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ANGUISH AND ACCOLADES:

A PSYCHOLOGICAL THERAPY

FOR MUSIC PERFORMANCE ANXIETY

RUTH ANNETTE COBHAM TARRANT

2005

ANGUISH AND ACCOLADES:

A PSYCHOLOGICAL THERAPY

FOR MUSIC PERFORMANCE ANXIETY

A thesis presented in partial fulfilment of

the requirements for the degree of

Doctor of Philosophy

in Psychology at

Massey University

New Zealand

RUTH ANNETTE COBHAM TARRANT

2005

Ruth Annette Cobham Tarrant asserts her moral right to be identified as the author of this work.

ABSTRACT

Music performance anxiety (MPA) is widespread among professional, amateur, and student-musicians and -singers. While a certain level of anxiety is necessary for optimal performance, in some instances anxiety can reach levels where the performance is impaired and the performer's enjoyment reduced. Despite the negative effects of MPA, there has been relatively little research in the area, and studies to date have focussed almost exclusively on classical musicians, with little known about jazz musicians. Particular problems within the MPA research include the absence of a clear definition of MPA, the absence of an established measurement tool, and an incomplete set of agreed influences on MPA. Various studies typically limit their investigation to only one or a few possible influential factors. Treatment studies have investigated a range of approaches based on varying understandings of factors that define and influence MPA. Assessment of treatment outcomes has also varied, due to a lack of equivalence among measurement tools.

The present research comprises two studies. Study One, an exploratory survey of a group of Conservatorium musicians, aimed to gain an understanding of MPA as a construct, to investigate the prevalence of MPA, to develop an appropriate measure for MPA, and to clarify a set of factors that can influence MPA. Comparisons were made for gender and music genre. Participants comprised 39 musicians from the Conservatorium of Music at Massey University. Study One differed from most previous studies, by investigating a broad range of factors associated with MPA. Results of Study One indicate that MPA can be defined as a four-part construct comprising physiological, cognitive, affective, and behavioural components. While the four components interact, they can also operate independently, feeding back into the arousal. Factors influencing MPA can be categorised into three broad groups: personality factors, experience (including preparation and performing history), and situational variables. Factors from these three broad groups of influences appear to be present in different *combinations* and intensities for individual performers, varying at different stages of their careers, and variously influencing MPA, depending also on the type of performing situation. A defining feature of participants in Study One was that the widespread, marked level of MPA

experienced prior to performing, was generally maintained into the performance itself. While females tended to report more MPA than males, and classical participants reported more than jazz participants, there were few significant differences between gender, and music genre. The findings of Study One informed the development of Study Two.

Study Two aimed to develop, trial, and evaluate a psychological intervention for MPA in a group of conservatorium musicians. This study used a quasi-experimental approach to investigate the efficacy of the intervention. The intervention was conducted over six 1-1¼ hour sessions. Twenty-five participants began the intervention, and 14 completed. Participants who did not complete the intervention, but who provided pre-test data only, provided a comparison group for participants who completed the intervention. On the basis that different individuals will experience MPA according to their own particular combination of influential factors, the intervention targeted the four components of MPA and the three broad groups of influential factors of MPA, identified in Study One. The intervention included a particular focus on the role of preparation and the role of attention during performance. M-PAS scores reduced significantly between pre-test and follow-up. Results suggest the intervention had a positive effect on the functioning of most participants, assisting them to modify or manage some aspects of MPA that had personal relevance for them.

The present study has contributed to the understanding of MPA and its treatment. The particular therapeutic approach of the present study appeared to benefit most completers. The group therapy situation may not have been appropriate for some participants, particularly those who may have perceived the group context as another demanding performance situation. Suggestions for future research include the need for an appropriate diagnostic instrument for MPA, and clarification of the results of the present study with a larger sample. Finally, there is a need to extend the investigation of music performance anxiety by referring to the literature in other performance domains, particularly the domain of sports performance, which is relevant to music and which has a rapidly developing performance literature.

ACKNOWLEDGEMENTS

Professor Janet Leathem was my principal supervisor for this research. Thank you Janet for your guidance and expert advice throughout the study, for your contribution to my academic development, and for the support you provided. Dr Ross Flett was my second supervisor. Thank you Ross for your expert advice, and for your assistance with statistical analysis.

To Francis Hamilton and Katy Luxon, thank you for your assistance as instructors in the intervention study, during your year as clinical interns.

To the staff of the School of Psychology, thank you for your interest in this research. To my colleague Sue Street, thank you for your assistance with SPSS, and for your technical assistance during production of this document. To Gareth Gowan, in the Teaching Resource Centre at Massey University, Wellington, thank you for the technical production of four MPA figures. To my musician-friends and contacts, thank you for your interest and comment concerning this research.

To the staff of the Conservatorium of Music at Massey University, thank you for allowing me the opportunity to include your students in this research. Particularly to the conservatorium participants who contributed to this study, thank you for the time and effort you gave to this study.

To my family, thank you all for always being there. Thank you Mother, for your steadfast support and encouragement in this and with everything I have ever undertaken. To my late father, thank you Dad for the many years of support you gave me, and for the enjoyment we shared in the earlier years of my study. I know you share the completion of this study with us too. To my brother, Terry, and sister Julianne, thank you for your support, always. To my husband, David, thank you for being ever at my side as I've studied. Your unwavering desire to discuss, challenge, and share the present study has motivated and supported me throughout this particular journey.

I am grateful to Massey University for the financial assistance provided through: two Partnership Research Fund (PRF) grants; a Massey University Research Fund (MURF) grant; and the Advanced Degree Award (ADA).

CONTENTS

Abstract.....	i
Acknowledgements	iii
Contents	v
List of Appendices.....	xiii
List of Tables	xv
List of Figures.....	xvii
<i>Chapter One</i>	
INTRODUCTION	1
BACKGROUND AND PURPOSE OF THE STUDY	2
<i>Chapter Two</i>	
MUSIC PERFORMANCE ANXIETY: PREVALENCE COMPONENTS, AND INFLUENTIAL FACTORS	5
INTRODUCTION	5
PREVALENCE OF MPA	7
Measurement of MPA.....	10
COMPONENTS OF MUSIC PERFORMANCE ANXIETY	14
Physiological arousal	14
Heart-rate and blood pressure	16
Neuroendocrine activation	18
Physiological response and individual differences	19
Summary of physiological factors	19
Cognitive and Affective factors	20
Cognitions.....	21
Beliefs	22
	v

Attention	24
Relationships among cognitive, affective, and physiological components	27
Summary of cognitive and affective factors	29
Behavioural factors.....	29
Relationships among the four components of MPA	30
Summary of components and effects of MPA.....	30
FACTORS INFLUENCING MPA	33
Personality variables.....	33
Trait Anxiety	34
Social Phobia	36
Neuroticism	39
Extraversion	41
Summary of personality factors	47
Experience: preparation and performing history.....	48
Preparation and planning	48
Experience and exposure.....	50
Situational variables	55
Nature of the event.....	55
Level of anxiety associated with the performance.....	56
The timing of anxiety	59
Social facilitation and performance effort.....	61
Summary of factors influencing MPA.....	62
CHAPTER SUMMARY.....	63

Chapter Three

STUDY ONE: MPA: AN INVESTIGATION OF THE PREVALENCE, COMPONENTS, AND INFLUENTIAL FACTORS. METHODOLOGY69

BACKGROUND AND RATIONALE.....	69
AIMS	70
METHOD.....	76
Participants	76

Measures.....	77
Personality measures	78
The Performing-experience Questionnaire for Musicians (PeQM) ..	84
Development of the Musicians Performance Anxiety Scale (M-PAS)	85
Procedure	91
Ethical considerations	91
Overview of data analysis	92
<i>Chapter Four</i>	
STUDY ONE: RESULTS AND DISCUSSION	95
SECTION 1: PERFORMANCE ANXIETY SYMPTOMS	95
Prevalence.....	95
Physiological symptoms	96
Cognitive-affective symptoms	98
Behavioural symptoms.....	99
A comparison of total mean scores for physiological, cognitive- affective, and behavioural symptoms	100
Summary of symptoms.....	103
M-PAS scores.....	103
Cognitive and affective factors.....	104
Cognitive factors.....	104
Affect.....	110
Summary of cognitive and affective factors	111
SECTION 2: FACTORS INFLUENCING MPA	112
Personality variables.....	112
Trait-anxiety.....	112
Neuroticism	115
Extraversion	116
Summary of personality variables	118
Remaining EPQ-R Short Scale, scales (Psychoticism, Lie)	119
Experience: Preparation and performing history	119
Preparation.....	119
Performing history	120
Summary of experience factors	122

Situational variables	122
Anxiety associated with group and solo performances in different types of situations.....	122
Enjoyment associated with group and solo performances in different types of situations.....	124
Summary of situational variables.....	126
SUMMARY OF RESULTS	126
Prevalence of symptoms	126
Factors influencing MPA.....	126
Summary of M-PAS items indicating MPA, and factors correlated with MPA.....	127
DISCUSSION:	129
SECTION 1: PERFORMANCE ANXIETY SYMPTOMS	129
Prevalence.....	129
Cognitive and Affective factors.....	132
Cognitive factors.....	132
Affect.....	135
SECTION 2: FACTORS INFLUENCING MPA.....	136
Personality variables.....	136
Trait-anxiety.....	136
Neuroticism	137
Extraversion	137
Experience: Preparation and performing history	139
Situational variables	140
MPA: A DISTINCT ANXIETY CONSTRUCT	141
CHAPTER SUMMARY.....	142
The MPA Process Model.....	144
A new definition of MPA.....	145
METHODOLOGICAL ISSUES AND LIMITATIONS OF STUDY ONE	147

IMPLICATIONS FOR STUDY TWO	147
SUGGESTIONS FOR FUTURE RESEARCH	148
<i>Chapter Five</i>	
TREATMENT APPROACHES FOR MPA.....	149
INTRODUCTION.....	149
DRUG THERAPY.....	150
COGNITIVE THERAPY.....	151
Awareness, mental simulation, and mental rehearsal.....	152
Stress inoculation.....	154
Cue-controlled relaxation.....	154
Realistic appraisal.....	155
BEHAVIOUR THERAPY	158
Systematic desensitisation and exposure	158
Relaxation.....	160
Performance-exposure	161
COGNITIVE-BEHAVIOURAL THERAPY.....	161
ALTERNATIVE THERAPIES	164
CHAPTER SUMMARY	165
IMPLICATIONS OF TREATMENT STUDIES FOR INTERVENTION	165
<i>Chapter Six</i>	
STUDY TWO: KEYNOTES PROGRAMME FOR MUSICIANS: A PSYCHOLOGICAL THERAPY FOR MPA. METHODOLOGY.....	167
BACKGROUND AND RATIONALE.....	167
AIMS.....	168

HYPOTHESES	169
METHOD	170
Design	170
Participants	171
Group interaction	173
Instructors	174
Measures.....	174
Procedure	175
Structure.....	176
Organisation.....	180
Ethical considerations	182
Overview of data analysis	184

Chapter Seven

STUDY TWO: RESULTS AND DISCUSSION.....	187
EQUIVALENCY OF COURSES 1 AND 2	187
EFFICACY OF TREATMENT	189
M-PAS scores	189
Self-report of outcome.....	194
Stability of personality measures.....	195
Trait-anxiety	195
Neuroticism and Extraversion	195
COMPARISON OF COMPLETERS AND NON-COMPLETERS	196
RE-EVALUATION OF THE M-PAS SCALE	197
DISCUSSION:	
EQUIVALENCY OF COURSES 1 AND 2	199
EFFICACY OF TREATMENT	199
Self-report of outcome.....	202

Stability of personality measures	204
Trait-anxiety.....	204
Neuroticism and Extraversion.....	204
Summary of efficacy of treatment.....	205
COMPARISON OF COMPLETERS AND NON-COMPLETERS	206
RE-EVALUATION OF THE M-PAS SCALE.....	209
CHAPTER SUMMARY	210
METHODOLOGICAL ISSUES AND LIMITATIONS OF STUDY TWO	210
Suggested modification to Keynotes Programme for Musicians	213
IMPLICATIONS OF STUDY TWO.....	213
SUGGESTIONS FOR FUTURE RESEARCH	215
<i>Chapter Eight</i>	
SUMMARY, CONCLUSIONS AND EVALUATION.....	217
REFERENCES.....	225
APPENDICES.....	243

LIST OF APPENDICES

Appendix A	Table of prevalence rates from previous MPA studies
Appendix B.1	Measures for Study One Trait-anxiety inventory (STAI-Y2) Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R Short Scale) Performing-experience Questionnaire for Musicians (PeQM) Musicians Performance Anxiety Scale (M-PAS)
Appendix B.2	Information sheet: Study One
Appendix C.1	Information sheet and consent form: Study Two
Appendix C.2	Measures for Study Two Trait-anxiety inventory (STAI-Y2) Neuroticism and extraversion scales from the Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R Short Scale) Musicians Performance Anxiety Scale (M-PAS)
Appendix C.3	Instructor's manual and session handout-notes for <i>Keynotes Programme for Musicians</i>
Appendix C.4	Intervention feedback form
Appendix C.5	Copy of author's e-mail to non-completers
Appendix D.1	M-PAS and personality scores for individual participants in Study Two
Appendix D.2	<i>Keynotes Programme for Musicians</i> : Summary of participants' feedback
Appendix D.3	M-PAS Scale: Summary scores for individual items in Study Two.

LIST OF TABLES

Table 2.1	MPA measures used in previous studies.....	12
Table 3.1	Participants in Study One, by gender, music genre, year of study, and age group.....	77
Table 3.2	Summary of positive and negative aspects of standardised personality tests considered, but not chosen for use in Study 1	81
Table 3.3	Musicians Performance Anxiety Scale (M-PAS)	88
Table 4.1	MPA symptoms: Mean, SD, and percentage of participants reporting marked symptoms before, during and after performing.....	97
Table 4.2	Mean and SD scores for total physiological, cognitive-affective, and behavioural symptoms before, during and after performing.....	102
Table 4.3	M-PAS scores for participants in Study One	103
Table 4.4	Descriptive statistics for perceptions of own talent	109
Table 4.5	Mean and SD scores for trait-anxiety, neuroticism, and extraversion for males and females, by population	113
Table 4.6	M-PAS items and factors correlated with MPA	128
Table 6.1	Participants in <i>Keynotes Programme for Musicians</i>	173
Table 6.2	<i>Keynotes Programme for Musicians</i> : Session topics.....	177
Table 7.1	A comparison between the two courses of the intervention: Mean and SD M-PAS scores at pre-test, post-test and follow-up.....	188
Table 7.2	Mean and SD scores for M-PAS, trait-anxiety, neuroticism, and extraversion at pre-test, post-test and follow-up.....	190
Table 7.3	Mean and SD scores for symptom subscales of the M-PAS....	191

Table 7.4	Individual M-PAS scores at pre-test, post-test and follow-up.....	193
Table 7.5	Correlations of M-PAS and personality scores in Study One and at pre-test in Study Two.....	197

LIST OF FIGURES

Figure 2.1	MPA Components Model	6
Figure 2.2	MPA Feedback Model	32
Figure 2.3	EEG and ECG of horn player	61
Figure 2.4	MPA Influences Model.....	63
Figure 2.5	MPA Relationships Model	68
Figure 3.1	Distribution for individual MPA scores (using M-PAS) in Study One	90
Figure 4.1	Boxplot showing trait-anxiety median scores for gender by music genre	114
Figure 4.2	Boxplot showing neuroticism median scores for gender by music genre	116
Figure 4.3	Boxplot showing extraversion median scores for gender by music genre	118
Figure 4.4	Mean anxiety scores by performance situation and type of performance (group/solo)	123
Figure 4.5	Mean enjoyment scores by performance situation and type of performance (group/solo)	125
Figure 4.6	An MPA Process Model.....	146

Chapter One

INTRODUCTION

The problem of stage fright ... is a suffering of epidemic proportions in our society, and involves modalities of thought and projections that rob spontaneity and enthusiasm in artistic performance.

(Lorin Hollander¹, concert pianist)

From earliest childhood, most people have performed in some way for other people. In many societies, young children are generally encouraged, and most appear to enjoy the experience of performing. Performing can include any activity where individuals perceive themselves as an object of attention, or where they are open to the scrutiny of others. Performance activities can include, for example, playing a musical instrument, singing, acting, dancing, public speaking, sitting examinations, sports competition, or social interactions. However, the pleasures of performing, once enjoyed as a child, can be replaced with a reluctance to perform as the individual becomes increasingly aware of the opinions of others, and of consequences associated with performing.

In music performance, research studies have demonstrated that anxiety associated with performing is widespread, and experienced by professional, amateur and student-musicians alike. Anxiety can range from mildly unpleasant to extremely unpleasant. At certain levels, anxiety can facilitate a high quality of performance, but in extreme cases can compromise the quality of the performance. Even when performers are technically well-prepared and competent, many are inadequately prepared for the demands of public performance.

¹ Hollander, L., cited in Havas, 1978, p. 13

A first consideration of performance anxiety suggests it is a type of anxiety that is likely to have readily identifiable causes, because the timing of the anxiety is known to the individual and, ostensibly, the individual believes (s)he knows the cause. The cause of performance anxiety is anecdotally described as being required to perform for others. It is quite common to hear performers say, for example, "Auditions make me anxious," or "Exams **make** me nervous." That is, the anxiety is attributed to the situation itself. But, how is it that levels of anxiety vary in different individuals, and in different situations, and that anxiety varies even for the same individual on different occasions? There is sufficient individual difference in levels of performance anxiety to indicate that the requirement to perform cannot, in itself, explain the presence of performance anxiety.

BACKGROUND AND PURPOSE OF THE STUDY

Uncomfortably high levels of music performance anxiety (MPA) are reported by a wide range of musicians (e.g., 47% of participants: Marchant-Haycox & Wilson, 1992; 92%: Nagel, 1988; 61%: Wesner, Noyes & Davis, 1990). Impaired performance due to MPA is also widely reported (e.g., 97% of participants: Clark & Agras, 1991; 62%: Nagel, 1988; 46%: Wesner et al., 1990). Loss of enjoyment as a performer is reported (e.g., Brodsky, 1996; Salmon, 1990), and even the abandonment of performance careers (e.g., Powell, 2004; Wesner et al., 1990).

Despite the knowledge that "performance anxiety can be a serious disorder in some musicians, leading to occupational disability" (Clark & Agras, 1991), there is little reported formal training provided for dealing with MPA, from the early stages of musical education through to advanced levels. Even in music conservatoriums, an inspection of curriculum will reveal that formal training in managing MPA is not routinely included as part of the programmes. By implication, this suggests a passive acceptance of the anxiety associated with performing, without questioning the variability of personally relevant influential factors. Also, many performers and teachers may themselves be unaware of some of the factors that might contribute to MPA, and if influential factors were identified, seem unsure about how to manage these.

To date, research has generally attempted to identify a key factor or factors, influencing MPA, and intervention strategies have focussed on trialling and

comparing the effects of different types of therapies, for example, drug therapy (e.g., Sataloff, Rosen & Levy, 2000), hypnotherapy (e.g., Stanton, 1994), and cognitive-behaviour therapy (e.g., Clark & Agras, 1991). However, rather than the same key factors affecting all performers, MPA is likely to be the result of different *combinations* of influential factors for different individuals. Accordingly, intervention strategies need to be based on a consideration of a broad range of possible and varying influences.

Thus, the main aim of the present study was to design, implement and evaluate an intervention to assist with MPA management. First, however, it was necessary to conduct an exploratory study (Study One) to investigate factors that identify MPA, to determine the extent of MPA, and to clarify factors that influence MPA. Findings from Study One would be combined with established psychological principles and findings from the MPA literature, to inform the development, implementation and evaluation of the intervention study (Study Two). The present study would thus make a contribution to an area of musical training that has generally received little attention, an area of critical importance for performers, particularly for the developing student-musician ambitious of pursuing a performance-career.

The following section outlines the progression of the study and the organisation of material:

Study One provides a review of the literature concerning factors that identify MPA, outlines the extent of MPA, and investigates possible factors that influence MPA (Chapter 2). This leads to the exploratory study, conducted with a single group of conservatorium musicians (outlined in Chapters 3 and 4), investigating all of the factors identified in the literature. The investigation of a broad range of factors contrasts with the more-limited, previous studies that have each tended to focus on only one or a few factors. The present investigation required the development of a questionnaire (the Performing-experience Questionnaire for Musicians, PeQM, described in Chapter 3), designed to provide information concerning components and influences of MPA against a background of demographic and personal information, together with a history of performing experience. A further tool was required that would provide a single measure of MPA for participants in Study One, and that would also serve as an outcome measure in Study Two. This second

measure (i.e., a scale of MPA) was developed by a post-hoc refinement of the PeQM, and is referred to in the present study as the Musicians Performance Anxiety Scale (M-PAS) (described in Chapter 3). The methodology used in the exploratory study is outlined in Chapter 3, and the findings are reported and discussed in Chapter 4.

Study Two provides a review of the literature concerning the treatment of MPA (Chapter 5), and develops, trials and evaluates an intervention for MPA in a group of conservatorium musicians. The methodology for Study Two is outlined in Chapter 6, and the findings are reported and discussed in Chapter 7.

The overall findings of the present study are summarised and discussed in terms of the study's aims in Chapter 8.

Chapter Two

MUSIC PERFORMANCE ANXIETY

PREVALENCE, COMPONENTS, AND INFLUENTIAL FACTORS

This chapter provides a definition of music performance anxiety (MPA), an overview of the difficulties associated with measurement, and a review of the prevalence of MPA. The four components of MPA (physiological, cognitive, affective, and behavioural), comprising the symptoms, are reviewed, followed by a discussion of three broad groups of factors that influence MPA: personality, experience (including preparation and performing history), and situational variables. MPA, may also be influenced by gender and music genre (classical/jazz). Where appropriate, gender and music genre are discussed in relation to the factors described above. At times, the three broad groups of influential factors, the relationships between them, and the four components of MPA overlap.

