singing lessons as an effective coping technique. Two participants found that singing lessons enhanced breathing and tone quality, and it also resulted in a better understanding of stage performance, which was helpful towards improved posture and musical expression.

Further coping techniques such as positive thinking and self-talk, meditation, and visualisation were found to be helpful towards managing negative thoughts, feelings and self-doubt. These techniques were effective as part of a pre-performance routine particularly before high demanding and stressful performance situations. Often these techniques were combined with breathing exercises to enhance focus and concentration.

Sub-question 4: Which strategies and techniques are most effective in managing MPA in brass players?

The participants agreed that a combination of coping strategies were helpful against MPA and performance enhancement. Most participants agreed that beta-blockers are beneficial for MPA

since it only reduces physical symptoms and is not helpful towards combatting MPA in the long run. The participants mentioned the following combination of physical and mental techniques as most effective against managing MPA over time: physical exercising combined with positive self-talk in creating a positive mind-set; a daily practice routine, including warm up and technical exercises combined with a healthy diet and positive thinking; breathing exercises combined with positive self-talk; Alexander Technique to enhance playing posture and body efficiency, and reduce body tension over a sustained period.

6.3 Addressing the main research question: How do brass instrumentalists experience Music Performance Anxiety?

The findings of the study suggest that similar to other instrumentalists, brass players experience MPA during the early stages of learning the instrument. The unique physical attributes of playing a brass instrument, such as embouchure formation and breath control, requires physical strength and endurance in order to play the instrument with ease especially under pressure. Although the study aimed to identify MPA experiences in brass players it did not find any unique manifestations of anxiety in this instrument group other than already identified in current literature on MPA. However, a number of factors are more prominent in brass players' experiences of MPA. The study found that brass players experience high levels of MPA when playing exposed passages, particularly evident in orchestral environments, since flaws on these instruments are often more audible than others. This is aggravated by perceived criticism from colleagues and resulted negative feelings towards them since players often feel judged, which results in fear of failure. Brass players are also particularly anxious for solo recitals and auditions. The latter exposes the performer's technical proficiency with regard to tone quality and physical endurance. The players stated that physical symptoms such as accelerated heartbeat, dry mouth, shaking, and shortness of breath felt particularly severe given the physical demands of playing a brass instrument.

6.4 Limitations of the study and recommendations for further research

A few limitations are evident in this study. The participants in this study included French horn, trumpet and trombone players. The study can be extended to include other brass instrumentalists such as tuba and euphonium players. The study also included both semi-professional and professional brass musicians, however, no firm conclusion could be drawn

among the differences between the two groups because there were not enough semi-professional musicians included in this sample. Further research could address this imbalance.

Although the study involved male and female performers, it does not focus extensively on gender differences with regard to MPA symptoms. A larger sample could explore the gender differences in brass players more extensively. Further research could explore medical and psychological treatments of MPA in brass players in more detail. Although the study probed the impact of teacher advice on MPA, it does not delve deeply into the pedagogical impact of the experience among brass players. It would be interesting to investigate how MPA can be approached and managed through effective pedagogical methods in brass instrument teaching.

6.5 Concluding comment

Music Performance Anxiety is a concern among brass instrumentalists. It exposes brass player's technical inadequacies, which imposes mental weaknesses during performance. Sufficient knowledge of MPA, particularly from other brass players, could encourage players to cope effectively in anxiety provoking performance situations. A deeper understanding of MPA in brass players could result in confident performances without fear.

LIST OF SOURCES

Bissonette, J., Dubé, F., Provencher, M. D., & Sala, M. T. M. 2011. 'The effect of virtual training on music performance anxiety'. *International Symposium on Performance Science*.

Breakwell, G. M., Hammond, S. & Fife-Schaw, C. 2000. *Research methods in psychology.* 2nd ed. London: Sage.

Brotons, M. 1994. 'Effects of performing conditions on music performance anxiety and performance quality'. *Journal of Music Therapy,* 31(1):63-81.

Brugués, A. O. 2009. *Music performance anxiety: A review of literature.* Unpublished doctorate dissertation. Freiburg: Albert-Ludwigs University.

Brusky, P. 2009. *Performance related musculoskeletal disorders in bassoon players.* Unpublished doctorate dissertation. Sydney: University of Sydney.