INTRODUCTION

Anxiety is “an unpleasant feeling of fear and apprehension accompanied by increased physiological arousal” (Davison, Neale & Kring, 2004, p. 650). *Performance* anxiety is a type of anxiety that can occur in particular types of situations and contexts, and thus may be described as a form of state-anxiety. Specifically, “performance anxiety, popularly known as 'stage fright', is the exaggerated and sometimes incapacitating fear of performing in public” (Wilson, 1997, p. 229). It can occur in the early stages of preparation, for instance in the weeks or days before the performance, through to hours or minutes before the performance, as well as during or after the performance. Performance anxiety can occur in any type of public performance endeavour (e.g., music, dance, competitive sport, public speaking, examinations) where outcomes are linked to public scrutiny or important consequences.

Salmon (1990) defined MPA 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" (p. 3).

As well as the frequently reported *physiological* components (e.g., elevated heart-rate, sweating, shaking, shortness of breath), MPA comprises three other components: *cognitive*, *affective*, and *behavioural* (Steptoe, 2001). The four components of MPA (comprising the many symptoms) are represented in the *MPA Components Model* below (Figure 2.1), developed for the present study. Cognitive components of MPA may include negative thoughts, distraction, memory difficulties (Roland, 1997), or poor concentration (Wesner, Noyes, & Davis, 1990); affective components may include a feeling of panic (Roland, 1997) or depersonalisation (Steptoe & Fidler, 1987); and behavioural components of MPA may include avoidance (Seligmann & Namuth, 1994) or mistakes during the performance (Gabrielsson, 1999).

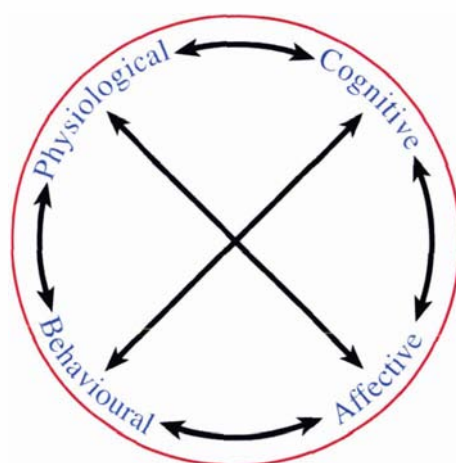


Figure 2.1: *MPA Components Model, showing the four components that comprise MPA. The four components are related to, and can influence, one another.*

Figure 2.1 shows the four components of MPA in a stable position. That is, at any particular point in time, MPA could be described in terms of the four components and their relationships with one another. However, these components are dynamic, and can operate independently, contributing to changes in the level of anxiety, even moment by moment. For example, an already-anxious performer may become more anxious by engaging in self-destructive, negative cognitions,

which are likely to be associated with an ever-increasing spiral of cognitive, physiological, affective, or behavioural symptoms.

In summary, it appears that performance anxiety is a type of fear of performing for others and, consistent with other fear reactions, there are likely to be high levels of physiological symptoms, negative cognitive and affective symptoms, and behavioural symptoms. Thus, the four components of MPA are inter-related, and a change in one component can result in a change in other components. The components are examined later in this chapter.

While the components of MPA and their varying levels of intensity are broadly recognised by performers, there is no one clearly recognised scale that is used to measure MPA. Instead, scales are often created, or existing scales adapted, by authors for the purposes of specific studies. This diversity of measures may account for the variations in reported prevalence rates discussed in the following section of this chapter. Measurement of MPA is discussed later in this chapter, and in the Methodology chapter (3) for Study One.

PREVALENCE OF MPA

Performance anxiety (PA) is experienced by amateur and professional performers alike (Wilson, 1997), and is reported in almost every developed country (Powell, 2004). Many artists with long, successful, even illustrious careers in performing arts such as music, dance, and acting, report uncomfortably high levels of performance anxiety throughout their careers. Performance anxiety has afflicted such famous performers as Sergei Rachmaninov, Laurence Olivier, Richard Burton (Aaron, 1986), Barbra Streisand, Pablo Casals, Carly Simon (Seligmann & Namuth, 1994), Artur Rubenstein and Luciano Pavarotti (Salmon, 1990). Prevalence rates of PA suggest that this type of anxiety is “perhaps rife among musicians compared with other types of performers” (Wilson, 1997, p. 230). This view is supported by a comparative study of different types of performing artists (Marchant-Haycox & Wilson, 1992), which found that musicians represented the highest proportion of respondents experiencing PA: 47% percent of instrumental musicians reported PA, compared with 38% of singers, 35% of dancers, and 33% of actors. Performance anxiety can be so intense and/or longstanding for a performer, that it can result in “occupational disability” (Clark & Agras, 1991, p. 604), and so

widely experienced is MPA, that some musicians have cited intolerable levels of performance anxiety as the reason for abandoning their careers (e.g., Powell, 2004; Steptoe, 2001; Wesner, Noyes, & Davis, 1990).

In referring to MPA, authors use a range of terms (e.g., anxiety, worry, stage-fright, nervousness). Linked to the different terms, is a range of different measures and cut-off points for MPA, also potentially influencing reported prevalence rates.

In a study of 94 professional, amateur and student musicians, 97% reported impaired performance as a consequence of MPA, and 77% avoided performing at times (Clark & Agras, 1991). In another study (Nagel, 1988), Nagel reported that 92% of music students complained of stage fright, and 62% felt that severe nervousness had adversely affected their public performances. In a later study of 71 American college student-musicians, 83% reported MPA. Similarly, high levels of MPA have been reported in studies by Steptoe and Fidler (1987) and Liden and Gottfries (1974).

In an American study of 302 music students and faculty (Wesner, Noyes, & Davis, 1990), 61% of participants reported experiencing marked or moderate levels of MPA, with most anxiety experienced in auditions and solo performances. Almost half the respondents reported impaired performance due to anxiety, and over one third felt that anxiety had adversely affected their careers. Distress levels were 30% higher in females than males. MPA was also higher in females in a study of 126 Norwegian conservatory¹ music students, (Kaspersen & Gotestam, 2002), and 20% higher for females than males in a study of 82 American university student-musicians (Nagel, 1988). The bias toward females reporting more MPA than males, is consistent with the higher reporting rates by females in other anxiety disorders (Wesner, Noyes, & Davis, 1990). Although females typically report anxiety at two to three times the rate of males (American Psychological Association, 2000), it is still unclear whether MPA is in fact a greater problem for females than males, or whether the difference may be explained by females more readily reporting their feelings. However a recent study conducted by Egloff and Schmukle (2004), suggests an *actual* difference between males and females in anxiety experience, based on higher scores and higher correlations for females than males on explicit and implicit anxiety tests².

A large survey of 2212 orchestral musicians representing 47 American orchestras, reported that MPA was a “problem” for 40% of respondents (Fishbein, Middlestadt, Ottati, Strauss, & Ellis, 1988). This result is indicative of the pervasive nature of MPA, demonstrating that not only can it influence student and amateur musicians, but it can just as readily be observed as a longstanding problem for some professional and seasoned performers. Just why some individuals may be more vulnerable than others to the symptoms of MPA is not clear, although physiological symptoms may be related to trait-anxiety levels (see later in this chapter).

Studies usually investigate MPA among tertiary students, amateur, and/or professional musicians, and typically do not include participants younger than first-year tertiary students: that is, children are not included in studies. A further bias in many studies concerns the selection process of participants. For example, for treatment studies, respondents reporting *low* levels of MPA are typically eliminated in the early stages because they do not meet the required criteria for treatment trials. Perhaps similarly, because most studies recruit voluntary participants, studies investigating anxiety associated with performing may not attract the less-anxious performers. Consequently, many studies investigating MPA are biased in favour of the more anxious performers. While at first this may seem logical and unimportant, it does mean that there is little opportunity to learn about the low-anxious performers and how they manage the performance situation. Specifically, it is not known whether the low-anxious performers simply do not readily experience disturbing levels of MPA (and if not, what the reasons might be), or whether the low-anxious have developed effective strategies to manage their anxiety. If the latter be the case, it could be useful to explore how such performers deal with MPA.

In summary, MPA is widely reported in student-musicians, amateurs, and professionals alike. It is associated with impaired performance, and in some cases, even abandonment of careers. Student-musicians appear to experience MPA to a

¹ A conservatory (conservatorium) is an institution where music is taught to a professional performance standard.

² Egloff and Schmukle (2004) used explicit anxiety (i.e., introspective, self-reported evaluation of anxiety) measures and implicit anxiety (i.e., occurring outside awareness) measures to explore whether differences between males and female scores were reporting-differences, or actual gender-differences. Implicit anxiety was measured using the Implicit Association Test and the Emotional Stroop test.

greater extent than professional performers, suggesting that increased performance-exposure is an important element associated with lower levels of MPA.

Measurement of MPA

In 1993, Cox and Kenardy stated that there were no established scales for the measurement of MPA, and this is still the case. Measurement of MPA in previous studies has been gained through a range of measures including self-report, physiological measures, and observed behaviours, using for example: authors' own questionnaires (e.g., Cox & Kenardy, 1993); adapted test anxiety scales (e.g., Nagel, Himle, & Papsdorf, 1989); subscales of authors' larger scales (e.g., Marchant-Haycox & Wilson, 1992); scales of factors associated with MPA, such as a self-statement questionnaires (e.g., Clark & Agras, 1991); SUDS scales (e.g., Craske & Craig, 1994); biological measures (e.g., Abel & Larkin, 1990; Fredrikson & Gunnarsson, 1992); behavioural observations (e.g., Craske & Craig, 1994); and authors' symptom check-lists (e.g., Liden & Gottfries, 1974) (see Appendix A).

The different types of measures variously identify MPA as a single construct (e.g., MPA, stage fright), or as particular groups of symptoms from within the components of MPA (i.e., physiological, cognitive, affective, behavioural). Levels of MPA are described variously (e.g., MPA is a "problem," or a "severe problem," or "impairs performance"). Consequently, the range of measures and descriptive levels of MPA prescribed by different authors for their studies may contribute to the variation in prevalence rates reported in the literature. Overall, most if not all performers report MPA. The greatest variation among studies, concerning measurement, is the *degree* of anxiety investigated, or an author's interest in a particular component, or group of symptoms. The range of different measures used, adapted and combined, also raises questions of reliability and validity. For example, the level of *severe* MPA may be established by means of different measures or cut-off points from study to study, or participants may be divided into high, medium, and low MPA-teriles to compare an overall MPA score with, for example, a cognitive component of MPA (as in Steptoe & Fidler, 1987). Thus, comparisons among studies can be somewhat complicated.

Table 2.1 (see over) provides examples of scales that have been used to measure MPA, and reveals that there are no standardised scales with established psychometric properties that have been developed specifically to measure MPA. Instead, authors have developed their own scales for the purposes of their studies, or have used or adapted other state-anxiety measures.

Overall, there is no consistency of measures among the different studies. At times, several measures are combined to provide a description of anxiety appropriate for the specific investigation of a particular study. Thus, performance anxiety is multifaceted and difficult to measure.

In summary, prevalence rates of MPA reported in the literature may differ for several reasons, independent of the particular nature of participants in the various studies. There is no consistency in the range of measures that are used. The definition of MPA (if given at all) differs from study to study, with a range of terms being used to describe this concept. Importantly, regardless of how this particular state-anxiety is defined or understood, performers across a range of studies consistently report experiencing MPA to some degree. Finally, there is considerable variation in reported levels of MPA due to: a range of different terms for MPA; the various means of stating the levels of MPA; varied descriptions of impaired performance; varying levels of anxiety investigated in the different studies; the range of situations in which MPA is studied; the different compositions of participant-groups; and inconsistencies among measures. These differences are shown on the prevalence table in Appendix A.

Table 2.1: *MPA measures used in previous studies*

Measures	Study	Psychometric properties of measures	Comments
Authors' self-report questionnaire	Kaspersen & Gotestam (2002)	Not stated	Questions on MPA included in questionnaire gathering demographic and personal data.
Authors' self-report questionnaire	Wesner, Noyes & Davis (1990)	Not stated	
Authors' self-report questionnaire	Cox & Kenardy (1993)	Not stated	Also used PAI (Nagel et al., 1981): see below.
Authors' self-report questionnaire on music medicine (medical problems and treatment)	Fishbein et al. (1988)	Not stated	
Authors' self-statement questionnaire from Steptoe (1983)	Steptoe & Fidler (1987)	Steptoe (1983): Not stated	Also used STAI State scale (Spielberger, 1970). Instructions modified by Steptoe & Fidler, 1987.
Authors' self-report questionnaire: Performance Anxiety Inventory (PAI)	Nagel, Himle & Papdorf (1981)	Not stated	No other established psychometric properties (personal communication with Nagel, 2003). PAI developed from Spielberger's Test Anxiety Inventory (1980).
	Nagel, Himle & Papdorf (1989)	Cronbach's alpha of .89	
	Also used by Cox & Kenardy (1993)		
Authors' self-report Piano Performance Anxiety Scale	Sweeney & Horan (1982)	Not stated	Items extracted and rewritten from a "wide range of commonly employed test anxiety inventories" (p. 489).
Authors' self-report questionnaire: Expectations of Personal Efficacy Scale for Musicians	Kendrick et al. (1982)	Not stated	Also used STAI State scale (Spielberger, 1970).

Authors' Health Survey Questionnaire (self-report)	Marchant-Haycox & Wilson (1992)	Not stated	Health Survey Questionnaire includes one question rating degree of PA.
STAI State scale (Spielberger, 1970)	Kendrick et al. (1982)	STAI State scale has established reliability and validity (Spielberger, 1970).	STAI State-scale comprises (except for one item) a series of three-word statements. Statements refer to affect only, and none refer to performance anxiety.
STAI State scale (Spielberger, 1970): Instructions <i>modified</i> by Steptoe & Fidler	Steptoe & Fidler (1987)	Only the <i>unmodified</i> STAI State scale has established reliability and validity.	
Authors' adaptation of S-R Inventory of General Trait Anxiousness (Endler & Odaka, 1975) to the solo piano performance situation	Craske & Craig (1984)	Not stated	Adapted scale
SUDS scale (Wolpe, 1958)			Subjective scale
Self-statement questionnaire (Steptoe & Fidler, 1987)	Clark & Agras (1991)		Participants initially recruited via phone: selected on the basis of self-reported "impaired performance" or "some avoidance of performance situations".
SCID (DSM-III) interview			SCID interview: Required to meet criteria for social phobia with regard to a definable subset of performance situations.
Author's assessment of catecholamine symptoms	Liden & Gottfries (1974) (From letter to editor: full report not published.)		Catecholamine symptoms so "severe" as to qualify for treatment.

COMPONENTS OF MUSIC PERFORMANCE ANXIETY

MPA is a type of anxiety, and is composed of the four components, physiological, cognitive, affective, and behavioural, that comprise the many symptoms of anxiety. Studies that report on components of MPA generally focus on the physiological component, sometimes on the cognitive and affective, with less attention given to the behavioural component.

Physiological arousal

Physiological arousal in MPA is discussed primarily in terms of specific symptoms that have been measured and compared. Studies have particularly investigated heart-rate, blood pressure, and neuroendocrine activation in the context of judged and non-judged situations.

The reason physiological symptoms of MPA are most widely reported, is perhaps because they are the most obvious for the performer, and are much the same as those attributed to any other fear reaction or phobia (Wilson, 1997). Symptoms may represent the after-effects of the fight or flight adaptive survival function. The adaptive reactions for fight or flight can be experienced as emotional panic in a situation where there is an actual or perceived potential for public humiliation or exposure, and can be counter-productive to the individual's capacity to perform to their ability (Gabrielsson, 1999).

According to Wilson (1997, pp. 229-230), physiological symptoms or responses to MPA can typically include the following:

1. "The heart pumps harder to supply oxygen to the muscles (resulting in palpitation);
2. The liver releases stored energy (producing a feeling of 'edginess');
3. The lungs work harder, and airways widen (breathlessness);
4. The stomach and gut shut down so that energy is diverted to the muscles ('butterflies' and nausea);

5. Body fluids such as saliva are directed into the bloodstream (dry mouth and difficulty in swallowing);
6. There is a sharpening of vision (visual disturbances, e. g., blurring);
7. The skin sweats to cool the working muscles (sweaty palms and forehead); and
8. Calcium is discharged from tense muscles ('pins and needles')."

There is considerable variation in the frequency with which these symptoms are reported in performance situations. In a study of 302 music students and faculty attributing impaired performance to MPA (Wesner, Noyes, & Davis, 1990), the following frequency of symptoms was reported: poor concentration (63%); rapid heart-rate (57%); trembling (46%); dry mouth (43%); sweating (43%); and shortness of breath (40%). Symptoms that were less frequently reported included "flushing, quavering voice, nausea, and dizziness." Physiological symptoms generally occur before a performance, but can continue into the performance itself, potentially becoming a distraction for the performer, and impacting negatively on the performance.

In anxiety or arousal situations, the autonomic system is alerted and the individual may experience the physiological symptoms of anxiety described above. However, the very presence of these symptoms can act to further increase anxiety levels, and create a vicious cycle of anxiety symptoms (Toner, Segal, Emmott, & Myran, 2000), as the individual recognises the body's powerful response to the situation, and the individual perhaps begins to doubt his/her ability to bring the anxiety under control.

Before considering physiological factors in detail, the possibility of a confound between autonomic response to anxiety and physiological response arising from vigorous effort should be considered. Craske and Craig (1984) found that when 'relatively anxious' and 'relatively non-anxious' competent pianists performed first in a room by themselves, and then in front of an audience, heart-rate increased in the audience condition for both groups. By referring to an established baseline, the increase in heart-rate could be attributed to the increased anxiety associated with performing for an audience.

The physiological symptoms of MPA are the manifest result of the individual's response to the situation, and are typical of fear reactions (e.g., increased heart-rate, cold hands, sweating, shaking) (Wilson, 1997). Physiological responses can vary in intensity, in some cases having a major, negative effect on performance (Abel & Larkin, 1990; Brotons, 1994; Fredrikson & Gunnarsson, 1992). The few physiological factors that have been measured objectively in performance situations include heart-rate, blood pressure, and neuroendocrine reactions. These are examined below.

Heart-rate and blood pressure

Research has demonstrated a linear relationship between fear-ratings in fear-evoking situations and both heart-rate (HR) and blood pressure (BP). For example, Abel and Larkin (1990) demonstrated the effects of evaluation-stress in 22 music students by comparing average baseline HR and BP measures sampled in the laboratory (between one and six weeks prior to performing), with measures of HR and BP sampled during the 30-minute run-up period prior to performing for a jury. (Measures taken during the 30-minute run-up, were obtained from 30 minutes prior to performing, right down to the last 1½ minutes before going on stage.) There were statistically significant differences in HR and BP (both systolic and diastolic) measures between baseline and the run-up period, differences that were consistent with reported increases in subjective anxiety between baseline and run-up. Males reported greater increases in BP; females reported more anxious feelings. Abel and Larkin attribute these gender differences to western gender-socialisation where males are encouraged to suppress their feelings which, in turn, may result in an increase in BP (although this finding is based on only a small sample of 8 males and 14 females). Blaskovich and Tomaka (1996) state that in threat situations, BP increases; in challenge situations it decreases, or varies minimally. Thus, an increase in BP for males may be explained by cognitive appraisal resulting in perceptions of threat, rather than challenge, regarding the juried (i.e., judged) performance. Consequently, an alternative view of gender difference may be that western socialisation puts males under more pressure than females to cope with environmental demands.

Heart-rate and self-reported anxiety (but not BP) were also assessed in 64 instrumental and vocal music students under juried and non-juried conditions

(Brotons, 1994). There was a statistically significant increase in HR between the non-juried condition and the juried condition. Likewise, there was a parallel and statistically significant increase in state-anxiety (STAI) scores between the non-juried condition and the juried condition. These results support Abel and Larkin's (1990) findings regarding physiological responses under evaluative stress. Gender differences were not examined in Broton's study.

Physiological responses to anxiety situations were also studied in a group of 34 musicians who were required to perform a piece of music to an audience, and to give a speech to an audience (Clark & Agras, 1991). A correlation was found between HR and anxiety ($r = .33$, $p < .05$) in the speech condition only. The absence of a relationship between HR and anxiety in the music performance may have been due to the confounding effect of differing levels of physical exertion required by different musical performers. Therefore, in this study, a more appropriate baseline for the performance might have been a measure taken in an alone-practice-session prior to the audience condition, rather than comparing HR with a resting baseline. No gender differences were reported in this study.

Cardiovascular function (and neuroendocrine activation, see below) was investigated in 19, high anxious (i.e., reporting tremor-impaired performance, $n = 12$) and low-anxious (i.e., no reported tremor, $n = 7$) second-year string musicians at the Stockholm Music Academy (Fredrikson & Gunnarsson, 1992). Participants were required to perform in public (with an expert rater in the audience) and in a private (tape-recorded) performance situation. High-anxious subjects recorded significantly greater increases than low-anxious subjects in HR between private and public performance, as well as significantly higher heart-rates during the public performance. Gender differences were not reported. Thus, it appears that heart ratings are sensitive to individual differences as well as to situational factors. These findings are consistent with previous findings, implicating an interaction between situational factors and individual differences in HR activation in phobics (e.g., Fredrikson, 1981; Klorman, Weissberg, & Wiesenfeld, 1977).

Neuroendocrine activation

Neuroendocrine systems (reflected in, e.g., adrenal medullary and adrenal cortical outputs) are activated or suppressed during psychologically different situations (Lundberg, 1982). In Fredrikson and Gunnarsson's (1992) study (above), neuroendocrine activation, averaged over high and low-anxious subjects, increased in front of an audience, compared to the private performance situation. There were no significant differences between high- and low-anxious groups, and no interaction between groups and performance condition. That is, unlike HR, which appears sensitive to individual differences as well as situational factors, neuroendocrine activation during performance appears sensitive to situational differences, rather than individual differences. There were no significant differences detected in fear responses between high- and low-anxious groups. This might be accounted for by the small group sizes or, as Fredrikson and Gunnarsson suggest, HR measures may be less prone to measurement error than are neuroendocrine measures.

Subjective stress and the release of adrenaline are closely related. However, from one person to another, there can be considerable variation in the levels of excreted adrenaline (Lundberg, 1982). Based on previous research studies, Lundberg proposes that in instances where there is emotional arousal (e.g., in public musical performance), there is also high mental effort expended, and that the increased adrenaline output could just as readily reflect the increased mental effort as it could, the emotional arousal (in the same way that increased physical work increases catecholamine excretion). However, rather than the increase in adrenaline being linked to the mental effort of producing a performance, the increase may be more directly linked to cognitive aspects of anxiety. Lundberg asserts that a sense of control over the situation is an important factor in endocrine response and HR.

Physiological arousal associated with MPA can either facilitate high levels of performance, particularly where mastery is high, or cause impaired performance, particularly where skills are not well developed (Wilson, 1994). Social facilitation (i.e., the presence of other people motivating an individual to a personal best performance: Carr, 2003) may also play a role in individual performance outcomes. Social facilitation is discussed later in this chapter: see *Situational variables*.

Overall, physiological symptoms vary from individual to individual, HR being the most consistent indicator, but symptoms generally increase as the performance-situation becomes increasingly evaluative and important. This increase has implications for the management of MPA, as does the relationship of physiological symptoms with cognitive and affective factors such as control and confidence, discussed in Study Two.

Physiological response and individual differences

Physiological responses to MPA are individually variable. How is this explained? One potential cause is that people "misassess ... the severity of the threat [through learning to] overattend to threatening cues" (Buss & Larson, 2000, p. 77). Buss and Larson view anxiety as a member of the fear family, citing the amygdala as "responsible for the affective component of both fear and anxiety" (p. 75). They suggest that the amygdala, believed to mediate stimulus-specific fear, may be more sensitive in some people than others to fear cues through input from the "thalamus and areas of the sensory cortex efferents to the lateral nucleus of the amygdala" (p. 78). This view appears upheld by Adolphs, Tranel, Damasio, and Damasio (1995) whose investigation of bilateral and unilateral amygdala damage revealed differences in the recognition of fear (represented by fearful facial expressions) in one person with bilateral amygdala damage, but not in six persons with left or right unilateral amygdala damage. Thus, it appears that in a performance situation, fear or anxiety may be elicited more readily in some individuals due to higher activation within the amygdala. This possibility suggests that individual variation in biological factors could play a significant role in differentiating individual responses to performance situations. Of particular interest in the present study, is the potential for fear, and the implications for the performer and performance.

Summary of physiological factors

Biological factors may play a causal role, or at least predispose an individual to anxiety, raising important questions concerning how biological differences between individuals might interact with other factors related to anxiety, especially their interaction with cognitive and affective factors. The relationship between

physiological factors, and cognitive and affective factors is discussed further, at the end of the following section and in Study Two of the present study.

Cognitive and Affective factors

This section reviews the literature concerning cognitions, beliefs, attention, and associated affect. While cognitive and affective factors can be identified as separate components of MPA, they are generally discussed together in the literature, where they are often referred to as cognitive-affective factors. The close association between these factors appears to explain why these two components of anxiety are generally discussed together. Further, there appears to be an assumption that cognitive factors influence affect, rather than there being a possibility of an alternative directional relationship (discussed later in this section). Thus the literature focuses almost exclusively on cognitive factors, with aspects of affect (e.g., worry, confidence, distress, enjoyment) usually included within the discussion. Therefore, cognitive and affective factors are discussed together in this section, the particular emphasis in the literature on cognitive factors being reflected in the following section.

Cognitive and affective factors associated with MPA can include: fear of making mistakes; worries about performing (e.g., concerns about muscle tension or blacking out); concerns about consequences of failure (e.g., loss of status); negative self-talk (e.g., catastrophising); loss of concentration; and perhaps experience of depersonalisation (a feeling of being detached from oneself and the present) (Steptoe & Fidler, 1987). Distractions from within the performer him/herself, and from the audience, plus worries about anxiety and reactions of significant others to the performance have all significantly correlated with measures of both state-anxiety and trait-anxiety (Lehrer, Goldman & Strommen, 1990).

As discussed earlier, Craske and Craig (1984) found that although heart-rate increased for 'relatively anxious' as well as the 'relatively non-anxious' competent pianists between performing alone and performing for an audience, reports of subjective distress were significantly higher between the two conditions only for the 'relatively anxious' group. The 'relatively anxious' pianists also made a greater number of negative self-statements before, during, and after performing than did the non-anxious pianists. This suggests that factors associated with autonomic

arousal in anxious and non-anxious individuals may be subject to different cognitive processing.

Cognitions

Cognitions, frequently referred to as thoughts, self-statements, or self-talk (which can be positive or negative), occur in the form of a mental commentary while an individual is reflecting on or carrying out a particular task. In a study of test-anxiety, anxious people reported varying levels of task-irrelevant thoughts including performance worries, concerns about inadequacy and loss of status, and distractions caused by perceived somatic arousal (Wine, 1971). Musical performance is a type of 'test,' and so individuals motivated mainly by avoiding failure may be most vulnerable to MPA (Radocy & Boyle, 1997).

Cognitions can be success-oriented, contributing to confidence, or they can be failure-oriented, contributing to self-doubt. Three cognitive factors impact on the degree of performance success (or impairment). These are: (1) cognitive interference, which increases with frequency until, for the failure-oriented, a threshold is exceeded and performance becomes impaired; (2) the predominance of failure-oriented cognitions (contributing to self-doubt), compared with success-oriented cognitions contributing to self-confidence; and (3) individual differences in motivation (Heckhausen, 1982). Confidence in performance situations may vary according to gender. In Abel and Larkin's (1990) study, confidence increased between baseline and run-up to performance for females (perhaps consistent with a perception of challenge for females), but not for males. Wilson (1997) suggests that differences between sexes in reporting confidence under judging conditions might be attributable to genetic or hormonal factors. For example, based on a theory of evolutionary psychology, the male pattern of physiological arousal could be preparation for an active response, compared with the female reaction which might be seen as more concerned with communication of emotional distress (Weiten, 2004).

Self-statements associated with performance, were assessed in a total of 146 student, amateur and professional musicians grouped into low, moderate, or high anxiety groups (according to Spielberger's, 1983, state-anxiety inventory) (Steptoe & Fidler, 1987). For student, amateur and professionals alike, catastrophising was

significantly, positively correlated with MPA. In a study of the effects of self-statements on performance in elite cross-country skiers (Rushall, Hall, & Rushall (1988), the use of positive task-relevant words, positive mood words, and positive self-affirmations while performing all resulted in an increase in performance of three percent above the control group.

Self-talk or cognitions are derived from beliefs and assumptions about oneself and one's place in the world, and form the foundation of an individual's interpretation of events (Wells, 1997). For example, a performer who believes that one slip in a performance means that (s)he has failed to perform to a high standard, is likely to be basing that interpretation or appraisal on a belief that anything less than perfection, is unacceptable. In order to change self-talk or cognitions, there first needs to be a shift in the underlying beliefs that people hold about themselves and the world around them (Wells, 1997). Thus, when examining cognitions, it is important to consider beliefs concerning interlinking concepts such as self-efficacy, appraisal and expectations, explanatory style and attributions, and focus of attention (discussed below).

Beliefs

Self-efficacy and MPA were investigated in 'relatively anxious' and 'relatively non-anxious' pianists (Craske & Craig, 1984, as outlined above). The 'relatively anxious' performers reported significantly lower scores for general self-efficacy in an audience condition, compared with a situation where they played alone. (Self-efficacy scores were based on the belief that the performer could perform a number of tasks related to piano performance, plus carry out these tasks with anxiety under control). Self-efficacy scores appear linked with confidence to perform. Anxiety studies have indicated a relationship between high levels of MPA and low levels of confidence (Craske & Craig, 1984). However, despite considerable reported apprehension and distress associated with performing, expert performers are still able to perform effectively (e.g., Hamann, 1982, Wilson, 1994). This ability may be explained by the experts' higher levels of technical skill that can remain in tact under pressure. Further, experts' apprehension may be related more to anticipated reviews of their performance, than to their confidence regarding public performance.

Self-handicapping is a cognitive strategy that can be counter-productive. Self-handicapping is described by Myers (2002, p. 74) as “protecting one's self-image with behaviours that create a handy excuse for later failure,” for example, attributing blame to something other than the self, following a poor performance. Self-handicapping can evolve into actual handicapping where the performer sabotages the performance by, for example, failing to attend rehearsals or by becoming intoxicated before a performance (Wilson, 1997).

Realistic appraisal and expectations may be among the “most adaptive cognitive strategies to adopt during public performance (Steptoe & Fidler, 1987). A study by Steptoe and Fidler (1987) revealed a curvilinear relationship between the realistic appraisal self-statement factor and the level of MPA. Participants in the medium anxiety group scored higher than the low- or high-anxiety group on a realistic appraisal of performance outcome (i.e., perception of performance-quality, the likelihood of some mistakes occurring, and positive attitude towards the audience). Steptoe and Fidler suggest that the performer who acknowledges that a few imperfections are acceptable in a performance is more likely to maintain an optimistic view of a particular performance and of performing at large. Ruminating or catastrophising over a few slips that may occur in a good performance may result in distraction from the task at hand, and result in further slips and mistakes. “The disease of the twentieth century is the tyranny of the wrong note” (Weinberg, 1988, p. 62).

Explanatory style appears to influence performance outcomes (Rettew & Reivich, 1995). Performers, whether they be musicians, sports-men or -women or public speakers, tend to explain their performances in terms of efficacy and success or failure; the particular explanations of performance outcomes appear to be influenced by the explanatory style, either optimistic or pessimistic, adopted by the performer (Rettew & Reivich, 1995). For example, in athletic performance, a pessimistic rather than an optimistic explanatory style, predicts poorer future performances even when controlled for ability. In contrast, an optimistic explanatory style enables performers who have experienced a poor performance to recover from disappointment, and to manage adversity (Rettew & Reivich, 1995).

Attributions for PA symptoms also appear to influence subsequent PA levels (Hanin, 2000). For instance stomach 'butterflies' may be perceived as 'nerves,' or

perhaps as 'excitement'. A performer's cognitive representations of anxiety can impact not only on the performance-experience itself (i.e., the level of enjoyment, and quality of performance), but also on anticipation, expectation, and attitude toward future performing opportunities (Hanin, 2000).

The meaning of a performance outcome is likely to determine the individual's reaction to success or failure: a maladaptive response to failure has self-evaluative meaning, compared with an adaptive response where failure has informational relevance to the task (Dweck & Wortman, 1982). Dweck and Wortman suggest that where performers believe failure (or imperfect performance) is a sign of inadequacy or a predictor of further failure, performers are less likely to engage in solution-oriented strategies. In contrast, where performers do not attribute failure to being incompetent, it is more likely they will attend to the cause of failure, and requirements of the task.

Attention

Patterns of attention were investigated during a performance in relation to MPA in 36 popular and classical instrumental musicians (Wolverton & Salmon, 1991). Participants were divided into low-, medium-, or high-anxiety groups based on STAI (trait- and state-anxiety) scores and, then, into external, internal, or music-oriented motivation groups. (Externally motivated participants had a desire for audience approval, the internally motivated had a desire to reach their own performance standards, and the music-oriented participants had a desire to become involved with the music itself.) Self-focused attention (i.e., internal, rather than audience or music-focused) during performance was associated with high levels of performance anxiety. The high-anxiety group allocated more attention to the 'self' and less to the music than either the medium-, or low-anxiety groups. Of the three groups, the low-anxiety group focused their attention least on the 'self' and most on the music. Analysis of variance (ANOVA) revealed a significant effect for self-focussed attention at all three levels of state-anxiety. Although this study divided participants into one of three motivational groups, participants may have been motivated to some extent by all three factors. Nevertheless one factor may have been the primary motivation, and results of this study revealed that anxiety increased as attention was increasingly focussed on the self, rather than on the requirements of the music.

Dweck and Wortman (1982) assert that in contrast with the positive outcomes of adaptive behaviour, the tendency to focus attention on the self has been associated with negative outcomes, specifically a reduction in performance-quality. Wine (1982) states that during cognitive tasks, test-anxiety has been associated with a tendency for self-deprecation including negative, self-devaluing cognitions that interfere with performance.

The studies discussed above demonstrate the critical role of attention during performance. Any attention that is allocated to, for instance, the environment, thoughts unrelated to the music, or personal emotions or physiological symptoms, will distract the performer from the music. Thus, the bias of attention toward anything but the music itself will reduce the cognitive capacity required to perform, and performance-quality is likely to be compromised.

Attentional bias

Attentional bias is a tendency to direct attention to particular stimuli or to a particular category of stimuli (Wells, 1997). Attentional bias to threat may be an enduring feature of predisposition to trait anxiety, and this bias may manifest only when state anxiety is elevated (MacLeod, 1999). MacLeod and Mathews (1988) suggest that high trait-anxious individuals may favour an attentional bias toward threatening stimuli. For example, in their study of attentional allocation as a consequence of temporal proximity to examinations in low, and high trait-anxious students, MacLeod and Matthews found that both high- and low-trait-anxious subjects displayed equivalent responses to a dot probe exercise on low state-anxiety test-occasions. However, in a high state-anxiety test-occasion, the low trait-anxious subjects were slower to detect probes in the vicinity of threat words, while the high trait-anxious subjects displayed a pronounced speeding of detection. This finding suggests that the cognitive processing of high- and low-trait-anxious individuals may observably differ only in stressful situations, perhaps explained by a particular state-anxiety threshold where the attentional style of the highly trait-anxious individual is characterised by increased vigilance. Also, the low trait-anxious may require greater levels of stress for them to reach the same absolute levels of state-anxiety as the high trait-anxious individuals.

These findings were supported by Dweck and Wortman (1982), who suggest that highly test-anxious individuals appear more attentive to evaluative cues than the less test-anxious. When compared with the low test-anxious, the high test-anxious reported thinking more about how well or badly they were performing, wondering what other people were thinking about them, and believing it was more important to do well.

Focus of attention

Research has consistently found evidence that the “focus of attention distinguishes between adaptive and maladaptive behaviour in achievement settings” (Dweck & Wortman, 1982, p. 111). For instance, Dweck and Wortman state that focus of attention differentiates between highly successful athletes and the less successful, with superior performers controlling their attention to remain focussed on the task, and blocking out distractions. In this respect, a certain level of mental control is required to facilitate superior performance in demanding situations. In a retrospective study, Heckhausen (1982) found that individuals were debilitated in a test situation by focussing attention on the self and attending to cognitions about self-concern, rather than attending to the requirements of the task.

In sport psychology, attention is often considered in terms of *process versus outcome* (e.g., Hodge, 2004; Ravissa & Hanson, 1995; Wann, 1997). In sport, to achieve the desired outcome, it is necessary for the player to focus on the *process* of playing, rather than to be distracted by thinking about the outcome. Athletes are encouraged to keep their mind in the present, rather than to allow their attention to move toward the possible *outcome* of the event. If attention is maintained in the present, if it centres on what has to be done *right now*, the athlete becomes involved in the task itself, and is consequently less likely to be distracted by thoughts, often negative and unproductive, concerning the outcome of the performance. Further, if the athlete focuses on the process, the outcome will look after itself.

Performing as a musician is no different: the concept of process versus outcome is as relevant for performing musicians as it is for sport or any other performance endeavour. Where attention becomes focussed on the outcome of an event, cognitive capacity is consequently reduced for the task in hand. It does not matter

whether attention is directed toward positive or negative thoughts (e.g., I'm going to win; I'm doing badly), attention is nevertheless diverted from the task in hand, and performance quality is likely to be adversely affected. The performer can use attentional cue words (i.e., a type of personal slogan that the performer can bring to mind readily) to bring him/herself back to the task in hand (Wann, 1997). Essentially, division of attention appears to underlie impaired concentration and consequent performance decrements. Overall, higher quality performance outcomes will occur where attention is task-focussed, rather than attention being divided among the task and many irrelevant factors. Allocation of attention plays a critical role in performance outcome, and has implications for attentional-focus in relation to performing and associated levels of MPA. Allocation of attention is given particular emphasis in Study Two of the present study.

Relationships among cognitive, affective, and physiological components

As stated earlier, in arousal situations, physiological responses will also differ depending on whether the stimulus is perceived as a threat or a challenge, (Blascovich & Tomaka, 1996). Threat and challenge situations both require increased physiological arousal to meet the demands of high performance, but threat responses occur in situations where individuals believe they may not, or do not, have the resources to cope with the situation. Responses associated with these negative cognitions are characterised by “high negative affect and inadequate or disorganized mobilization of physiological responses ” (Tomaka, Blascovich, Kibler, & Ernst, 1997, p. 64). Challenge responses, however, involve positive cognitions that centre around the individual's belief in their ability to cope with the situation. Unlike responses associated with negative cognitions, positive cognitions are characterised by concomitant positive affect, or low negative affect, and physiological resources are efficiently organised and utilised (Tomaka et al., 1997).

Cognitive appraisal and physiological arousal

Does cognitive appraisal precede or follow physiological activity? Cognitive appraisal theory proposes that cognitive appraisal of stress and emotion precedes physiological responses (see Lazarus, 1991); peripheralist theory proposes the reverse (see Izard, 1993; Mandler, 1975). Lundberg (1982) states that the cognitive

interpretation of the physiological response determines the associated emotional response.

The directional relationship of cognitive appraisal and physiological response was studied by experimentally manipulating instructions so situations would be perceived as either threat or challenge situations, and then by manipulating physiological activity in particular situations (Tomaka et al., 1997). Tomaka et al.'s findings support the view that cognitive interpretation of physiological response mediates affective response patterns. In a study of individuals with spinal chord injury, with differing levels of autonomic feedback (Chwalisz, Diener, & Gallagher, 1988), perceptions of autonomic arousal appear independent from cognitive and emotional appraisals, with participants generally reporting more fear following their injuries, compared with the past.

LeDoux (1994; 2000) asserts that sensory input is simultaneously directed along two different pathways, a fast pathway to the amygdala, and a slower pathway to the cortex. If a threat is perceived when information reaches the amygdala, neural activity activates autonomic arousal and associated affect before the cortex has had time to process the information ("failing to respond to danger is more costly than responding inappropriately to a benign stimulus," p. 38). When information reaches the cortex, cognitive appraisal will result in confirmation of the threat, or in a reduction of perceived threat and the associated affect. Thus, LeDoux's dual system does not necessarily conflict with Chwalisz, Diener, and Gallagher's (1988) findings.

Cognition and affect

While "it is widely accepted that emotion is a consequence of a transaction in which thought and motivation play essential causal roles, ... emotion contains causal thoughts and motivations" (Lazarus, 1999, p. 15). Against critics who suggest this is a circular argument, Lazarus defends his view that affect can play a causal role in cognitions, by comparing the relationship of cognition and emotion with the germ theory of disease: that is, germs can cause disease, but are also an "integral aspect of the effect, the disease itself." Likewise, affect and cognition can be related. Thus, the integration of Lazarus's view that emotion can influence cognitions (and vice-versa), and LeDoux's dual pathway (to the amygdala and

cortex) suggests the possibility of affect influencing cognitions just as readily as cognitions can affect emotion.

Summary of cognitive and affective factors

In summary, negative cognitions, negative affect, and attention to irrelevant stimuli, can undermine confidence, potentially resulting in an increase in autonomic activity, loss of concentration, and impaired performance. Conversely, in the context of appropriate preparation (discussed later), positive cognitions and focussed attention are likely to result in optimal performance outcomes. The directional relationships among physiological, cognitive, and affective responses to stimuli are not clearly explained, and it appears that appraisal, reappraisal, and feedback related to the three types of responses can further influence each of these three responses to stimuli.

Behavioural factors

The behavioural component of MPA typically includes avoidance, use of medications and substances to reduce anxiety, behaviours that are generally linked to physiological or cognitive arousal (e.g., sleeping difficulties associated with increased negative thinking about significant performance-events) (Fishbein, Middlestadt, Ottati, Straus, & Ellis, 1988), and impaired performance (Clark & Agras, 1991). Behavioural symptoms can also include: weakness in arms and hands; trembling hands; quivering voice; raised shoulders; and mistakes during the performance (Gabrielson, 1999). Particular behaviours associated with MPA (e.g., use of substances, trembling hands) are likely to influence cognitions, affect, and physiological responses, just as readily as cognitions, affect, and physiological response are likely to affect behaviours (e.g., avoidance, impaired performance). Thus the relationship of behaviour and MPA can be bi-directional, either influencing or being influenced by MPA. Behaviour is associated with physiological, cognitive, and affective responding, and can thus be part of the feedback system of MPA (see Figure 2.2, p. 32).

Behavioural symptoms are more effectively discussed in sections of this chapter that specifically integrate the behaviours into explanatory contexts. Thus, reference is made to behavioural symptoms in various sections throughout the

chapter. For example, avoidance behaviour is demonstrated by reference to such performers as popular singers Carly Simon and Barbra Streisand, whose avoidance of live-performing is well documented (see the following section on *preparation and performing experience*). Abandonment of careers also represents avoidance-behaviour (see section on *prevalence*). Avoidance can also take the form of low levels of preparation, discussed in the following section. Impaired performance is discussed in the *prevalence* section. Behaviours such as drug-use to manage MPA are discussed in Chapter Five (*Treatment approaches for MPA*).