Connolly, C. & Williamon, A. 2004. In A. Williamon (Ed.), *Musical excellence: Strategies and techniques to enhance performance* (pp. 221-242). New York: Oxford University Press.

Durrheim, K. 2006. Research design In: M. Terre Blanche, K. Durrheim & D. Painter (eds.) *Research in Practice.* 2nd ed. Cape Town: University of Cape Town.

Evans, A., Driscoll, T., & Ackermann, B. 2011. 'Prevalence of velopharyngeal insufficiency in woodwind and brass students'. *Occupational Medicine,* 61:480-482.

Fazey, J. A., & Hardy, L. 1988. *The inverted-U hypothesis: A catastrophe for sport psychology* (British Association for Sports Sciences Monograph No. 1). Leeds: The National Coaching Foundation.

Fishbein, M., Middlestadt, S. E., Ottati, V., Strauss, S., & Ellis, A. 1988. 'Medical problems among ICSOM musicians: Overview of a national survey'. *Medical Problems of Performing Artists,* 3(1):1-8.

Gibbs, G. 2007. *Analysing qualitative data.* London: Sage.

Giorgi, A. & Giorgi, B. Smith, J. (ed.) 2003. *Qualitative psychology: A practical guide to research methods.* 2nd ed. London: Sage.

Gordon, S. 2006. *Mastering the art of performance: A primer for musicians*. New York: Oxford university press.

Gorges, S., Alpers, G. W., & Pauli, P. 2007. 'Musical performance anxiety as a form of social anxiety?'. *International Symposium on Performance Science*.

Green, B. & Gallwey, W. T. 1986. *The Inner Game of Music*. London: Pan Books.

Greene, D. 2001. *Audition success: An olympic sport psychologist teaches performing artists how to win.* New York: Routledge.

Greene, D. 2002. *Performance success: Performing your best under pressure.* New York: Routledge.

Hallam, S. Cross, I. & Thaut, M. 2009. *The Oxford handbook for music psychology.* New York: Oxford University Press.

Hart, C. 1998. *Doing a literature review: Releasing the social science research imagination.* Los Angeles: Sage.

Hoberg, A. 2008. *Reducing performance anxiety in woodwind playing through the application of the Alexander technique principles.* Unpublished master's dissertation. Pretoria: University of Pretoria.

Iñesta, C., Terrados, N., García, D., & Pérez, J. 2008. 'Heart rate in professional musicians'. *Journal of Occupational Medicine and Toxicology,* 3(16):1-11.

Jabusch, H. & Altenmüller, E. 2006. 'Focal dystonia in musicians: From phenomenology to therapy'. *Advances in Cognitive Psychology,* 2-3:207-220.

Jorm, A. F., Christensen, H., Griffiths, K. M., Parslow, R. A., Rodgers, B., & Blewitt, K. A. 2004. 'Effectiveness of complementary and self-help treatments for anxiety disorders'. *The Medical Journal of Australia,* 181(7): S29-S46.

Kelly, K. 2006. From encounter to text: Collecting data in qualitative research. In: Terre Blanche, M., Durrheim, K. & Painter, D. (eds.) *Research in Practice.* 2nd ed. Cape Town: University of Cape Town.

Kenny, D. T. 2006. Music performance anxiety: *Is it the music, the performance or the anxiety.* Invited paper for Music Forum; 2004. New South Wales: University of Sydney.

Kenny, D. T. 2009 (a). 'The factor structure of the revised Kenny music performance anxiety inventory'. *International Symposium on Performance Science.*

Kenny, D. T. 2009 (b). Negative emotions in music making: Performance anxiety. In Juslin, P. & Sloboda, J. (Eds). *Handbook of Music and Emotion: Theory, Research, Applications* (pp. 1-39). UK: Oxford University Press.

Kenny, D. T. & Osborne, M. S. 2006. 'Music performance anxiety: New insights from young musicians'. *Advances in Cognitive Psychology*, 2-3:103-112.

Kenny, D. T., Arthey, S., & Abbass, A. 2014. 'Intensive short-term dynamic psychotherapy for severe music performance anxiety'. *Medical Problems of Performing Artists,* 29(1):3-7.