Relationships among the four components of MPA

While anxiety is comprised of four components, responses among the components are not necessarily correlated. For instance, mean scores for physiological, cognitive, and affective responses were reported one day before a performance, one hour before, and during the performance (Salmon, Schrodtt, & Wright, 1989). One *day* before performing, physiological responses were correlated with cognitive and emotional responses; one *hour* before performing, physiological responses were significantly correlated only with emotional symptoms. There were no other significant correlations between physiological and cognitive responses, or between physiological and affective responses. In a study of 40 piano students (aged 15-33 years) (Craske & Craig, 1984), only a few significant correlations were found in an analysis of different symptom-groups. The predominating type of symptom can also vary among individual performers, with some experiencing, for instance, behavioural symptoms (e.g., disturbance to movement, slips) without feeling particularly distressed, while others may experience more cognitive disturbance (Steptoe, 2001).

Summary of components and effects of MPA

While MPA comprises components common to PA experienced in other domains, the effects can differ for the musician. For example, the impact of shaking is likely to have a more profound effect on the fine motor skills of a musician (e.g., bowing a stringed instrument) than it is on an actor or public speaker. Likewise, disruption to breathing would be more likely to have a profound effect on the performance of a singer or wind player than it might have on the performance of a candidate in a

written examination. Lapses in memory could bring a musician to a stop, for example, without the benefit of the actors' off-stage prompt, or the written-examination candidate's opportunity to return to a particular part of the test at some time later. Likewise an affective response such as depersonalisation can have a profound effect on the immediate demands of a musician, compared with effects on the candidate of a written examination who can take time to regain composure. Behavioural components of MPA may manifest in irretrievable mistakes in a performance, compared with the correctable mistakes of, for instance, a golfer who selects the wrong club, but who can then replace it to select another, before hitting the ball. Performing music requires all of the senses, the body, and the mind to be synchronised for peak performance, on cue.

In response to stimuli, the levels of the four components vary as they interact. An understanding of the components, of how they vary for different individuals, and of how they can vary according to the situation, is critical to the management of MPA. These issues are investigated later in this chapter, and in Study Two.

As discussed earlier, the concept of MPA is defined in terms of physiological, cognitive, affective, and behavioural components. However, anxiety is dynamic, and levels of anxiety are likely to change according to activity concerning any of the four components as they act independently. Further, responses to MPA can vary among individuals: some individuals may have a tendency toward high physiological reactivity; others may tend toward high affect; others may tend toward negative beliefs and cognitions regarding performance; and others may tend toward behavioural reactions such as avoidance behaviours. The changes in separate components of MPA can create a feedback loop, resulting in either an increase or a decrease in the level of any other component, and in the level of anxiety overall.

The *MPA Feedback Model* (see Figure 2.2, over) builds on the MPA Components Model shown earlier, and shows that the four components can interact and/or act independently.

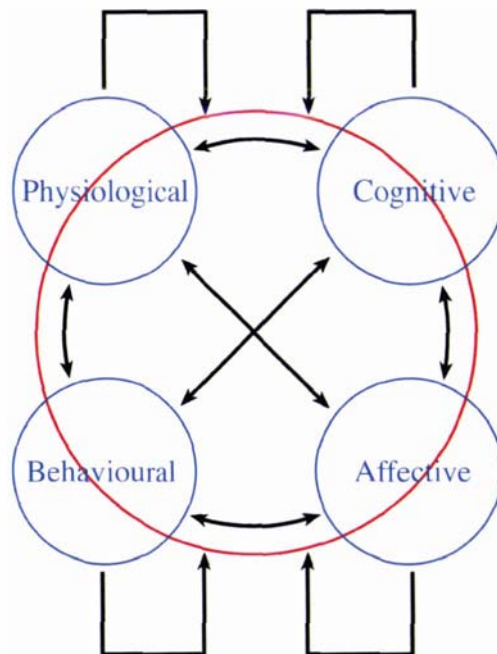


Figure 2.2: *The MPA Feedback Model, showing that the four components comprising MPA are related, dynamic, and can also act independently. The independent activity of the components is indicated by the black arrows outside the red circle. The effect of the independent activity of the components feeds back into MPA, potentially influencing the other components and the overall level of anxiety.*

FACTORS INFLUENCING MPA

This section reviews the literature concerning three broad groups of factors that influence MPA: personality variables, experience (including preparation and performing history), and situational variables.

Personality variables

The literature identifies three main personality variables that appear associated with performance anxiety: trait-anxiety, neuroticism, and extraversion. Social phobia appears related to other anxieties, thus this aspect of personality is discussed following the section concerning trait-anxiety.

In the study of MPA, it is important to consider individual differences in personality, as well as clinical correlates of susceptibility to PA (Wilson, 1997). Often, people with one anxiety disorder meet the criteria for other anxiety disorders (Davison, Neale, & Kring, 2004). This comorbidity may occur because of overlapping symptoms among disorders, or there may be common mechanisms underlying various anxiety disorders.

In a treatment study for MPA (Clark & Agras, 1991), 50 subjects were given the Structured Clinical Interview (SCID) for DSM-III-R. Of this group, 31 participants had present or past psychiatric diagnoses (10 with multiple diagnoses): the most common present diagnoses included simple phobia (8 participants), generalised anxiety disorder (5), and agoraphobia (1). The most common past diagnoses were depression (20), psychoactive substance-use disorders (5), and panic disorder (3). Of the 50 interviewed, two were declined participation because of drug dependence, and 14 withdrew from the study. Of the 34 participants who eventually took part in this study, all met DSM-III-R criteria for social phobia in at least a subset of performance situations. This study excluded musicians who did not experience 'high' levels of anxiety, (who conceivably may not have met criteria for psychiatric disorder). Nevertheless, the musicians who did experience high MPA also met, currently or in the past, a number of criteria for psychiatric disorders, and of these disorders, anxiety disorders were highly represented. A further study found that MPA was related to "family pathology" (Nagel, 1988, p. 143).

Research studies (e.g., Cox & Kenardy, 1993; Kemp, 1981a, 1981b, 1997; Steptoe & Fidler, 1987) suggest that trait-anxiety, neuroticism, and extraversion are the most influential personality factors to consider in relation to MPA. Studies have also given some attention to the role of social phobia in MPA (e.g., Clark & Agras, 1991; Cox & Kenardy, 1993; Steptoe & Fidler, 1987). These personality factors are discussed separately, below.

Trait Anxiety

The term trait-anxiety (A-Trait) refers to a relatively stable level of 'anxiety proneness' across an adult lifetime (Spielberger, Ritterband, Sydeman, Reheiser, & Unger, 1995). The relatively stable nature of A-trait contrasts with state-anxiety (A-State) which refers to an emotional response to a real or perceived fear that occurs only in a particular situation (Spielberger, 1971). Performance anxiety is a type of state-anxiety and may be understood in relation to an individual's level of trait-anxiety (Cox & Kenardy, 1993; Hamann, 1982). For example, performers with 'high' trait-anxiety scores (i.e., more than 41, based on group median split) were found to have significantly higher levels of MPA than performers rated as having 'low' trait-anxiety scores (i.e., 41 or less, on group median split) (Cox & Kenardy, 1993). Likewise, student pianists with higher A-Trait levels also experienced higher levels of MPA and distress than pianists with lower A-trait levels (Craske & Craig, 1984). While the role or cause of elevated levels of A-Trait remains unclear, its "presence in the more talented and musically experienced groups is well-defined" (Kemp, (1981b, p. 12).

Kemp (1981b) found that anxiety, according to Cattell's (1973) 16 PF scale, was higher in secondary school music students ($n = 496$), tertiary music students ($n = 688$), and professional musicians ($n = 202$) than in comparable control groups. In contrast, an Australian study (Buttsworth & Smith, 1995), also using the 16PF, found 255 tertiary university-student musicians (performers) to be significantly *less* anxious than a control group comprising undergraduate psychology students. Buttsworth and Smith's findings might be accounted for by the more restricted groups of participants, compared with previous studies, or there may be cultural or other unknown factors that might account for results. The Buttsworth and Smith study states that participants were tertiary music students, but the authors do not

state whether the participants were studying classical music (as is the case for almost all previous MPA studies) or popular music. If the sample comprised a number of musicians studying, for instance jazz or other popular music, it is possible that such a genre might attract a different type of personality, and thus explain some of the difference in results.

Hamann (1982) measured the level of anxiety in comparative situations where anxiety was either enhanced or reduced, in repertory types of performance (audience of peers with expert judge present) and non-repertory types of performance (tape-recorded performance with no audience or judge present). Participants were divided into high, medium or low A-Trait groups (3 groups of 30 participants) according to their percentile rank A-Trait scores. Those in the high A-Trait group achieved the highest A-State scores (when instructed to answer how they 'felt' while they were performing) in both performance conditions, with scores in the repertory condition higher than in the non-repertory condition. State-anxiety scores reduced consistently for the medium and low A-Trait groups, with these two groups also achieving higher A-State scores in the repertory, than the non-repertory condition. All differences were statistically significant. These findings support Spielberger's (1983) claim of a relationship between trait- and state-anxiety levels.

In a study of 238 musicians (professionals, teachers and students) from the USA, Britain, Canada and Australia, up to 25% of the variance in several anxiety measures associated with performing was attributable to trait-anxiety (Lehrer, Goldman, & Strommen, 1990). This level of variance suggests that performers who experience uncomfortable levels of MPA may also experience more general problems with anxiety, a possibility also demonstrated in the selection process for Clark and Agras's (1991) treatment study, described earlier. Lehrer et al.'s (1990) results support the assumption underlying Spielberger's (1971) State-Trait Anxiety Theory that individuals with high A-Trait will perceive situations involving threats to self-esteem (e.g., evaluation) as more threatening than individuals with low A-Trait scores. This perception will be reflected in the correspondingly higher A-State scores of the high A-Trait individuals.

Different studies use different tests to measure trait-anxiety. Although the State Trait Anxiety Inventory (STAI) is the most widely used, other trait-anxiety

inventories have been used in some studies (e.g., an adapted S-R Inventory of General Trait-Anxiousness, Endler & Okada, 1975, was used in Craske & Craig, 1984). However, regardless of the particular trait-anxiety test used, correlations are consistently reported between trait-anxiety and MPA.

In summary, performers high in trait-anxiety are most vulnerable to high levels of MPA. Trait-anxiety levels and MPA are typically higher in females than males. Thus, the combination of having high trait-anxiety and being female may predispose females to MPA to a greater extent than males, and predispose highly trait-anxious females to comorbidity concerning other anxieties. Findings from studies reported above are presented as group results, thus there is no indication that some individuals with high trait-anxiety might experience low MPA, and vice versa. Further, there are likely to be factors other than trait-anxiety influencing MPA (e.g., type of audience, performance-consequences), so it should not be assumed that high trait-anxiety inevitably equates to high MPA.

Because trait-anxiety is a relatively stable personality characteristic, the development of strategies to manage MPA may have particular importance for the highly trait-anxious performer, however. Understanding the role of trait-anxiety in MPA, is addressed in Study Two.

Social Phobia

A discussion of social phobia is included at this point, as social phobia is a personality variable associated with other anxieties (Sadock & Sadock, 2003). Social phobia is characterised by “clinically significant anxiety provoked by exposure to certain types of social or performance situations, often leading to avoidance behaviour” (American Psychological Association, 1994, p. 393). The essential feature of social phobia, a “marked and persistent fear of social and performance situations where embarrassment may occur” (p. 411), appears consistent with the reported cognitive-emotional component of MPA. Therefore, MPA may be categorised as a form of social phobia (Clark & Agras, 1991; Cox & Kenardy, 1993; Steptoe & Fidler, 1987). While social phobia is characterised by anxiety associated with social interaction, the performer is not anxious in all social contexts however. Attempts to identify distinguishing characteristics of subtypes of social phobia have produced mixed results (Powell, 2004), although some

characteristics of performance anxiety resemble aspects of a type of social phobia. MPA appears to be a type of social phobia, specifically limited to performing music for an audience, but the individual may be otherwise normally adjusted in other aspects of social functioning (Powell, 2004). Powell suggests four other aspects of MPA that differentiate it from social phobia as such. These four aspects of MPA may assist in the ultimate definition of what is at the heart of MPA. Individuals who experience high MPA, generally (1) expect high standards of themselves (compared with most other social phobics), and the fear of being ordinary interferes with performing; (2) concern themselves with their own judgement of how well they perform, rather than being concerned with the scrutiny of others; (3) engage in the feared task with total commitment; and (4) experience considerable variation in anxiety associated with the task, the variation often relating to the proximity of the task. This fourth aspect of MPA contrasts with the social phobic who generally experiences a constant and high level of anxiety regarding social interactions (Powell, 2004).

In contrast to Powell's view described above, that MPA is associated with concerns regarding *own* judgement of performance standards, a number of authors suggest otherwise, stating that concern regarding the scrutiny of *other* people is an *essential* component of MPA (e.g., LeBlanc, 1994; Seligmann & Namuth, 1994; Thompson & Perlini, 1994). Powell (2004) acknowledges the impact of perceived audience-scrutiny on MPA, but takes the view that attention to perceived scrutiny occurs *after* the performance, not during it. However, a study by Thompson and Perlini (1998), (see details in the following section concerning extraversion) reports findings that also contrast with Powell's view, demonstrating that performance anxiety can arise from perceived scrutiny *during* a performance.

In a study of MPA in 32 university music students (Cox & Kenardy, 1993), 50 percent of the sample was described as "highly social phobic" (p. 54), according to Turner's Social Phobia and Anxiety Inventory (SPAI). In an investigation of the relationship between stage fright (MPA) and experience of everyday fears in student, amateur and professional musicians (Steptoe & Fidler, 1987), fear was positively correlated with MPA in all groups, with significant correlations for the student and professional groups. Overall, fear scores were higher for the generally younger and less experienced student-musicians than for the amateur and

professional groups. The lower level of everyday fear in the professional group, and the weaker correlation of fear with MPA for professionals, may mean that highly anxious performers have abandoned professional careers and so are not represented in this subgroup. Alternatively, fears may be better managed by the more experienced, professional performers. Overall, the relationship between MPA and fear may suggest a possible underlying influence of a neurotic disposition, and the possibility of greater implications career-wise for student-musicians and professionals than for amateurs.

In a later study investigating fear and anxiety, 34 musicians with self-reported MPA demonstrated similar characteristics and gained similar social phobia scores to groups with social phobia as reported in the literature (Clark & Agras, 1991). Results of this study also demonstrated that fear of negative evaluation was significantly higher than for any other subscale of the Fear Survey Schedule. Participants reported impaired performance and performance-avoidance, and demonstrated a lack of confidence on the Personal Report of Confidence as a Performer scale. Consistent with previous studies of social phobia, Clark and Agras found teenage onset of social phobia in their study, and 'many' participants reported a history of major depression. (In a clinical study of social phobia by Amies, Gelder and Shaw, 1983, 43/87 participants diagnosed with social phobia also reported episodes of major depression.)

The actual performance situation is likely to have the greatest impact on individuals who are the most uncomfortable in social situations where the potential for exposure is the greatest. For example, in the Cox and Kenardy (1993) study mentioned above, an interaction between social phobia and the degree of exposure in relation to MPA was demonstrated by comparing music students' levels of MPA in three situations: practice; group-performance; and solo performance. Participants were classified into potentially high or low social phobia groups, according to SPAI scores (which measure the degree of tension, nervousness or discomfort individuals feel during social encounters). Participants in the high social phobia group were significantly more anxious in the solo condition, than participants in the low group. In the practice, and group conditions, social phobia had no impact on MPA. Cox and Kenardy (1993) also investigated the effect of trait-anxiety, and performance situation on MPA. There was a main effect for

trait-anxiety and for performance situation on MPA, but no significant interaction was revealed between trait-anxiety and performance situation. Cox and Kenardy demonstrated that social phobia interacted to the greatest degree in performance situations with the greatest potential for individual exposure. In contrast, trait-anxiety had a relatively standard, but elevating effect on MPA, regardless of the conditions. Thus, it appears that some personality factors, but not others, may interact more readily with the performance situation.

Overall, individuals who tend to score high on social phobia scales, may also be more vulnerable to MPA, with both anxieties occurring in social situations where individuals may perceive a degree of personal evaluation. Thus, scales for MPA and social phobia may contain some common components, thus potentially exaggerating correlations between them.

In summary, the fear of evaluation in social situations may influence the level of MPA. The lower levels of MPA in professional musicians, suggests that the developing student musician may be preoccupied with a bias toward perceived evaluation and scrutiny of audiences. In comparison, the lower levels of concern regarding fear of evaluation in the professionals may reflect their greater degree of exposure to public performing, and their established position as performers. In contrast, student-musicians are still working to build competence and credibility as performers. The concerns regarding evaluation of performance outcomes, and the need for frequent and successful exposure to performance situations has implications for treatment of MPA, as discussed in Study Two of the present study.

Neuroticism

Individuals who score high on neuroticism tend to be anxious, worrying individuals who experience strong and often prolonged emotional responses to stimuli (Eysenck & Eysenck, 1996). Correlations are frequently found between neuroticism and anxiety (McLeod, 1999). In an investigation of the relationship between MPA and neuroticism in student, amateur and professional musicians (Steptoe & Fidler, 1987), a relationship was found between neuroticism and 'stage fright' for all groups (professionals $r = .702$, $p < 0.01$; amateurs $r = 0.393$, $p < 0.05$; students $r = 0.313$, $p < 0.05$). The strong correlation for the professional group in particular may suggest there were greater performance-consequences for this group. In a

study of 120 musicians aged 15 to 18 years, neuroticism was also correlated with MPA (Rae & McCambridge, 2004). In a study of orchestral musicians (Piperek, 1981), neuroticism was 4-5% higher compared with 'other professions.' A link between neuroticism and PA is strengthened by Steptoe, Malik and Pay, Pearson, Price, and Win's (1995) finding that neuroticism and PA were correlated in a group of 178 drama students ($r = 0.44$, $p < .001$). A further study of performing artists (Marchant-Haycox & Wilson, 1992) found that PA was more likely to be experienced by musicians and other artists high on 'emotionality (neuroticism).'

Personality studies of musicians almost exclusively concern classical musicians, and there is little research regarding popular musicians. One study of 70 male professional, popular musicians (jazz, rock, pop, dance, combined) (Wills, 1984) found neuroticism levels were also 'elevated' in this group, compared with norm scores as stated in the Eysenck Personality Questionnaire. Wills does not state whether the 'elevated' scores in the popular musicians were significantly different from the normed scores. In Wills and Cooper (1988), further details of Wills' (1984) study are provided, stating that mean neuroticism scores (scale-range: 0-23) for the professional, popular musicians were 'higher' than for any other professional group reported in the EPQ manual. Highest mean neuroticism scores in the Wills and Cooper study were reported by guitarists (16.90), followed by pianists (14.72). These groups were followed by the several brass groups, and then by bassists and, finally, by drummers. In a study of 159 male (and 12 female) popular musicians drawn from a range of live performance venues, neuroticism was also 'higher' than university male population norms (Dyce & O'Connor, 1994). Likewise, neuroticism was significantly above norm scores in a study of 100 rock musicians (Gillespie & Myers, 2000). However, the comparison group of university males may have been rather different from the performing musician group. The elevated level of neuroticism, compared with norm scores, reported for the popular musicians, suggests some parallel for this personality variable with classical musicians, and perhaps with other performing artists, as discussed above.

Comparisons across neuroticism studies are somewhat difficult because of the way participants are categorised, and because of variations of the Eysenck personality tests (i.e., EPI: Eysenck & Eysenck, 1964; EPP: Eysenck & Wilson, 1975; EPQ: Eysenck & Eysenck, 1975; EPQ-R Short Scale: Eysenck & Eysenck, 1996).

Overall, however, studies have revealed a positive correlation between neuroticism and MPA, and between MPA and other stress symptoms. Because neuroticism is typified by preoccupation with worry, by concerns that something might go wrong, and by the concomitant strong emotional response to the associated anxiety, the highly neurotic performer might be particularly vulnerable to MPA.

Again, neuroticism is a relatively stable personality characteristic, and intervention for MPA in the highly neurotic performer is likely to require a particular focus on performers' attention and cognitions (see Study Two).

Extraversion

Extraversion can be understood in comparison to introversion. Jung (1933) is generally considered to be the originator of the concept of introversion, describing it as a "turning inwards of the libido [where] interest does not move towards the object, but recedes towards the subject" (p. 567). Eysenck and Eysenck (1996) define introversion, principally, in terms of socialisation processes. Introverts are less sociable than extraverts. They are described as introspective, quiet and reserved people who are distant except to intimate friends. Cattell's (1973) model of personality describes introversion as a "naturally unitary trait" of personality, also centring on self-sufficiency and an inward, rather than outward, focus. Whether viewed as a discrete category or as a position on a continuum, the concept of introversion suggests an unwillingness to seek motivation and social feedback from outside the self and, rather, a desire to seek stimulation and gratification from within the self. In the studies that are discussed below, authors have used the terms introversion and extraversion, and when reflecting on these studies, it may be helpful to think of the two terms as ends of a continuum.

A link between introversion and MPA in musicians is suggested in Kemp's (1996) summary of 11 British studies by different authors, from 1971-1981; studies include secondary school music-pupils, conservatorium students, adult musicians, and professionals. The studies investigated a range of traits associated with introversion (according to Cattell's, 1973, classification). Introversion was found to be consistently present in the personality profiles of the musicians, who appeared to display the two most prominent traits of introversion – aloofness and sufficiency. From one perspective, this finding may not be surprising. That is, in practice, the

need (and willingness) to work frequently for long periods in relative isolation may not only appeal to particular, or introverted, individuals, but may also render them even more introverted. However, musician-performers (contrasted, for example, with music-composers, -historians or -analysts) are frequently required to 'present' a more extraverted persona as they perform in front of audiences. In these situations, the performer is made the centre of attention, at times required to interact significantly with the audience, and is required to present him/herself to scrutiny in a variety of performance-situations. Such requirements may increase the potential for anxiety in an introverted individual.

In an investigation of personality factors of performing artists, recruited through professional companies, or music, drama or ballet colleges, extraversion scores were compared with scores of a control group of demographically matched individuals selected through a personnel company (Marchant-Haycox & Wilson, 1992). According to the Eysenck Personality Profiler (EPP) scale, the performing artists were more introverted overall, than the control group. The most introverted performers were instrumental musicians, followed by singers, then dancers and then actors.

Kemp (1996) cites four American unpublished doctoral dissertations that used the Myers-Briggs Type Indicator (MBTI) to measure extraversion in American university student music majors. Using the MBTI extraversion-introversion index, tendencies toward extraversion rather than introversion were reported, contrasting with the British studies. The American studies frequently used small (e.g., $n = 23$) or biased samples (e.g., one study-sample included only brass players), which may account for the difference between the British and American findings. Further, there may be cultural differences in the degree of introversion between British and American populations. (A difference has been claimed by Saville and Blinkhorn, 1976, cited in Kemp, 1996.) While Eysenck (1973) states that genetic factors contribute to extraversion levels more than do environmental factors, a comparison of white Americans with foreign-born Asian-Americans, for instance, revealed that the white Americans were significantly more extraverted than the Asian-Americans (Abe, 1990). To accept that there may be a cultural difference in extraversion between American and British, and also to account for the different findings, assumes that Cattell's (1973) 16PF personality inventory and the Myers-

Briggs Type Indicator are equivalent instruments in the measurement of introversion. Kemp (1996) claims to have verified this equivalence.

In a study of student, amateur and professional musicians (Steptoe & Fidler, 1987), significant negative correlations were found between extraversion and MPA in professional musicians, but not in the student and amateur groups. Steptoe and Fidler suggest that differences may be due to age and performing experience, with less MPA-variability in the professional group due to, for example, higher levels of preparation, greater technical facility, or higher confidence in their ability to perform.

Most studies of personality in musicians concern musicians engaged in 'serious' music rather than 'popular' music. That is, the personality components of professional musicians engaged in performing in a hushed concert hall, for instance, may not necessarily match those of musicians performing on a rock-concert stage. A study of 70 popular male musicians (Wills & Cooper, 1988) suggested that extraversion was slightly elevated, though not significantly, in this group. A more recent study of 159 male and 12 female popular bar musicians (Dyce & O'Connor, 1994) is the only study of popular musicians that has reported extraversion levels significantly higher than university population norms. Extraversion was not significantly higher than norm scores in a study of 76 popular, jazz, avant-garde, and classical musicians, (Rieke, Guastello, & Conn, 1994) or in a study of 100 rock musicians (Gillespie & Myers, 2000).

In a study of 255 Australian university music performance students (genre not stated), participants reported higher scores on extraversion, using the Cattell's 16 PF scale, than did the control participants, comprising undergraduate psychology students (Buttsworth & Smith, 1995).

Comparisons between popular and classical musicians are somewhat limited, as the few popular studies are heavily biased toward male participants, whereas studies of classical participants include male and female participants.

From his extensive studies of the personality profiles of different types of musicians, Kemp (1981a, 1981b, 1996) suggests that the degree of introversion in musicians can vary, dependent on the individual's choice of instrument, or whether the musician is engaged in some sort of musical endeavour other than performance

(e.g., composition, analysis, or teaching). Using Cattell's (1973) 16PF, Kemp (1996) found the highest levels of introversion in violinists and pianists, particularly among the highest achievers, compared with lower levels of introversion in brass-players and singers. In Dyce and O'Connor's (1994) study of popular musicians reported earlier, the high extraversion levels of these musicians compared with the control group might be explained by the high number of singers and drummers (46% of all participants) in the study. In the study of Australian tertiary student musicians (Buttsworth & Smith, 1995), brass players were also more extraverted than string players. In the Wills and Cooper (1988) study of popular musicians, the most extraverted musicians were the drummers, followed by trumpeters and saxophonists; the most introverted were the bassists and pianists. Whether musicians are classical or popular, extraversion levels across the studies appear related to instrument groupings.

Extraversion tends to reduce with age (McCrae & Costa et al., 1999), which may contribute to the higher extraversion levels found in the American student-studies (compared with the amateur and professional studies mentioned above, which generally comprised older participants).

Kemp also suggests there may be different personality traits linked with higher levels of performance. For instance, in a study of talented young performers (Kemp, 1981b), distinctly higher levels of introversion were found than were evident in the less talented musicians of the same age, particularly on factors of aloofness, individualism, and shyness. Similarly, Kemp (1996) states that a comparison of performance-students at music conservatoriums with other music students in higher education, found that both groups were characterised by aloofness and self-sufficiency, but the conservatorium students emerged as significantly more introverted, more aloof and more self-sufficient. Interestingly, introversion in musicians takes a different form from introversion in the general population, in that musicians evidence the primary traits of detachment and self-sufficiency, but typically, not traits related to seriousness and shyness, although shyness was more prevalent in the high achieving musicians (Kemp, 1997). Introversion measures could also be identifying essential demand characteristics of music performance (e.g., a willingness to work alone for long periods).

There are some differences in arousal-levels reported by introverts and extraverts. For instance, when exposed to equal levels of stimulation, introverts became more aroused than did the extraverts (Stelmack, 1990; Trouve & Libukman, 1992). Differences between introverts and extraverts in their responses to particular stimuli have also been demonstrated in a memory task in non-musicians (Thompson & Perlini, 1998). The study compared the effect of performance-feedback on anxiety levels in individuals classified as either high or low on extraversion. Regardless of whether individuals received true or false positive or negative feedback on a first memory task, the introverts received higher scores than the extraverts in a second memory task. Thompson and Perlini (1998) suggest that the superior performance of the introvert group may be due to their being at a more optimum level of arousal. On this basis, individual differences in introversion-extraversion appear to moderate performance outcomes through the degree of state-anxiety.

Two points of interest arise from Thompson and Perlini's (1998) findings. The first is that if introverted individuals operate at a base level of arousal that is already higher than that of extraverts, the added pressure of public performance may result in introverts reaching higher levels of MPA than the more extraverted performers. Second, the higher levels of performance achieved by the more introverted individuals may be due to their focus on gathering resources from within themselves, rather than their attending to external stimuli.

Situational variables can impact on performance, depending on the performer's level of extraversion. In an investigation of the effect of extraversion on social facilitation in a sporting situation, an interaction was found between extraversion and performing for an audience on a table-tennis serving task: extraverts performed better under the audience conditions, compared with the introverts who performed better when alone (Graydon & Murphy, 1995). Anxious introverts may be more readily overwhelmed when performing under the pressure of an evaluative audience, compared with extraverts who may be more positively motivated to produce a superior performance in such a situation (Wilson, 1997). However, as discussed above, in high anxiety conditions, anxiety is moderated by task mastery (Hamann, 1982).

There may be different advantages and disadvantages for the more-extraverted, and the more-introverted groups. The more-introverted individuals, who do not generally welcome attention from others, may benefit from strategies that enable them to focus on the performance, rather than thinking about the audience, for instance, while they are performing. The ability to shut out external stimuli is well documented in terms of peak performance, focus, and flow (Jackson & Csikszentmihalyi, 1999). The more-introverted individuals may also be particularly suited to the many hours of solitary work required to prepare pieces, and to the intense involvement required during practice and public performance. The extraverted performer, in contrast, may be more likely to enjoy the opportunities for being the focus of attention in public performance. If arousal levels are typically lower in extraverts than in introverts, as suggested by Thompson and Perlini (1998), extraverts may be less likely to reach the heights of MPA reached by the more introverted performers (provided preparation and exposure-experience are appropriate and adequate: see later section in this chapter). With frequent exposure to public performing, a well-prepared, extraverted performer may be less disturbed by the presence of an audience than a well-prepared introverted performer.

In summary, findings on extraversion in relation to MPA are inconclusive, and there has been only one study to date, a study of popular musicians described above (Dyce & O'Connor, 1994), that has demonstrated a significant relationship between extraversion and MPA. It is possible there are significant differences in extraversion between various instrument-groups. However, when the groups are combined to form one group of instrumentalists and singers (typical of most studies), no significant relationship between extraversion and MPA has been demonstrated.

A defining feature of extraversion is the place of the individual's attention (i.e., inward or outward). Correspondingly, the attention of other people toward the introvert is important. Introverted individuals do not generally enjoy being the centre of attention and, as such, may feel over-exposed and vulnerable even in normal daily situations. So much more then, as a performer the introverted individual is necessarily placed in a demanding and somewhat alienating position as (s)he becomes the centre of attention. Conversely, the extravert may welcome

the extra attention afforded him/her as a performer, although implications of being the centre of attention may include the risk of over-confidence. These issues have relevance for performing musicians. Overall, some of the reported variation in extraversion levels among musicians may be accounted for by the particular categories of participants in the various studies, by the type of instrument/voice, or by age. The relationship between extraversion and MPA is investigated in the present study. Implications of managing one's own attention in regard to performing, and dealing with the attention afforded to oneself by the audience, are addressed in Study Two.

Summary of personality factors

The literature to date suggests that trait-anxiety, neuroticism, and extraversion are the personality factors most closely related to MPA. These factors may play an influential role in MPA. According to previous studies, trait-anxiety appears to have the strongest relationship with MPA. Since trait-anxiety and state anxiety are generally correlated, there are implications for the high trait-anxious performer to consider, including issues of confidence, adequacy, and acceptance of disappointment (see Study Two). The consistent relationship between neuroticism and MPA has implications for managing high levels of worry, negative thinking, and emotional lability. These concerns are also considered in Study Two. The relationship between trait-anxiety and MPA, and between neuroticism and MPA is straight forward, but the relationship between extraversion and MPA is more complex. There may be a negative relationship between extraversion and MPA, although research findings regarding extraversion are still somewhat unclear overall, particularly because almost all studies concern only classical musicians, comprising a variety of instrumentalists and singers. Because the more introverted individuals tend to shun attention directed toward them, there is a need to consider strategies for dealing with the considerable attention afforded them as performing musicians. This issue is also considered in Study Two.

The question arises of whether certain individuals may be attracted to music performance because of aspects of their personality, or whether they continue as musicians because of their personality, or whether their being a musician may play a role in shaping their personality, or whether all of these factors may be relevant to the performing musician (Marchant-Haycox & Wilson, 1992). However, the

critical issue regarding personality in the present study concerns the management of MPA, based on the knowledge to date of how the particular personality factors discussed above may predispose an individual to, or moderate, MPA.

Experience: preparation and performing history

The second group of factors influencing MPA concerns the performer's experience, including the level and type of preparation, and performing history. The discussion of preparation includes comment on planning, and on routines and rituals. Performing history is discussed in respect of performance-exposure, performance-quality, and the influence of past performing on future performing. Relationships between training, age, and performing are also discussed.

Preparation and planning

“Undoubtedly, much of what we routinely and imprecisely label ‘performance anxiety’ is simply the natural consequence of inadequate preparation” (Sweeney & Horan, 1982, p. 487). As Wilson (1997, p. 234) suggests, “stage fright may represent some form of recognition by the performer, that he or she is ill-prepared for the level of performance expected.” Coping with anxiety “comes down to a sense of personal control, coupled with adequate planning” (Radocy & Boyle, 1997, p. 241). Planning includes, for instance: selection of music (see LeBlanc, 1994); “practice, which encompasses all phases of preparation, not only ‘learning the notes’ ” (Radocy & Boyle, p. 242); and imagining a successful performance, and anticipating feelings (Gabrielsson, 1999). Music performance involves two major components: (1) adequate mental representation of the piece, that is, an understanding of the structure and meaning of the music, together with a plan for transforming the mental representation into sound, and (2) preparation and technical mastery to a level appropriate for the purpose at hand (Gabrielsson, 1999). Where technical skill is adequate, attention can be transferred from coping with the technical demands of the performance, to an absorption in the music (Roland, 1997). Since technical skill is typically less developed in the younger performer, managing the technical aspects of performance may be potentially more anxiety-provoking for the younger performer.

Radocy and Boyle (1997) state that some anxiety is to be expected, and that if performers plan appropriately, and understand that physiological manifestations of anxiety (e.g., increased heart-rate, perspiration) are normal, they are more likely to develop a sense of personal control. This sense of control can contribute to their managing MPA. "If an individual perceives his or her body to be out of control, anxiety is increased. This may then exacerbate the very symptoms that produced the anxiety in the first place" (Lehrer, 1987, p. 147).

Routines and rituals

Many performers have developed routines or rituals that precede performances. These routines generally serve three purposes: to reduce stimulation (internal or external); to enhance concentration; and to absorb extra energy that may be generated as a result of increased physical activation that typically occurs during the lead-up to a performance (Salmon & Meyer, 1992). Some performers may isolate themselves from other people to reduce stimulation around themselves, or to increase their focus on the requirements of performing. Others may carry out particular behaviours for which there may be no apparent logical reason, for example, reviewing the music-score say three (but not two and not four), times the day before the performance. Repetitive activities can provide comfort in their familiarity, as well as assisting the performer to become absorbed in tasks leading into the performance; this increased absorption can assist performers to focus on the requirements of performing, and also to build some protection against distractions from their preparation. Going through familiar routines prior to performing also provides the performer with a sense of control leading into the performance itself (Ravissa & Hanson, 1995). Routines and rituals can also help to pass the time when days or hours seem to slow down before a performance.

In the period prior to a performance, performers often report a rise in fear, though it is difficult to test the reality of that fear. Thus, at such a time, it can be helpful for a performer to engage in activities over which they do have some control, whether or not those activities have any direct impact on the performance itself (Salmon & Meyer, 1992). Performers frequently attempt to control internal as well as external stimulation prior to a performance (Salmon & Meyer, 1992). Internal stimulation can include, for instance, thoughts, emotions, and physical sensations that can be distracting, particularly if they continue into the performance itself.

Though many unseasoned performers believe that professional or experienced musicians do not experience MPA, professional and experienced performers have more often learned that predicted performance-fears seldom become a reality (Salmon & Meyer, 1992). Further, experienced performers frequently have established patterns of behaviour that can be familiar, comforting, and thus reassuring as they prepare to perform. “Ultimately, all performers need to work out through experimentation, a standard routine that helps them to achieve a state of readiness for performing” (Wilson & Roland, 2002, p. 57). For example, the American professional golfer, Tiger Woods, stated, “I like to visualise the ball in flight ... then commit to it ... I use that same preshot routine today. [It] doesn’t vary and it is uniquely mine. It helps me to remain calm and in the present” (cited in Hodge, 2004, p. 192).

Experience and exposure

Learning to perform

Learning to perform involves incremental development over a long period where performers learn and practise the elements of performance during frequent exposure to a range of performing situations. Many famous performers have developed performance skills through frequently performing in non-threatening environments from early in their lives (Davidson, 2002). Davidson asserts that learning to perform is a process of “observing and assessing performance behaviours” (p. 105) that assist the performer in an understanding of what makes a performance ‘good’ for the audience. Perceptions of a ‘good’ performance can vary for different audiences according to factors such as culture, age, or musical taste.

Influence of the past on the future

The nature of previous experience is likely to be associated with the individual’s attitude towards future performing (Hanin, 2000), and with subjective and objective performance attributions that have developed over time (LeBlanc, 1994). LeBlanc suggests that performance attributions will relate to: performing itself; the performers’ own beliefs about the quality of their performances; and the performers’ beliefs about how other people perceive their performances.

This influence or environmental conditioning is not limited to amateur or student performers only, as subjective carry-over-influences from the past are commonly reported by individuals with international performance careers. Barbra Streisand, for example, reported being so traumatised by forgetting lyrics of three songs in a New York concert in 1967 that she did not perform live again for 27 years (Seligmann & Namuth, 1994). Unpleasant levels of performance anxiety are also reported by such international performers as Vladimir Horowitz (Nichols, 1995), Pablo Casals, Madonna, and Carly Simon, the latter largely restricting her performing efforts to studio recording (Seligmann & Namuth, 1994). Many performers believe that MPA is uncontrollable. This is perhaps best illustrated in Piperek's (1981) finding that orchestral musicians rarely discuss their anxiety and playing-fears with colleagues, the musicians stating simply that "this phenomenon [was] considered to be invisible and part and parcel of the profession" (p. 7).

Individuals generally respond to performing, not only in terms of attributions and the amount and type of performing experience they have had, but on the particular feedback they have received (LeBlanc, 1994; Seligmann & Namuth, 1994). LeBlanc states that of the variables influencing MPA, performance-feedback has both immediate and subsequent influences. *Immediate* feedback (i.e., information about the performance received by the performer during the event itself) concerns the quality of the music and, in some instances, the audience-reaction. Depending on the nature of immediate feedback, its effect will be either encouraging or discouraging for the performer (LeBlanc, 1994). *Subsequent* feedback (i.e., delayed, and received by the performer after the performance has ended) may be in the form of reviews, photographs, recordings, or comments from people who attended the performance. LeBlanc states that subsequent feedback "sets the stage for the performer's next music event" (p. 66), and that if feedback is favourable, it will serve to increase confidence, and correspondingly reduce anxiety when the performer next performs publicly. Conversely, negative feedback can increase future levels of MPA. Frequently, a musician's persona is intertwined with their self-esteem; in such circumstances it can be difficult for a musician to separate him- or herself from unfavourable feedback, as "any setback ... is perceived as a direct attack on the person him- or herself" (Kemp & Mills, 2002, p. 8).

The performer's own judgement of his or her past performances, and perceptions of audience reaction, can influence future MPA (LeBlanc, 1994). LeBlanc does not account for situations where performers continue to experience high or uncomfortable levels of MPA, regardless of their long-term successful, even illustrious, careers. Even when feedback has been favourable, an overly pessimistic performer will probably believe that the quality of the music was worse than was the case (LeBlanc, 1994). In a study investigating prior appraisal of stressful achievement-events, Skinner and Brewer (2002) found that being able to use optimism and confidence to best advantage was the most effective coping approach for PA.

Performance-quality

It is important to consider how MPA may have affected the quality of past performances, because of the potential for these experiences and outcomes to impact on future performing. Research studies indicate that the physiological arousal associated with anxiety can either facilitate performance quality, or interfere with it (e.g., Craske & Craig, 1984; Lehrer, Goldman & Strommen, 1990; Wilson, 1997), although until more recently, studies have not typically included measures of performance quality. Bergee (2002) demonstrated a discrepancy between self-ratings of performance quality, and the often higher ratings given by peers or experts. The comparatively lower ratings that performers might afford themselves may go some way to explaining the belief expressed by many performers, that anxiety has negative effects on performance.

Quality of performance was compared between an audience situation with an expert judge in attendance, and a tape-recorded situation, in a room alone (Fredrikson & Gunnarsson, 1992). Participants comprised 'low-anxious' (i.e., no report of previous tremor in a performance situation) and 'high anxious' (i.e., had experienced previous tremor) performers. In the audience condition, performances were judged as better for the low-anxious group. However, for the tape-recorded performances, the high-anxious group received higher ratings. Assuming that rating efforts were consistent between conditions, the increased arousal for both anxiety groups in the audience condition appeared to have a facilitative effect for the low anxiety group, but a disruptive effect for the high anxiety group. However, the audience-rating condition included visual cues that were not available in the

tape-recorded condition. Thus the lower performance-ratings given the high-anxious performers in the audience condition may have included a response to visual cues. Results of Fredrikson and Gunnarsson's study are consistent with Craske and Craig's (1984) study of 40 piano students (20 'relatively anxious'; 20 'relatively non-anxious'). The quality of performance of the 10 most 'anxious' pianists significantly diminished from a non-stressful situation to a stressful situation (i.e., from recording in a room alone, to an evaluative audience situation). Conversely, the performances of the 10 most 'non-anxious' pianists significantly *improved* from the non-stressful to the stressful situation.

Overall, anxiety does not necessarily compromise the quality of performance, even when the performer is considerably aware of anxiety-symptoms. Rather, performance anxiety can facilitate a high quality of performance in instances where mastery and confidence are high. Conversely, anxiety can impair performance when confidence regarding performing and performance outcomes is low.

Formal training and age

Training and ability were investigated by Hamann (1982) in relation to performance quality in high and low anxiety situations. Results revealed that when participants scored high on trait-anxiety and high on MPA, participants with the greatest number of years of formal training achieved higher performance-quality scores in juried situations than participants with fewer years of formal training. This result suggests that the presence of high anxiety does not, at least on its own, account for impaired performance quality, and Hamann concludes that increased anxiety *facilitates* performance where performers have greater task mastery (developed through longer training). However, this conclusion assumes that an increase in years of formal training equates to increased mastery, perhaps a questionable association in some instances, as training can vary in, for example, quality, level, and individual response. Further, with increased years of training, performers have generally had increased opportunities to develop performance strategies. Consequently, better performance, even in high-anxiety conditions may be moderated by greater exposure to performing situations.

In their study of amateur, student, and professional musicians, Steptoe and Fidler (1987) found that MPA decreased with age ($r = -.35$) and performing-experience ($r = -.38$) in professional musicians only. In a study of student-musicians, Cox and Kenardy (1993) investigated MPA in relation to years of study and years of public performance. Results of this study did not demonstrate that years of study, or performing experience had any effect on the level of MPA in this student-group. A similar result emerged from Hamann's (1982) study of student musicians, and from Rae and McCambridge's (2004) study of Irish secondary student musicians who had undertaken practical grade examinations of the Associated Board of the Royal Schools of Music.

The decrease in MPA with age in the professional groups might be explained by a natural correlation between age and experience, with the increased performing experience of the professionals contributing to lower levels of MPA. Also, the more-anxious performers may not have chosen professional careers, and so are not represented in the professional group. In contrast to the professionals, student-musicians have generally had less performance-exposure and experience, and the benefits of their, generally, more-limited public performing experience may not be visible in the earlier stages of their musical development.