Kenny, D. T., Driscoll, T., & Ackermann, B. J. 2016. 'Is playing in the pit really the pits?: Pain, strength, music performance anxiety, and workplace satisfaction in professional musicians in stage, pit, and combined stage/pit orchestras'. *Medical Problems of Performing Artists,* 31(1):1-7.

Langdridge, D. 2008. 'Phenomenology and critical social psychology: Directions and debates in theory and research'. *Social and Personality Psychology Compass,* 2/3(2008):1126-1142.

Lehmann, A. C., Sloboda, J. A., & Woody, R. H. 2007. *Psychology for musicians: Understanding and acquiring the skills.* New York: Oxford University Press.

Maree, K. 2007. *First Steps in Research.* Pretoria: Van Schaik Publishers.

McNally, I. M. 2002. 'Contrasting concepts of competitive state-anxiety in sport: Multidimensional anxiety and catastrophe theories'. *Athletic insight: The Online Journal of Sport Psychology,* 4(2):1-13.

McPherson, G. E. 2016. *The child as musician: A handbook of musical development*, 2nd ed. Oxford: Oxford university press.

Miendlarzewska, E. A. & Trost, W. J. 2014. 'How musical training affects cognitive development: rhythm, reward and other modulating variables'. *Frontiers in Neuroscience,* 7:1-13.

Müller, A. 2001. *Verhoogvrees by blaasinstrumentspelers: Oorsake en oplossings.* Unpublished master's dissertation. Pretoria: University of Pretoria.

Nagel, J. J. & Himle, D. P. 1989. 'Cognitive-behavioural treatment of music performance anxiety.' *Psychology of Music,* 17:12-21.

Nielsen, M. 1988. A study of stress amongst professional musicians. In C. Stevens (Ed.), *The F. M. Alexander Technique: Medical and Psychological Aspects* (pp. 14-16). Aalborg, Denmark: International School of the Alexander Technique.

Osborne, M. S. 2013. 'Maximising performance potential: The efficacy of a performance psychology program to reduce music performance anxiety and build resilience in adolescents'. *International Symposium on Performance Science.*

Osborne, M. S., Greene, D. J., & Immel, D. T. 2014. 'Managing performance anxiety and improving mental skills in conservatoire students through performance psychology training: a pilot study'. *Psychology of Well-being: Theory, Research and Practice,* 4:1-18.

Oyan, S. 2006. *Mindfulness meditation: Creative musical performance through awareness.* Unpublished doctorate monograph. Louisiana: Louisiana State University.

Papageorgi, I. 2006. 'Understanding performance anxiety in the adolescent musician: Approaches to instrumental learning and performance'. *9th International Conference on Music Perception and Cognition.*

Papageorgi, I. 2007. 'The influence of the wider context of learning, gender, age, and individual differences on adolescent musicians' performance anxiety'. *International Symposium on Performance Science.*

Papageorgi, I., Hallam, S., & Welch, G. F. 2007. 'A conceptual framework for understanding musical performance anxiety'. *Research Studies in Music Education,* 28:83-107.

Papageorgi, I., Creech, A., & Welch, G. 2013. 'Perceived performance anxiety in advanced musicians specializing in different musical genres'. *Psychology of Music,* 41(1):18-41.

Parncutt, R., & McPherson, G. E. 2002 *The science and psychology of music performance: Creative strategies for teaching and learning*. New York: Oxford University Press.

Plummer, C. D. 2007. *Performance enhancement for brass musicians using eye movement desensitization and reprocessing*. Unpublished doctorate dissertation. Cincinnati: University of Cincinnati.

Punch, K. F. 1998. *Introduction to Social Research.* London: Sage.

Reubart, D. 1985. *Anxiety and musical performance on playing the piano from memory.* New York: Da Capo Press.

Roos, J. W. 2001. *Violin playing: Teaching freedom of movement.* Unpublished master's dissertation. Pretoria: University of Pretoria.

Sataloff, R. T. 1986. *The professional voice*. Accessed on 2016-08-23. http://famona.tripod.com/ent/cummings/cumm109.pdf

Schneidermann, B. 1991. *Confident music performance.* St. Louis: MMB Music.

Shoup, D. 1995. 'Survey of performance-related problems among high school and junior high school musicians'. *Medical Problems of Performing Artists,* 10(3):100-105.