There may be other explanations for MPA in different types of performers. In general, anxiety in beginning-performers may be due to shyness and uncertainty about their ability to perform, while the established professional may experience a form of "burn-out", feeling that once at the top there is nothing left to achieve. Some older performers may fear that impaired performance may result from such factors as memory loss or tremor (Wilson, 1997). Student-musicians may experience more MPA than professionals because in comparison, students have generally had considerably less exposure to public performing. The influence of performance-exposure is discussed in the next section.

In summary, aspects of experience that appear associated with future performing and MPA include the types of success and failure the performer has experienced in the past, the type of performance feedback the performer has received and, perhaps, the degree of formal training the performer has had. Other important factors that can influence MPA include the degree of mental planning and

preparation for a performance, and perceptions about the quality of past performances.

Differences in MPA between student-musicians and professionals may be due to the more extensive and prolonged exposure to public performing experienced by professionals, and their greater development of effective performance strategies and skills. Further, musicians who have experienced excessive or intolerable levels of anxiety as performers may have abandoned professional careers, and so these musicians are not represented in the professional groups. For student musicians, who are the participants of the present study, there are implications for encouraging the seizure of every possible and appropriate performance opportunity. The benefits of performance exposure are addressed in Study Two.

Situational variables

The third group of factors influencing MPA, concerns characteristics of the performance-situation that can impact on performance outcomes and on the enjoyment of performing. The level of perceived scrutiny and judgement associated with performing is discussed in terms of the nature of the event, specifically the type of audience (i.e., expert, non-expert) and the type of performance (i.e., solo or group). The timing of anxiety, and the role of social facilitation are discussed.

Nature of the event

MPA is associated with the nature of the event itself, and particularly with the degree of exposure perceived by the performer. Exposure may be described in terms of the level of perceived scrutiny and judgment associated with a particular type of audience, and whether the performance is a solo or group effort. Regardless of an individual's susceptibility to MPA there are some situations that are relatively stressful for most or all performers. Reported anxiety levels are frequently higher in situations such as auditions or competitions, for example, where outcomes are generally more significant for the performer. Anything that "raises a musician's sense of exposure will generally raise levels of anxiety" (Wilson, 1997, p. 232). So a musician's sense of exposure will be raised more in a solo performance than in a group, more in a public than in a practice situation, more in a judged performance than in a performance for pleasure, and in a

performance of difficult or poorly prepared work, compared with a performance of familiar or over-learned work (Hamann, 1982).

Might the extent of experience as a soloist or as a group-performer influence the degree of MPA in different performance situations? In a study of student-musicians, Cox and Kenardy (1993) investigated MPA in performance and practice situations in relation to participants' experience as solo or group performers. The amount of experience as performers, whether in groups or as soloists, did not have any effect on the level of MPA in this group. Rather, MPA varied according to the situation.

In a study comparing performance variables in 'relatively anxious', and 'relatively non-anxious' pianists (Craske & Craig, 1984), participants first played alone (with videotape), and then in front of an evaluative audience. From playing alone to playing for an audience: performance quality reduced for the anxious group, but increased for the non-anxious group; subjective anxiety increased for the anxious, but remained reasonably stable for the non-anxious group; and heart-rate increased consistently for both groups. None of these within-group differences reached significance. However, when comparisons were made between groups, for the audience condition the anxious group achieved significantly lower scores for performance quality, and reported significantly greater distress. Increases in heart-rate were not significantly different. Results strengthen the view that MPA is individually differentiated, and is moderated by the nature of the event.

Level of anxiety associated with the performance

A certain level of anxiety or tension is necessary for optimal performance outcomes (e.g., Lehrer, Goldman & Strommen, 1990). As outlined earlier, in juried situations musicians with more years of formal study typically received the highest ratings for performance quality (Hamann, 1982). However, years of study tend to be correlated with exposure and experience as performers; exposure and experience may be the critical factors in tension and MPA levels. Research studies typically report the negative effects of performance anxiety, specifically in terms of the reduced quality of performance (Gabrielsson, 1999; Nagel, 1988; Wesner, Noyes, & Davis, 1990) and reduced enjoyment (or increased fear) associated with performing (Aaron, 1986; Fishbein, et al., 1988; Liden & Gottries, 1974). While levels that are

too high can be debilitating, levels that are too low can result in dull, lifeless performance (Powell, 2004; Wilson, 1997). Many performers recognise that when they are recording studio-tapes, tension levels can reduce below optimal level. The reduction in tension may be because there is no audience, or perhaps because the musicians know the tapes can be edited. Due to the reduced tension of the recording studio, many performers prefer live musical performance where they associate raised levels of arousal with higher levels of performance (Wilson, 1997). The connection between arousal and high performance is emphasised by Horan (1980) who warns that attempting to lower anxiety levels in performers could result in anxiety levels that are insufficient to energise lively performances. Clark (2000) points out, however, that strong negative and positive affect can co-occur. For instance, in situations such as watching horror movies, the individual can experience thrill and excitement (positive affect) as well as fear and tension (negative affect).

MPA represents a “fear of negative evaluation by other people” (Wilson, 1997, p. 31). So, how much anxiety or arousal is just right? What is meant by optimal arousal, and how does it vary for different individuals? A number of studies (e.g., Hamann, 1982; Lehrer, Goldman & Strommen, 1990; Salmon, Schrod, & Wright, 1989; Steptoe & Fidler, 1987; Wilson, 1997) assert that optimal performance is achieved at moderate levels of anxiety, suggesting that the relationship between anxiety and performance-quality complies with the Yerkes-Dodson (1908) inverted U-shape. Wilson (1994) suggests a three-dimensional extension to the Yerkes-Dodson Law (see Yerkes & Dodson, 1908) when it is applied to musical performance. This extended version integrates three sources of stress that can vary, independent of one another: (1) the trait anxiety of the performer (as well as any other personality traits, e.g., introversion, social phobia); (2) the degree of task mastery that has been reached; and (3) the degree of prevailing situational stress (i.e., environmental pressures such as juried performance or audition). Wilson (1994) claims that whether anxiety is beneficial or detrimental to performance depends on the interplay among these three variables. This model suggests that highly anxious individuals will perform best when the work is easy and the situation relaxed; performers low in anxiety will perform best in demanding situations when work is challenging.

The optimal level of tension required for high performance quality is often so high that performers feel uncomfortable and think the level detrimental (Hamann, 1982; Konijn, 1991). If tension becomes too great the quality of performance will drop as concentration is lost, memory lapses occur, and the body or voice become unsteady (Wilson, 1997). This type of response to MPA may be explained by an alternative view of the anxiety-performance relationship suggested by Hardy and Parfitt (1991). In their work with athletes, Hardy and Parfitt refer to the catastrophe model to account for deterioration in performance under conditions of extreme anxiety. They argue there is a precipitous fall-off in performance, rather than the gradual reduction of the inverted-U, once performers go over the top in arousal. Hardy and Parfitt argue that once a performer senses disaster in a high-stress competitive situation, it is impossible to restore even a "mediocre" (p. 164) level of performance. They claim that the catastrophic effect is particularly applicable to situations where there is both high cognitive anxiety and somatic agitation. Hardy and Parfitt's argument, therefore, developed in the context of athletic performance, could also apply to the performing arts. In response to Hardy and Parfitt's (1991) model, Wilson (1997) suggests that the performance-arousal curve follows the Yerkes-Dodson pattern when cognitive anxiety is low, but that the mathematical model of catastrophe theory seems to apply when cognitive and somatic anxiety are high.

A further view of the relationship between anxiety and performance is suggested by sport psychologist, Yuri Hanin (2000). He contends that each person has his/her individual Zone of Optimal Functioning (ZOF), which may vary considerably from that of another individual. That is, a ZOF is an optimal level of anxiety that is individually determined. Based on his investigation of anxiety in elite sports performance, Hanin asserts that some individuals will perform best when their level of anxiety is high, while other performers will perform at their best when their level of anxiety is comparatively lower. That is, performance will deteriorate when the individual's anxiety falls below, or when it exceeds, his/her own ZOF.

The ZOF may be inextricably related to the relationship between trait- and state-anxiety. Individuals with high trait-anxiety levels appear to require only minimal pressure in order to reach high levels of state anxiety, compared with the low-trait-anxious who appear to be able to withstand greater degrees of pressure before they

reach high levels of state-anxiety. Hanin has developed a means of identifying the individual's ZOF (see Hanin, 2000), but research to date has not investigated how particular individuals reach and maintain high levels of performance within their own optimal zone. Nor has Hanin's approach been applied to investigating performance anxiety in musicians. However, currently, the greatest body of research pertaining to anxiety and performance can be found in the sports literature, and future research findings in sport psychology may have important implications for music performance, and other performance domains.

those suffers from high anxiety levels such as PTSD

While different individuals manifest a different anxiety-response to the pressures of public performance, strategies for the management of anxiety moderate the relationship between arousal and performance. The focus of the present study concerns assisting individual performers to recognise factors that have personal relevance for them concerning MPA, and to assist them with appropriate management strategies. Identifying and managing personally relevant factors concerning MPA, is addressed in Study Two.

The timing of anxiety

The impact of stress at different times relative to the performance was investigated in a study of 40 undergraduate music students performing in a juried situation (Salmon, Schrod, & Wright, 1989). Overall, anxiety (according to the Burns Anxiety Inventory) increased daily, as the performance drew closer, and peaked during the performance. In the lead-up period from one day before the performance, to one hour before, to during the performance itself, emotional, cognitive, and physiological symptoms increased temporally with only one exception: cognitive symptoms reduced marginally during the performance itself. Some students reached their anxiety-peak about an hour before the performance, while others peaked during the performance. A comparison of the two groups revealed that those whose anxiety peaked *during* the performance (M anxiety = 38.63, SD = 17.61) were generally less experienced than those who peaked just before the performance (M anxiety = 16.13, SD = 12.63). Across the whole sample however, during the performance, mean scores for physiological, and emotional symptoms increased, and cognitive symptoms reduced only marginally.

The critical difference between the timing of anxiety in experienced and less-experienced performers was also demonstrated in the earlier, well known parachute research of Epstein and Fenz (1965). In this study, the more-experienced parachutists reached peak arousal well before the jump, whereas the less-experienced performers peaked just prior to jumping. Overall, anxiety levels were higher in the inexperienced, than in the experienced parachutists. There is a major point of comparison between parachuting and performing on stage: anxiety appears related to the consequences of the outcome. In respect of consequences, the timing of anxiety may be dependent on whether the performer focuses on the process of performing, or whether attention is turned towards the possible outcome. If the performer's attention is focussed on outcome, rather than the task itself, anxiety may continue to rise. Frequent exposure to the particular type of performance may also moderate the timing of peak anxiety (Epstein & Fenz, 1965; Salmon, Schrod, & Wright, 1989). As performers become more experienced, emotional arousal shifts from a general fearfulness to a more focussed attention and preparation for action (Wilson, 1997).

Wilson's suggestion of an attentional shift toward action is graphically demonstrated in a study by Haider and Groll-Knapp (1981). An electroencephalogram (EEG) record from the motor cortex of an orchestral horn player demonstrates shifts in brain potential prior to, and during, a solo passage (see Figure 2.3). While some differences in brain activity may be accounted for by exertion associated with performing, the EEG shows a peak in negative shift just before the solo begins. Haider and Groll-Knapp (1981, p. 29) suggest this pattern of brain activity, known as contingent negative variation, indicates "increasing commitment and mental involvement." Negative shifts in brain potential typically precede preparation and superior performance (Suter, 1986). Other authors (e.g., Middlestadt, 1990; Salmon, Schrod, & Wright 1989; Wine, 1982) also assert that for high quality performance, peak anxiety is reached *before* the performance, and reduces when the musician starts to play.



Figure 2.3: *EEG and ECG of an orchestral horn player. The two transverse lines at the top of the figure indicate when the hornist is playing: under the first transverse line the hornist is playing with the orchestra; under the second, he is beginning the solo passage. The EEG shows an expectancy wave, indicating focused attention and anticipatory stress as the hornist prepares to start the solo passage. The ECG (lowest line) shows a slower and more regular heart-rate in the solo passage, perhaps influenced by the controlled breathing required at the start of this section. (Adapted from Haider & Groll-Knapp, 1981.)*

While experienced and less-experienced performers are all likely to experience PA, and at times can all experience it to a high level, it is the *timing* of the anxiety-peaks that is critical in terms of impact on the performance. In general, the more experienced performers reach peak-anxiety prior to performing, while the less experienced frequently peak during the performance itself. A change in anxiety level can occur following a shift in thinking and associated affect. Figure 2.3 above clearly shows the physiological correlates of cognitive processes and associated affect, demonstrating the importance of attention in relation to anxiety. This relationship has implications for management of MPA, and is addressed in Study Two.

Social facilitation and performance effort

The social situation itself can facilitate some performers to achieve high levels of performance. Social facilitation is “the effect of an audience on behaviour” (Wilson, 1997, p. 232).

Havas (1978, p. 13) states that when the audience acts as a stimulus, the performer can release “inborn anxiety” through playing, facilitating a sparkling

and exciting performance. In contrast, exaggerated anxieties in front of an audience can render the performer unable to communicate the music. “As all performers know, nobody plays the same in public as he does alone. One plays much better or much worse” (Havas, 1978, p. 13).

In summary, MPA is typically higher in a judged situation compared with a non-judged situation. In situations where anxiety is high and the situation is demanding, the highest quality performances generally occur where task mastery is highest, and where anxiety peaks *before* performing, rather than during the performance. In instances where the situation is insufficiently demanding, performers have reported difficulty in reaching arousal levels sufficient to facilitate high levels of performance.

Summary of factors influencing MPA

Three broad groups of factors appear to influence MPA. The influential factors include personality variables, experience (including preparation and performing history), and situational variables. Two separate factors, gender and music genre, may influence this group of three factors. There may be a bi-directional relationship between music genre and MPA. The influential factors of MPA are shown in the *MPA Influential Factors Model* (Figure 2.4 below), developed from findings in the literature discussed above.

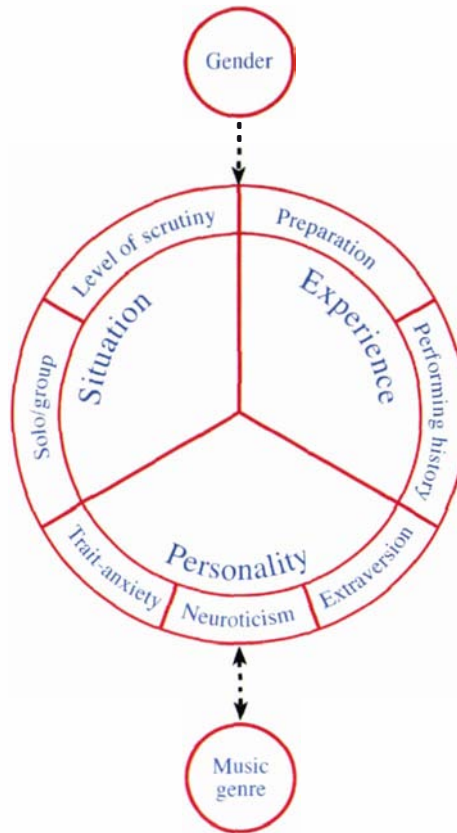


Figure 2.4: *MPA Influential Factors Model, showing the three broad groups of factors that can influence MPA (situation, experience, personality). Gender may be related to any of the three groups, and music genre may be bi-directionally related to any of the three groups.*

CHAPTER SUMMARY

Music performance anxiety is a particular type of state anxiety experienced by individuals in public performance situations where their performing-behaviour is being observed and, at times being assessed by one or more persons. While performers frequently report negative effects of anxiety, a certain degree of anxiety can enable an exciting and technically proficient performance; without a certain level of arousal, a performance can be lifeless and dull. When MPA levels become excessive for an individual, however, the arousal ceases to be facilitative, and becomes counterproductive, resulting in loss of enjoyment for the performer, in

impaired performance outcomes, and perhaps in the abandonment of performance-careers.

Across studies investigating MPA, the construct is generally defined in broad terms such as performance anxiety, stage fright, or nervousness, and there is no consistent use of any particular tool to measure MPA. The prevalence of varying degrees of MPA is widespread among student, amateur, and professional musicians alike. Studies report prevalence rates ranging from 8-100% of participants, depending on the range of different definitions, cut-off points or levels of MPA, and the particular participant-groups. Overall, it appears that almost all musicians experience an increase in MPA from informal to public performance situations. The four components of MPA (physiological, cognitive, affective, and behavioural) appear to be influenced, broadly, by three groups of influential factors: experience, personality, and situational variables. Gender and music genre may be related to these three groups, and may interact with the relationship between them and MPA.

Consistent with other anxieties reported in the literature, females report more MPA than do males. Previous studies are almost exclusively of classical musicians, combining student, amateur, and professional musicians, and there is little known about the prevalence of MPA in jazz and other popular musicians. This is perhaps surprising given the well-publicised MPA of a number of high profile popular performers, as discussed earlier (e.g., Streisand, Simon, Madonna). Comparisons between male and female, and classical and jazz students may assist in the understanding and identification of the most at-risk groups.

MPA appears to be associated with a range of influential factors, at times overlapping and becoming somewhat difficult to distinguish from one another. For instance, lack of concentration may be described as a symptom of MPA, but when the performer's focus of attention becomes further divided, a spiralling feedback loop may develop, and cognitive symptoms may then influence the subsequent level of MPA. Physiological symptoms tend to be the most widely reported symptoms, but they can vary among individuals, even in conditions of high anxiety. However, heart-rate appears to be among the most widely experienced and objectively measurable physiological symptoms. Physiological arousal appears to be

moderated by cognitive and affective factors, behavioural factors, personality factors, previous experience as a performer, and situational factors.

Of the *personality factors* that appear associated with MPA, trait-anxiety, neuroticism, and extraversion are believed to play the most influential role in MPA. High trait-anxiety is typically found in performers reporting high levels of MPA, this relationship suggesting that high trait-anxiety may predispose some performers to MPA. Alternatively, high trait-anxiety may be a correlate of MPA in that an underlying mechanism may be influencing both types of anxiety. Trait-anxiety appears to be the most closely related personality factor to MPA. MPA also appears linked to the defining features of neuroticism, the worry and emotional reactivity being associated with the perceived evaluative and stressful performance situation which, by necessity, occurs in a social context. Neuroticism is typically higher in musicians than in normative samples, and is positively correlated with MPA.

Findings regarding extraversion and MPA are inconclusive, although popular musicians may tend toward higher levels of extraversion than classical musicians. However, previous studies almost entirely concern classical musicians, and there are few studies of popular musicians. Different levels of extraversion may typically be linked to one type of performer than another (e.g., higher extraversion in brass players and singers; lower levels in violinists and pianists), but overall, extraversion appears to have less influence on MPA than, for instance, trait-anxiety levels or situational variables. If performers have an understanding of aspects of their own personality that can have performance-implications for them, they can build appropriate strategies to deal with, or exploit aspects of their personality.

Cognitive and affective factors associated with high levels of MPA include negative cognitions and associated negative affect, negative self-beliefs, and divided attention in performance situations. Negative cognitions can result in the performer undermining his/her own confidence to perform. Alternatively, positive cognitions, where firmly believed, can serve to boost the performer's confidence. The focus of attention before, during, and after performing can also influence, or be influenced by, cognitions and affect, and will determine performance-outcome. For performers to understand why they experience particular affect in various

performance conditions, it is critical they understand the link between cognitive processes and affect.

Overall, previous studies generally provide only a limited context for the understanding of MPA. Every performer brings a unique history of preparation and past performing to each new performance-experience (s)he encounters, and performing experience from the past can have significant effects on future levels of MPA. Preparation for public performing includes technical and non-technical preparation. Technical preparation involves practice and mastery, and this is often the main or sole focus of musicians' efforts, particularly for the younger or developing musician who can overlook the importance of non-technical preparation. Non-technical preparation includes frequent exposure to a range of performing situations, a planned time-sequence leading up to the performance, established routines or rituals that assist in self-control, familiarity with the performance environment, and an ability to critically appraise the elements of one's own 'good' and 'bad' performances. The non-technical aspect of performance in relation to MPA is largely overlooked in the MPA literature.

When technical and non-technical preparation are appropriate and thorough, MPA is likely to be more manageable. This is because meticulous *technical* preparation helps to build mastery and confidence to perform. A high level of *non-technical* preparation assists to build performance-confidence through, for example, the development of strategies to maintain focussed attention while performing, and by building up a background of repeated and sufficient exposure to a range of performing situations. Thorough preparation and extensive experience performing in a range of different situations appear to exert greater influences on MPA than age, level of qualifications, or time spent in formal training.

Situational factors exert a strong influence on the level of MPA in students, amateurs, and professionals alike. MPA is highest in situations where the performer perceives the greatest potential for scrutiny and evaluation, and where the consequences of performance-outcome are the greatest. Regardless of the situation, however, student-musicians generally continue to experience performance anxiety into the performance itself, whereas for the more experienced professionals, anxiety tends to reduce markedly just *prior* to performing.

Unlike professional musicians, student-musicians typically reach peak-MPA *during* their performance. The timing of anxiety has important implications for treatment. The performer who manages MPA most effectively is (s)he who reaches peak arousal just prior to performing, and who focuses on the *process* of performing throughout the performance, rather than focusing on the outcome. Outcome-focused performers typically shift their attention to the outcome, to themselves, to the odd slip, or to some other negative aspect of the performance. Consequently, these performers are likely to experience the highest levels of MPA, and are most at risk of compromising the quality of their performance. Although studies recognise the role of cognitions in MPA, the importance of focussing on the process rather than the outcome of the performance does not receive attention in the MPA literature.

Finally, there are broad individual differences in response to anxiety-provoking situations, and effects on the performer and the performance itself can vary among individuals. Different individuals will inevitably bring different combinations of personality traits and life experience, as well as different performance experience, and a range of different skills and approaches to a range of performance situations. Further, it appears that different individuals can experience different levels of MPA at different times, those times varying according to the situation or to the performer's stage of musical development and experience.

Thus, MPA is a complicated issue, and is not clearly explained in the literature. Overall, it appears that debilitating levels of MPA are more likely to occur among individuals who are generally more trait-anxious or neurotic, who tend to be introverted, who are sensitive to social evaluation, who are female, are string players or pianists, have had limited exposure to public performing, who are prone to negative self-talk, who focus on the outcome of the performance rather than on the process of performing, and who are inadequately prepared for the demands of public performance. Nevertheless, much of the variation among individuals is not clearly explained. Based on previous studies, there is a need for MPA research to: develop a tool specifically to measure MPA; understand MPA in a context of personal, demographic (including gender and music genre) and performing-experience information; clarify factors that can influence MPA; and understand MPA as it is experienced by the developing student-musician, specifically.

The *MPA Relationships Model* (shown in Figure 2.5 below) shows the relationship between MPA and factors that influence MPA. Also shown, are possible interactions for gender, and music genre on the relationship between the influential factors and MPA. *The MPA Relationships Model* summarises findings from the literature discussed above, and was developed specifically for the purposes of the present study: the *MPA Relationships Model* informs the development of Study Two.

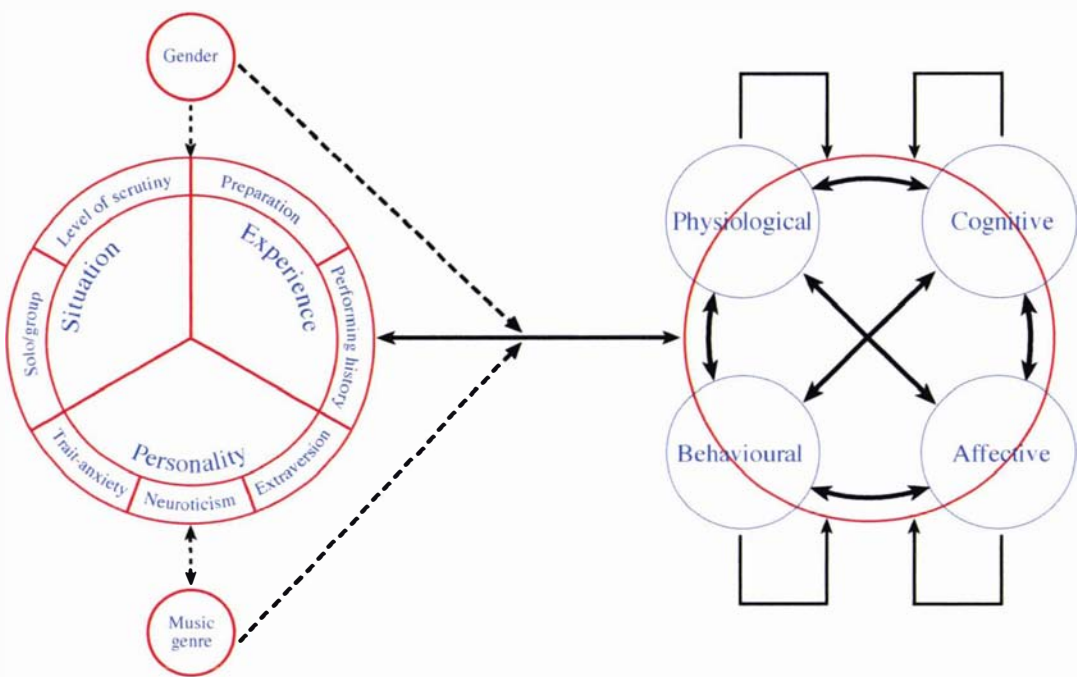


Figure 2.5: *MPA Relationships Model.* This model shows the relationship between MPA (RH side) and the influential factors (LH side). Gender and music genre may interact with the relationship between the influential factors and MPA.

The following chapter outlines the methodology for Study One, which addresses the needs outlined above, and investigates how factors discussed in this chapter might influence MPA in different individuals. Study One is a necessary exploratory study of MPA in a group of student-musicians, the findings of which will contribute to the development and trial of a treatment programme described later in Study Two.

STUDY ONE

MPA: AN INVESTIGATION OF THE PREVALENCE, COMPONENTS, AND INFLUENTIAL FACTORS

METHODOLOGY

BACKGROUND AND RATIONALE

MPA may be influenced by variations within a range of factors. Each individual's experience of MPA is different because of the varying combinations of contributing factors that each musician brings to his/her performing.

The aims of the present study, outlined below, have been developed to gain an understanding of MPA in a group of student-musicians, the findings of which will inform the development of an intervention study (Study Two), designed to assist student musicians manage MPA.

Ideally, to establish a comprehensive picture of how anxiety affects musicians, and to subsequently develop effective management strategies, performance data and MPA data would be gathered from a broad range of student, amateur and professional musicians with varied experience and varied musical backgrounds. Such a large-scale project is beyond the scope of the present study which, instead, will focus on a student population studying towards a tertiary qualification in music at the Conservatorium of Music, at Massey University, Wellington, New Zealand. Students from the conservatorium make a uniform group in that they have generally achieved a prior level of proficiency in their musical skills, assessed by audition before admittance to the Conservatorium, and have some experience in performance. In some cases, however, performing experience may be limited. Perhaps most important is that they are in the formative phase of career development and, for some, assistance to manage anxiety at this stage could be critical as they seek to embark on careers as performers; there is abundant evidence that performers often withdraw early in their careers because of

continued unpleasant experiences of anxiety associated with performing (see Wesner, Noyes, & Davis, 1990).

By using an exploratory, survey design, Study One is expected to provide some insight into a broad combination of factors that contribute to MPA in a single group of musicians at the Conservatorium of Music. The findings from Study One will contribute to the development of the intervention programme for MPA that comprises Study Two. The aims of Study One are outlined below:

AIMS

In the Conservatorium of Music sample to:

- 1. Examine the prevalence and intensity of MPA symptoms by investigating the following symptoms, before, during, and after performing:**

Physiological, including heart-rate, sweating, changes in breathing, shaking, muscle tension, and nausea.

Cognitive-affective, including trouble concentrating, awareness of being evaluated, fear of mistakes, feeling edgy or grumpy, and feeling panicky.

Behavioural, including use of medication or alcohol, and smoking.

Research questions

- Do MPA symptoms vary relative to the time of the performance (i.e., before, during, after)?
- To what extent are symptoms of MPA (physiological, cognitive-affective, behavioural) experienced in this sample?

These questions have implications for symptoms interfering with the performance-process. Where symptom-levels are high, they can interfere with preparation and, if symptoms remain high during the performance itself, can ultimately impact on the quality of the performance and the enjoyment of performing?

2. Investigate cognitive-affective factors that play a feedback-role in MPA, and that can further influence the level of MPA.

Although particular cognitive-affective factors may manifest as symptoms of MPA, they may also act independently, thus playing an influential feedback-role on subsequent levels of MPA. Physiological and behavioural symptoms can also play a feedback-role and influence the level of MPA. However, because cognitive factors (and the associated affect) play a critical role in anxiety, and because they are the focus of attention in many therapies for anxiety, these factors are given particular attention here.

The following cognitive-affective aspects of performance were investigated:

Cognitions and attention, beliefs, perceptions of talent and confidence, motivation, and affect associated with performing.

Research questions:

Cognitions and attention

- What is the nature of cognitions (i.e., self-statements) before, during, and after performing?
- During the performance, is attention directed toward self-statements regarding the process of performing, or toward the outcome of the performance?

These questions have implications for confidence as a performer, and for the ability to focus attention on the process, including aspects of concentration and memory.

Beliefs

- What beliefs do participants hold about the effect of anxiety on performance, and are these beliefs related to the Musicians Performance Anxiety Scale (M-PAS) scores?
- Are beliefs about the presence of anxiety during performance related to perceptions regarding performance-standards, to the perceived

importance of the performance-situation, and to concentration during the performance?

These questions have implications for confidence and focus of attention during the performance, and ultimately for intervention strategies.

Perceptions of talent, and confidence

- What level of confidence do participants have regarding their own ability as musicians/singers, and is confidence related to the M-PAS score?

This question has implications for confidence as a performer, for attention, and ultimately for performance-quality and enjoyment as a performer.

Motivation: Need to excel; and effort

- How important is the need to excel, and is this matched by effort to develop music skills?

This question is likely to have implications for preparation and the level of MPA.

Affect

- What range of affect is experienced in different types of performance situations?

This question is designed specifically to investigate the relationship between enjoyment as a performer and situational anxiety.

3. Identify influential factors of MPA.

The following three broad groups of influential factors are investigated: personality factors; experience (including preparation and performing history); and situational variables.

Personality factors: Trait-anxiety, neuroticism, and extraversion are most commonly associated with MPA in previous studies. The influence of these factors on MPA is investigated in the present study.

Experience: Preparation and performing history: Technical and non-technical preparation, and performing experience in terms of solo and group performing, years of training, qualifications, and year of study are investigated in relation to MPA.

Situational variables: Situational variables including different types of group and solo performances, and a range of judged and non-judged situations are investigated in relation to MPA. Enjoyment is also investigated in relation to MPA across a range of situations.

Research questions:

Personality factors

- Are scores for the personality factors consistent with norm scores?
- Are the personality factors related to cognitive-affective factors, to MPA according to performance situation, to M-PAS scores, or music genre?

These questions investigate whether personality may be related to: negative cognitions; performance anxiety; and the response to the attention of an audience in a performance situation. These relationships are predicted by the literature reviewed in Chapter Two. Likewise, the relationship between trait-anxiety and state anxiety (i.e., MPA) is predicted by the anxiety literature.

Experience: Preparation and performing history

Preparation:

- Is technical preparation (i.e., skill-mastery) related to cognitive-affective factors and age?
- Is non-technical preparation (e.g., relaxing prior to performing) related to cognitive-affective factors and age?
- Is the level of technical and/or non-technical preparation related to MPA?

These questions are expected to assist in the understanding of relationships between preparation and: cognitions, enjoyment as a

performer, beliefs regarding performance standards, age, and M-PAS scores.

Performing history:

- Is performing experience (measured by length of time as a performer), related to anxiety as a soloist or group performer?
- Is the length of time as a performer related to MPA levels, as measured by the M-PAS scale?

These questions have implications for the student-performer who has generally had limited time to develop performance-experience. (Length of time as a performer was operationalised as the year of study at the conservatorium.)

Situational variables

- Does anxiety vary from solo to group performing?
- Does anxiety vary according to the type of performance-situation (i.e., level of audience scrutiny)?
- Does enjoyment vary from solo to group performing?
- Does enjoyment vary according to the type of performance-situation (i.e., level of audience scrutiny)?

These questions investigate the relationship between anxiety and enjoyment in relation to the degree of perceived audience scrutiny and judgement in a range of situations.

4. Compare MPA experience in males and females, and in classical and jazz participants.

As discussed in Chapter Two, anxiety is generally reported at a higher rate for females than males. Thus, Study One compares MPA by gender to investigate whether MPA is experienced differently for males and females. Almost all previous studies of MPA include only classical participants, jazz musicians having been largely overlooked in previous studies. The present

study compares MPA by music-genre (classical/jazz), to discover whether jazz musicians experience similar levels of MPA, and whether jazz musicians are influenced by the same factors, as classical musicians. In summary, after research questions have been investigated as they apply to the whole sample, where appropriate, further investigation will be conducted to compare for gender, and music genre.

5. **Develop a survey questionnaire to provide a description of MPA, identified by the types and levels of symptoms, against a background of demographic, personal, and musical experience information (i.e., the Performing-experience Questionnaire for Musicians: PeQM).**

It is essential to gather data regarding symptoms alongside demographic, personal, and musical experience information, so symptoms can be understood within the context of factors that may be influencing MPA (ultimately with implications for treatment). Otherwise, symptom data has limited use.

6. **Develop a measure of MPA (Musicians Performance Anxiety Scale: M-PAS) to provide a single measure of MPA for each participant in Study One, and to measure change in treatment-outcome in Study Two.**

In contrast to the PeQM scale, which provides MPA-symptom data plus contextual data, the M-PAS scale will provide only a measure of MPA. As discussed early in Chapter Two, there are still no established scales for the measurement of MPA, and a range of existing scales has been used or adapted for the various studies.

The advantage of creating the M-PAS for the purposes of the present study is that it emerged from the PeQM (described below), thus having a particular and specific relevance to the conservatorium sample of musicians that comprise the present study.

7. **Investigate personality variables, trait-anxiety, neuroticism, and extraversion in relation to MPA.**

The possible relationship between personality and MPA in the present study will be compared with relationships between personality variables and MPA reported in previous studies.

METHOD

Participants

At the beginning of the academic year, all students (40 classical and 100 jazz), including undergraduate and graduate students, and staff at Massey University's Conservatorium of Music were invited to take part in Study One. A New Zealand conservatorium of music is a tertiary education institution where students are taught musical performance to a professional standard. The Massey University Conservatorium of Music teaches from undergraduate degree to PhD level. At the time of Study One, all students were studying performance. Following successful audition and having met prior academic criteria, students may attend the conservatorium following secondary school, or as mature students (i.e., 25+ years). The invitation to all students and staff to participate in Study One would have potentially provided a comprehensive set of information from a broad group of musicians representing a wide range of performance experience. However, ethical requirements¹ when accessing a student population to gather data, meant that while there appeared to be considerable interest and enthusiasm for the project when it was first discussed, 14 days later when classes had begun and pressure was upon students, there were fewer volunteers than had originally been expected. Thirty-nine people consented to take part in Study One (37 Bachelor of Music students and two staff members), each completing three questionnaires. This represented an overall response rate of 28%.

Participant-numbers were reasonably similar for year of degree, gender, and for classical and jazz study (see Table 3.1 below). Ages ranged from 18-66 years. Thirty participants were New Zealand European, one was Maori, three were Asian, two were European, one British, and two were of unstated ethnicity.

¹ When participants were recruited for Study One, the Massey University Human Ethics Committee (MUHEC) required that potential participants should first be briefed about the research, and their anticipated involvement and requirements explained to them. The need for informed consent had to be explained and an information sheet about the project provided, and participants given time to consider the implications of granting consent. At the time of Study One, the MUHEC required a period of 14 days following initial contact by the researcher, before participants could be re-contacted to consent and complete the questionnaires.

Participants were studying: voice ($n = 10$); brass ($n = 8$); guitar ($n = 7$); piano ($n = 6$), strings ($n = 5$), and woodwind ($n = 2$). One participant did not state an instrument.

Table 3.1: *Participants in Study One by gender, music genre, year of study, and age group*

	MALE n = 19		FEMALE n = 20		Totals
	Classical	Jazz	Classical	Jazz	
YEAR					
Year 1	3	1	4	3	11
Year 2	4	5	3	3	15
Year 3	4	1	1	5	11
Staff	1	-	1	-	2
Totals	12	7	9	11	39
AGE GROUP					
Under 20 yrs	5	-	4	2	11
20-23 yrs	3	5	3	4	15
24-34 yrs	1	-	2	3	6
35-46 yrs	-	-	-	2	2
51-60 yrs	1	1	-	-	2
Over 60 yrs	2	-	-	-	2
Not stated	-	1	-	-	1
Totals	12	7	9	11	39

Measures

Standardised personality measures (detailed below) were selected to investigate whether the three personality variables associated with MPA in previous studies were associated with MPA in the present study. Personality information was also required so comparisons could be made between personality findings and any other factors emerging from the study that might impact on MPA.

The Performing-experience Questionnaire for Musicians (PeQM) (described below) was designed by the author to survey MPA symptoms against a background of demographic, personal, and musical experience data, as no such questionnaire was

available for the purposes of the present study. The M-PAS scale was developed from the PeQM scale after the PeQM-data had been analysed (see below).

In summary, the selection of measures was based on whether they investigated MPA as understood in the literature, thus allowing comparison with previous research, and on whether they would provide sufficient detail to assist in the explanation of factors underlying MPA in this sample. Such understanding would be required to inform the intervention study (Study Two). (See Appendix B.1 for test protocols used in Study One.) Details of specific measures used in Study One are provided below.

Personality measures

Three specific personality traits, believed to be associated with MPA, are discussed in the literature. These include trait-anxiety, neuroticism, and extraversion. Standardised personality tests were selected for use in the present study to measure these personality variables:

Trait-anxiety

The State-Trait Anxiety Inventory (STAI) (Form Y2)

The trait-anxiety scale (Form Y2) of the State-Trait Anxiety Inventory (STAI) (Spielberger, 1983) purports to establish the individual's relatively stable degree of anxiety-proneness, or trait-anxiety. Individuals are asked how they *generally* feel in response to 20 statements, (e.g., *I lack confidence*, *I feel inadequate*, or *I take disappointments so keenly that I can't put them out of my mind*), and respond by choosing one of four answers that best describes the frequency with which respondents believe the statements to be true (Almost never; Sometimes; Often; Almost always).

Justification for use

Spielberger's (1983) STAI trait-anxiety scale (Y2) provides a brief and appropriate measure of trait-anxiety for use in the present study. Questions included in the STAI (Form Y2) (see examples above) appear to reflect or relate to some concepts and perspectives that could have particular relevance for performing musicians. Such statements relate to issues of self-confidence and personal

adequacy that may impact on an individual's ability to perform. Similarly related to these statements are attitude and acceptance, concerning how participants might cope with disappointments as a performer.

Spielberger's scale was used in the present study to allow comparison with previous research findings concerning trait-anxiety, most studies having used the Spielberger scale. Thus, alternative trait-anxiety scales were not comprehensively evaluated for use in the present study. In respect of comparing current, with earlier versions of the STAI, Spielberger (1983) points out that "although Form Y has superior psychometric properties [to the earlier Form X], research based on Form X can be readily generalized to Form Y" (p. 23), and the two forms are essentially equivalent.

Together with its established reliability and validity, a further key factor in selecting the STAI trait-anxiety inventory was its relative brevity of 20 items compared with alternative tests considered for inclusion (see Table 3.2). Brevity was important in the context of requiring participants to complete two other questionnaires (the PeQM and the EPQ-R Short Scale). There do not appear to be any aspects of the test that would be inappropriate for the target population in this study. The STAI is "used extensively in both clinical and research settings" (Butcher, 1995, p. 355).

Spielberger (1983) and others (e.g., Craske & Craig, 1984; Hamann, 1982; Lehrer, Goldman, & Strommen, 1990) assert that individuals with the highest levels of trait-anxiety generally experience the highest levels of state-anxiety. It appeared appropriate, therefore, to assess trait-anxiety in Study One so that comparisons could be made between individuals' scores on the trait-anxiety scale and measures of state-anxiety, specifically MPA, and other factors associated with MPA. Also, in order to increase consistency between Study One and Study Two, the A-Trait was used in both studies.

Administration and scoring

The trait-anxiety scale is self-administered, and can be given to individuals or groups. Instructions on the form are simple and self-explanatory, and university students normally complete the questionnaire within six minutes. Respondents are required to read the 20 questions and circle their answer for each question. To

score the questionnaire, each item has a weighted score from one to four. Answers are allocated their weighted scores from a scoring key, and summed to provide a total score. Individual scores are compared with norm tables to provide appropriate scores for the individual's age, gender and demographic grouping. Administration and scoring do not require specialist training.

Normative data

Normative data for Form Y2, according to gender, are available for university students, high school students, working adults, and military recruits. The normative data for university students (the norms to be used in Study One), were collected from a sample of 855 South Florida introductory psychology students (324 males; 531 females) in 1980.

Psychometric properties

The STAI (Form Y) is the revised version of Form X, an earlier version of the STAI. The STAI-Y and STAI-X are highly correlated (between .96 and .98 for high school and university students), thus essentially identical (Spielberger, 1983), allowing comparisons across studies using either test. Test-retest reliability correlation coefficients for the STAI (Y2) range from .73 to .86 for university students, indicating adequate stability of the measure. Alpha coefficients for university students indicate strong internal consistency.

Construct validity was established by comparing mean scores of particular neuropsychiatric groups with 'normals.' The STAI's ability to discriminate within the neuropsychiatric groups, and between the neuropsychiatric and normal groups, provides support for the construct validity of the trait-anxiety scale. Concurrent validity is established in the moderate to high correlations between the STAI (Form X) and other trait-anxiety measures administered to university students and neuropsychiatric groups. Convergent and divergent validity were established by comparing correlations of the STAI (Form X) with other personality tests and with a test not designed to test personality (Spielberger, 1983).

Neuroticism and Extraversion

Four questionnaires were considered for use in the measurement of neuroticism and extraversion before the Eysenck Personality Questionnaire-Revised, Short

Scale (EPQ-R Short Scale) (Eysenck & Eysenck, 1996) was eventually selected. (See Table 3.2 below for a brief summary of the positive and negative aspects of the other three tests that were considered, but not chosen for use in Study One.)

Table 3.2: *Summary of positive and negative aspects of standardised personality tests considered, but not chosen for use in Study 1.*

Test	Author	Publication date	Positive aspects of test	Reason for non-selection
16PF	Cattell, R.	1949	“A leader among published personality tests, ... numerous studies having amply demonstrated [its] reliability and validity.” (Murphy & Davidshofer, 1998)	185 items. Too extensive and time-consuming.
NEO PI-R	Costa & McCrae	1992	Provides a comprehensive measure of the 5 domains of personality. Provides information on facets of the 5 domains. Demonstrated construct validity: moderate-strong correlation with most other major personality inventories. High retest reliability.	Too extensive for Study 1. Time-consuming to complete. Some redundancy on items measuring a single construct (Tinsley, 1994).
NEO - FFI	Costa & McCrae	1992		Less reliable and valid than the full NEO PI-R domain scales. Provides only global information.