Sinico, A., Gaulda, F., & Winter, L. 2012. *Coping strategies for music performance anxiety: a study on flute players.* Accessed on 2016-08-07. https://www.researchgate.net/profile/Fernando_Gualda/publication/260799144_Coping_Strategies_for_Music_Performance_Anxiety_A_study_on_flute_players/links/0c96053267e29c988f000000.pdf

Sloboda, J. A. 1985. *The musical mind: The cognitive psychology of music.* Oxford: Clarendon Press.

Slocumb, B. S. 2009. *Causes, effects, and solutions to performance-related anxiety: Suggestions for the teaching of brass instruments*. Unpublished doctorate dissertation. Greensboro: University of North Carolina.

Smith, J. & Osborn, M. 2003. *Qualitative psychology: A practical guide to research methods.* London: Sage.

Solomon, A. 1978. *Why are you so nervous?* Pretoria: Sigma Press.

Steptoe, A. 2001. Negative emotions in music making: the problem of performance anxiety. In P. N. Juslin & J.A. Sloboda (Eds.), *Music and emotion: Theory and research* (pp. 291-307). Oxford: Oxford University Press.

Storts, M. 2008. *Psychosocial, metacognitive, and performance related correlates of presentation anxiety in university students*. Undergraduate research in psychology and behavioral science: University of West Florida.

Taborsky, C. 2007. 'Musical performance anxiety' *A review of literature. 15:*15-25.

Taylor, A. H. & Wasley, D. 2004. Physical fitness. In A. Williamon (Ed.), *Musical excellence: Strategies and techniques to enhance performance* (pp. 163-175). New York: Oxford University Press.

Thomas, G. 2011. *How to do your case study: A guide for students and researchers.* London: Sage.

Valentine, E. 2002. The fear of performance. In J. Rink (Ed.), *Musical performance: A guide to understanding* (pp.168-182). Cambridge: Cambridge University Press.

Valentine, E. 2004. Alexander technique. In A. Williamon (Ed.), *Musical excellence: Strategies and techniques to enhance performance* (pp. 179-191). New York: Oxford University Press.

van Kemenade, J. F, van Son, M. J., & van Heesch, N. C. 1995. 'Performance anxiety among professional musicians in symphonic orchestras: a self-report study'. *Psychological Reports,* 77:555-562.

Vervainioti, A. & Alexopoulos, E. C. 2015. 'Job-related stressors of classical instrumental musicians: a systematic qualitative review'. *Science & Medicine,* 30(4):197-201.

Wesner, R. B., Russel N. Jr., & Davis, T. L. 1990. 'The occurance of performance anxiety among musicians'. *Journal of Affective Disorders.* 18:177-185.

West, R. 2004. Drugs and musical performance. In A. Williamon (Ed.), *Musical excellence: Strategies and techniques to enhance performance* (pp. 271-285). New York: Oxford University Press.

Wilkinson, D. 2005. '*We've all been there': Attitudes of music conservatoire staff towards performance anxiety, and possible implications for students.* Unpublished master's dissertation: University of Sheffield.

Williamon, A. 2004. *Musical excellence: Strategies and techniques to enhance performance.* New York: Oxford University Press.

Willig, C. 2008. *Introducing qualitative research in psychology: Adventures in theory and method.* Buckingham: Open University Press.

Wilson, G. D. 1997. Performance anxiety. In D. J. Hargreaves & A. C. North (Eds.), *The social psychology of music* (pp. 229-243). Oxford: Oxford University Press.

Wilson, G. D. 2002. *Psychology for performing artists.* 2nd ed. London: Whurr Publishers.

Wilson, G. D. & Roland, D. 2002. Performance anxiety. In R. Parncutt & G. E. McPherson (Eds.), *The science of music performance & psychology: Creative strategies for teaching and learning* (pp. 47-58). New York: Oxford University Press.

Wolfe, M. L. 1990 (a). 'Coping with MPA: Problem-focused and emotion focused strategies'. *Medical problems of performing artists,* 4(1):49-56.

Wolfe, M. L. 1990 (b). 'Relationships between dimensions of MPA and behavioural coping strategies'. *Medical Problems of Performing Artists,* 5(4):139-144.

Zhukov, K. 2009. *Overcoming performance anxiety for piano students – how to apply research findings in your studio.* Australasian piano pedagogy conference: University of Queensland.

APPENDIX A

LETTER OF INFORMATION AND INFORMED CONSENT FORM

FACULTY OF HUMANITIES
DEPARTMENT of MUSIC
TEL: (012) 420-3747 (*Secretary*)
FAX: (012) 420-2248

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

September 2014

PARTICIPANT INFORMED CONSENT FORM

Research Title: Exploring performance related anxiety in brass players

Aim of study

The aim of the study is to investigate self-report experiences of music performance anxiety (MPA) in brass players. Furthermore, it aims to understand how MPA affects the music performance in brass players. The study also seeks to find how brass players manage their anxiety, which strategies and techniques are used and are the most effective in managing performance anxiety.

Procedures of study

The study will make use of a semi-structured interview schedule which will be audio recorded over a period of six months. The interview questions will probe on the participant's age and experience on a brass instrument, whether they experience MPA and if so, the type of symptoms they experience, and the duration of those symptoms when they are feeling anxious. The questions will further look into the participant's view of MPA in brass players and whether they focus on strategies to help control MPA. The interviews will take place in a private setting in

Pretoria and Centurion and will be approximately 30-45 minutes in length. The brass instrumentalists include five French horn, three Trumpet, and Trombone players. The reason for interviewing semi-professional and professional musicians is to further explore the trajectory in music performance anxiety in brass players and whether experience has an effect of the experience of MPA.

Participants' rights during the study

Participants have the right to withdraw from the study at any point, refuse to answer a question and stop the interview at any time. They also have the right to view their own personal data gathered before preparation of the data and find the results of the study in the final dissertation.

Benefits the study

This study may benefit the chosen participants, as they will possibly find solutions for difficulties experienced during performance and enhance their performances.

Confidentiality

All information will be treated as confidential and anonymity will be assured. All relevant data will be destroyed should the participant withdraw. The data gathered will be used for the purposes of the study and will be in line with the research goals of the study. All data will be stored at the premises of the University of Pretoria, Department of Music, Lynnwood road, Pretoria for a period of 15 years.

Jaco van Staden
Researcher/ Student
Cell: 071 481 4828
Email: jmcvanstaden@yahoo.com

Dr. Clorinda Panebianco
Supervisor
Work: 012 420 5382
Email: Clorinda.Panebianco@up.ac.za

FACULTY OF HUMANITIES
DEPARTMENT of MUSIC
TEL: (012) 420-3747 (*Secretary*)
FAX: (012) 420-2248

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

September 2014

PARTICIPANT INFORMED CONSENT FORM

Researcher: Jaco van Staden

Supervisor: Dr Clorinda Panebianco

Research Title: Exploring performance related anxiety in brass players

I have understood the content and nature of this study, and I am partaking in this study of my own accord

With full knowledge, I agree to participate in this study on this _____(day) of this _____(month) and this_____(year).

Participant Details:

Name: _____ Signature: _____

Contact number: _____ Date: _____

Researcher and Supervisor Signature:

Researcher: _____ Date: _____

Supervisor: _____ Date: _____

APPENDIX B

SEMI-STRUCTURED INTERVIEW QUESTIONS

The semi-structred interview questions will be based on the following guidelines. Where possible, probing questions will be posed to the participants.

Background

- Age and performance experience.
- How long have you been playing professionally?

Experience of MPA

- Tell me about your experiences of performance anxiety.
- Can you talk me through a recent experience?
- Can you remember your earliest experience of MPA? Describe the circumstances and the experience.
- Has your experience of MPA changed over the years? If so, can you tell me about this?
- Which symptoms of MPA are unique to brass players in your opinion.

Coping strategies

- How do you cope with MPA?
- Have you taken any substances to control MPA?
- Tell me more about this?
- If you have taken medication can you explain the effect it has on you?
- Have you tried any other effective coping techniques?
- Did you receive any guidance from your teacher about how to deal with MPA?
- Tell me about the advice you were given?

Effect on expressive performance

- In your experience how does MPA affect a brass player's tone and their ability to perform expressively?
- Which factors are of particular concern?