Notes:

1. 16PF: Sixteen Personality Factor Questionnaire
2. NEO PI -R: NEO Personality Inventory-Revised (N=neuroticism; E=Extraversion; O=Openness)
3. NEO FFI: NEO Five Factor Inventory: The 5 domains of personality: neuroticism, extraversion, openness, agreeableness, conscientiousness.

The Eysenck Personality Questionnaire-Revised, Short Scale (EPQ-R Short Scale)

The Eysenck Personality Questionnaire-Revised (EPQ-R) Short Scale (Eysenck & Eysenck, 1996), selected for the present study, measures three major dimensions of personality, specifically extraversion, neuroticism, and psychoticism. The EPQ-R Short Scale also includes a lie scale. The EPQ-R Short Scale was derived from the EPQ-R scale, to be used where time was limited. The scale comprises 48 questions (12 from each of the extraversion, neuroticism, psychoticism, and lie scales), giving a maximum score of 12 for each scale. Respondents are required to answer either Yes or No to the questions.

Extraversion tends towards sociability, impulsivity and preference for change, and introversion tends towards a reserved disposition, seriousness, and preference for order. The neuroticism scale measures worry and emotionality or stability-instability in an individual. The individual with a high score on the psychoticism scale would typically be a solitary person who has difficulty fitting in with others, may lack empathy, and be unconcerned about upsetting other people (Eysenck & Eysenck, 1996). A lie scale is also included to measure dissimulation.

Justification for use

The Eysenck personality questionnaires have been used in previous MPA research (e.g., Steptoe, Malik & Pay, Pearson, Price, & Win, 1995; Zinn, McCain, & Zinn, 2000), thus enabling results of Study One to be compared with previous research. Like the trait-anxiety scale outlined above, questions in the neuroticism and extraversion scales of the EPQ-R Short Scale may reflect some perspectives or preferences that could have particular relevance for performing musicians. For example, the neuroticism scale includes questions such as: *Are you a worrier?*; *Would you call yourself tense or highly strung?*; or *Do you worry too long after an embarrassing experience?* For some performers, such questions may reflect issues of concern, and awareness of being evaluated. (There appears to be similarity between a few of the items on the neuroticism and trait-anxiety scales. However, the neuroticism scale includes questions regarding emotionality that are not included on the trait-anxiety scale (see above). Also, it was necessary to include

both scales so comparisons could be made between the present study and previous research.)

The extraversion scale also appeared to contain questions that may reflect some perspectives or preferences that could have particular relevance for performing musicians, for example: *Do you tend to keep in the background on social occasions? Can you easily let yourself go and enjoy yourself at a lively party? Are you mostly quiet when you are with other people?* For some performers, questions on the extraversion scale may reflect such issues as the preference or need to spend many hours alone practising, or the degree of willingness or ability of respondents to express themselves openly to other people. The psychoticism scale was part of the EPQ-R Short Scale, and it was not practicable to exclude the 12 questions relating to psychoticism. Thus it was expected that participants would answer all 48 questions, though it was anticipated that scores for psychoticism would not be relevant to the present study. The lie scale was included in the EPQ-R Short Scale to measure a tendency towards demand characteristics of the questionnaire.

Apart from relevance of the EPQ-R Short Scale to Study One as outlined above, the brevity of the scale was also an important factor in its eventual selection for the present study. There did not appear to be any aspects of the test (e.g., language and specific content) that would be inappropriate for the target population in this study, and administration and scoring procedures of the EPQ-R Short Scale did not require expertise outside the researcher's training.

Administration and scoring

The EPQ-R Short Scale is self-administered, and can be given to individuals or groups. Instructions on the form are simple and self-explanatory. Respondents are required to circle Yes or No in answer to the 48 questions. It was expected that university students would complete the questionnaire within six minutes. A scoring key is provided, and one point is allocated for each answer that matches the key. For each of the four sub-scales, points are summed to provide a score out of 12 points.

Normative data

Normative data is available for the EPQ-R Short Scale, according to gender and age groups. The normative data was collected from 902 (408 males; 494 females) students, teachers, and a variety of other willing subjects in 1985.

Psychometric properties

Test-retest reliabilities for the four factors, with one month between testing, range from .76 to .89 (Eysenck & Eysenck, 1996). Reliability and validity across cultures are established in Eysenck and Eysenck's (1996) factor comparison that compared the four factors of the EPQ-R Short Scale in cross-cultural studies, where values remained high.

The Performing-experience Questionnaire for Musicians (PeQM)

The Performing-experience Questionnaire for Musicians (PeQM) was developed by the author to gather information detailing MPA symptoms, in a context of demographic information, personal information and performing experience information. That is, the questionnaire included questions regarding specific symptoms of MPA, and questions that would provide a context for understanding symptoms and factors that might be associated with MPA. There was no standardised questionnaire available for this purpose and, as outlined earlier, there was no specific measure of MPA that had been used consistently in previous research.

The PeQM comprises 25 questions, organised into sections of related items as follows: broadly, questions 1-3 covered personal data (gender, ethnicity and age group), 4-13 musical background, including study-domain and performance experience, 14-25(a) experience of anxiety in association with different performance situations, and 25(b-d) experience of social fear. Cognitive factors and affect were investigated (15, 16, 23 & 24), as were symptoms before, during, and after performing (19), preparation for performances (17 & 22), type of performing experience (18 & 21), and characteristics of the performance itself (13, 14 & 20). Two open-ended questions on preparation and self-talk were included (17 & 23).

A semantic differential scale was used for information on how respondents felt about a particular topic. This method is appropriate for this purpose as it enables

strength of feeling to be identified (Backstrom & Hursch-Cesar, 1981). A 5-point scale was chosen for questions in the PeQM, as “[5-point] scales tend to be more easily understood by respondents than scoring-systems using more points” (Garland, 1990, p. 19).

Simple, everyday syntax and words were used in the PeQM to minimise the possibility of ambiguity or misunderstanding. Sentences were kept short to increase focus and understanding. Technical language was avoided except in specific, appropriate instances (e.g., the use of music grades and abbreviated music qualifications). Terms were defined with the question where there was a possibility of misinterpretation. Care was taken with language and question-wording to minimise any potential difficulties associated with cultural bias or disadvantage. Feedback on questionnaire-wording and respondent burden was obtained from six volunteer musicians who were not involved in any part of the exploratory or intervention study, but who had similar musical backgrounds to participants in the present study. Based on feedback, the wording was modified in several questions.

A few questions ask respondents to recall information from several years ago. Because recall may be difficult in some instances, fixed choice questions included answers that could fall into bands, rather than requiring specific details. Care was taken not to base any question on assumptions. However, in the event of having overlooked some critical issue for any participant, space was provided at the end of the questionnaire for respondents to offer any other information they wished to contribute.

The PeQM questionnaire was refined during the analysis of Study One data, to develop a new scale that would provide a single measure of MPA for each participant in Study One. This new measurement tool would also be used in Study Two to measure treatment outcome. The process for developing the new MPA scale (the *Musicians Performance Anxiety Scale*: M-PAS) from the PeQM questionnaire, is described below.

Development of the Musicians Performance Anxiety Scale (M-PAS)

As stated earlier, the PeQM questionnaire developed for the present study, comprised questions concerning symptoms of MPA, questions concerning

demographic and personal information, and questions concerning musical experience. Thus, the PeQM did not gather data on MPA exclusively. During the analysis of data from the PeQM, the measure was refined in order to develop a second scale that could be used to provide a single, overall measure of MPA for each individual. The new scale, designed to measure MPA exclusively, is henceforth referred to as the *Musicians Performance Anxiety Scale* (M-PAS). This single measure of MPA was required for each participant in Study One so levels of MPA could be investigated in relation to factors associated with MPA as they were reported by participants in the original PeQM. The new measure of MPA was also required for Study Two, to measure any change in MPA following the intervention. Questions on the M-PAS were answered on a five-point scale ranging from 'A little' to 'A lot.' The method of developing the M-PAS scale from the PeQM, is described below.

The first step in developing the M-PAS scale was to identify and classify questions in the PeQM that had a theoretical relationship with MPA. To begin, specific questions concerning the four components of MPA (physiological, cognitive, affective, and behavioural) were identified. Irrelevant questions were excluded, for example, demographic and personal questions: that is, information such as ethnicity, age, or highest musical qualification does not indicate MPA.

Next, questions within each of the four groups of components were examined to find which questions were highly correlated, indicating they were essentially measuring the same aspect of anxiety. Where questions within the same group of components were highly correlated, the questions with low or high means at the extreme ends of the scale (i.e., suggesting a floor or ceiling effect) were discarded, as were questions with small standard deviations, as their information-content did not allow discrimination among individuals. However, if a question were a particularly strong marker of MPA, it was retained. From any remaining questions concerning symptoms that were highly correlated, some were correlated at three times (i.e., before, during, and after performing). To select the question from each correlated group, the choice was made on the basis that questions ultimately chosen could be grouped predominantly as either *before* or *during* performing, rather than having some questions referring to symptoms before performing, and some to during performing. This allowed for consistency among

questions, with most questions referring to the presence of the symptom *during* performing. This consistency was expected to assist respondents by maintaining as much uniformity as possible in the questions. In making this decision, face validity was also considered.

From the set of questions that had been selected to this point, internal consistency was achieved by maximising Cronbach's alpha. The resulting scale of 26 questions was validated against the STAI trait-anxiety scale. A correlation (0.743, $p < .001$) was found between trait-anxiety and the M-PAS scale. This was expected, as the M-PAS is a measure of state-anxiety.

As a result of this process, a simple sum of responses to these 26 questions gave a total MPA score for each participant. Summing individual questions is an appropriate approach for scoring a scale (Gulliksen, 1950). The subset of 26 questions extracted from the PeQM comprised the new M-PAS scale.

Included in the 26 questions of the M-PAS were questions relating to: physiological factors, cognitive factors, and affective factors. Questions on personality variables were not included because they do not directly indicate MPA, although they may be correlated. Likewise, questions on aspects of performing experience were not included as they would not necessarily be directly indicative of MPA levels, although again, they may be correlated.

The M-PAS questionnaire has shown internal consistency with a reliability coefficient (Cronbach's alpha) of .904. The M-PAS scale has the ability to discriminate among varying levels of MPA, including high and low performance anxiety. The M-PAS scale is shown in Table 3.3 below.

Table 3.3: *Musicians Performance Anxiety Scale (M-PAS)*

	Alpha if item removed
1. Overall, how anxious do you usually feel while practising in a group?	.904
2. Overall, how anxious do you usually feel in a group-lesson with your teacher?	.903
3. Overall, how anxious do you usually feel in a group in front of your musician-peers?	.903
4. Overall, how anxious do you usually feel playing in a group in front of <i>non-musician</i> friends?	.900
5. Overall, how anxious do you usually feel playing in a group in anything where the performance is NOT formally judged?	.904
6. Overall, how anxious do you usually feel in a lesson with only you and your teacher?	.901
7. Overall, how anxious do you usually feel playing solo in front of your musician-peers?	.902
8. Overall, how anxious do you usually feel playing solo in front of non-musician friends?	.902
9. Overall, how anxious do you usually feel playing solo in any situation that is NOT formally judged?	.899
10. Overall, how anxious do you usually feel playing any solo that IS formally judged?	.902
11. Do you have trouble remembering <i>during</i> the performance?	.901
12. Do you have trouble concentrating <i>during</i> the performance?	.904
13. Do you feel detached from yourself or from the present <i>during</i> the performance?	.902
14. Do you feel panicky <i>during</i> the performance?	.896
15. Do you fear making mistakes <i>during</i> the performance	.898
16. Are you aware of people evaluating you <i>during</i> the performance?	.901
17. Do you sweat <i>during</i> a performance?	.898
18. Do you have shaky hands, voice, legs or diaphragm <i>during</i> a performance?	.898
19. Do you have a thumping or racing heart <i>during</i> a performance?	.900
20. Do you have any noticeable changes in breathing <i>during</i> a performance?	.899
21. Do you feel tight in the chest <i>during</i> a performance?	.901
22. Do you get a dry mouth or have difficulty swallowing <i>during</i> the performance?	.900
23. Do you feel sick in the stomach <i>before</i> a performance?	.902
24. Do you feel the need to go to the toilet more than usual <i>before</i> performance?	.901
25. Do you have trouble sleeping <i>before</i> a performance?.	.900
26. Do you get tense muscles (e.g. shoulders or back) <i>before</i> a performance?	.900
Cronbach's Alpha	.904

Validity of the M-PAS

Concurrent validity: Concurrent validity of the M-PAS scale is supported by a statistically significant, strong correlation with scores on Spielberger's (1983) trait-anxiety scale ($r = .743$, $p = .001$). This correlation is consistent with Spielberger's (1983) reported correlations between state-anxiety and trait-anxiety for working adults (males 0.75, females, 0.70) and for university students (males 0.65, females 0.59). As might be expected, M-PAS scores are also correlated with EPQ-R Short Scale neuroticism scores ($r = .615$, $p = .001$). *Divergent validity:* The M-PAS is not significantly correlated with EPQ-R Short Scale extraversion scores ($r = -.103$, ns) or psychoticism scores ($r = .025$, ns). *Content validity* is supported by the relationship of question-content to anxiety theory, and by agreement among psychologists. Questions represented symptoms and indicators of MPA that are identified in the literature. *Face validity* is supported by agreement among performing musician-associates of the researcher. The validity of the M-PAS is supported by the concurrent, divergent, content and face validity, as described above. Together, these support construct validity of the scale: "...construct validation requires the gradual accumulation of information from a variety of sources" (Anastasi, 1982, p. 144).

Distribution of scores

The distribution of MPA scores across the sample, obtained from the M-PAS, can be seen in Figure 3.1 below. The scale has a possible range from 26 to 130. The minimum and maximum scores from the sample were 31 and 108 respectively. The mid-point of the range of scores from the sample was 69.5; the mean was 66.1, indicating a possible slight negative skew. Figure 3.1 shows a reasonably normal distribution of scores in the sample. This distribution reflects that questions on the M-PAS scale were selected because they did not exhibit floor or ceiling effects. The normal distribution of the M-PAS scale means that it is more likely the scale can be used directly in statistical analysis.

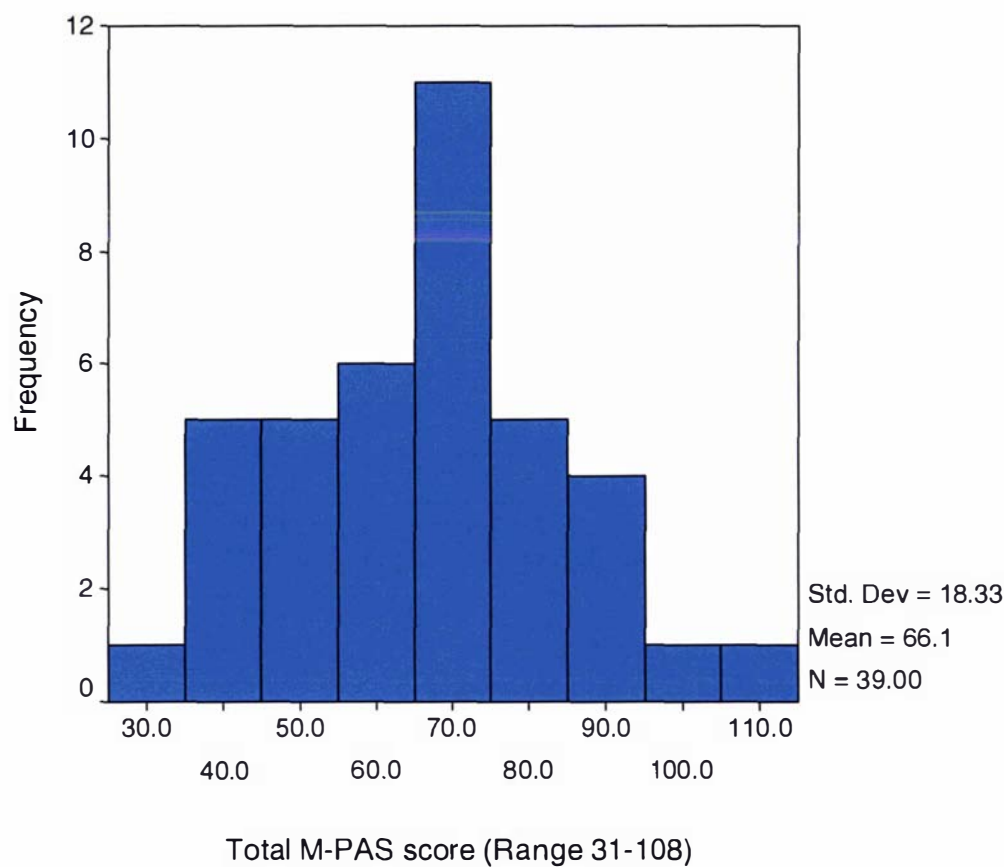


Figure 3.1: Distribution for individual MPA scores (using M-PAS) in Study One. (Possible range of scores: 26-130)

In summary, the M-PAS scale has the ability to discriminate among levels of MPA in participants. The M-PAS has high validity and high internal consistency. Even though trait-anxiety and M-PAS scores are highly correlated, trait-anxiety may only predispose some individuals to MPA, thus the trait-anxiety scale cannot be substituted for the M-PAS scale. Further, the M-PAS scale identifies specific aspects of anxiety that will have implications for treatment.

The M-PAS scale appears an appropriate and useful measure to identify MPA in Study One, and to use in the intervention study (Study Two) as a measure of change in MPA.

Procedure

With the cooperation of conservatorium staff, the first contact with students was made at one of the weekly conservatorium meetings, routinely attended by all students. Meeting in this setting meant that, potentially, all students and staff would know about the study and be given to the opportunity to take part. The researcher outlined the purpose of the study, explained what participants would be required to do, answered questions, and invited students and staff to take part. Information sheets (Appendix B.2) were made available to all students and staff. At this meeting, students and staff were advised of the times and places where participants would be able to complete the questionnaires.

Questionnaires were completed two weeks after initial contact with the target group. Although official access to participants was made available through the conservatorium staff, not all consenting participants were available at the allocated times. The researcher thus made several follow-up visits to the conservatorium to gather data from participants. Completion of the questionnaires took most participants around 15 minutes, although there was no time restriction.

Ethical considerations

Approval for Study One was given by the Massey University Human Ethics Committee (Protocol 01/127). Ethical considerations included issues of consent, confidentiality and anonymity, and storage of data. Management of these issues is outlined below.

Informed consent

Two weeks prior to completing questionnaires, participants were given an information sheet detailing the purpose of the study, expectations of participants, and their right to withdraw from the study at any time. The information sheet also provided details concerning anonymity and confidentiality (see below). Contact details for the researcher were also provided for any enquiries. Completing the questionnaires implied consent.

Confidentiality and anonymity

Participants were assured that they would remain anonymous in any write-ups regarding the study, and that questionnaires completed by them during the study would be kept secure until destroyed, according to Massey University requirements.

Treatment of data

Participants completed questionnaires anonymously. Completed forms were then given a code number, and results from questionnaire-data were reported on a group basis. Participants were invited to collect a summary of results, based on group data, after the study had been completed. Completed questionnaires will be stored securely until their destruction according to Massey University requirements.

Potential harm to participants

Potential harm to participants was not anticipated as a result of completing the questionnaires. However, participants were provided with details so they could contact the researcher or supervisor if necessary.

Overview of data analysis

The overall aim of Study One was to investigate prevalence rates of MPA symptoms in the sample, and to investigate relationships of MPA with possible influential factors. Data analysis in Study One was exploratory. Descriptive and inferential analyses were conducted. All analysis was based on 39 participants unless otherwise stated. Data were analysed using the SPSS 10.1 statistical package for Windows (SPSS Inc, 2001). Statistical significance was tested where possible.

Descriptive statistics, including means, standard deviations, and ranges were used to summarise the quantitative measures of demographic, personal, and MPA data. Inferential statistics were then used to compare levels of MPA symptoms, and to investigate relationships between symptoms and influential factors. Tests were conducted for the sample as a whole, and comparisons made for gender and music genre.

Chi-square analysis was used for the analysis of categorical data. Pearson's product-moment correlations were conducted to investigate relationships between MPA and influential factors.

Repeated measures analysis of variance (ANOVA) tests were used to investigate differences between MPA symptom levels, and between groups over time. Where Levene's test for equality of means indicated that the homogeneity of variances assumption was violated, the alternative statistic for unequal variances was used. Comparisons for gender, and music genre were conducted using *t*-tests (2-tailed), and effect size calculated using the (Hair, Anderson, Tatham, & Black, 1998)

$$\text{formula: } d = \frac{M_1 - M_2}{\text{mean}.SD}$$

In some instances, the risk of Type I errors was possible. Bonferroni post-hoc tests were used to protect against this error when investigating differences within groups (i.e. across time). Tukey's Honestly Significant Difference test (HSD) was used to protect against Type I error when investigating differences between groups. Tukey's HSD is a more conservative test (Coolican, 1999), but this comes at the cost of reduced power. Thus some differences between groups may remain undetected.

Repeated measures ANOVA tests, with post-hoc tests, appeared a more suitable alternative than conducting multivariate analysis of variance (MANOVA) tests across time. Although MANOVA tests would have allowed a number of correlated variables to have been combined to create new summary dependent variables, the range of variables under investigation in Study One were better understood by being analysed, and compared separately. That is, even where variables may have been correlated, they were conceptually quite separate aspects of MPA; thus each variable contributed separately to an understanding of the nature and influences of MPA. MANOVA tests require a greater number of testing-assumptions to be met than are required for ANOVA tests, and although MANOVA tests control for Type 1 error, ANOVA tests with post-hoc tests also control for Type 1 error.

STUDY ONE:

RESULTS AND DISCUSSION

An analysis of results for the prevalence of symptoms, according to the four components, is presented first. Consistent with the literature reviewed in Chapter Two, cognitive and affective symptoms of MPA are discussed together, referred to as cognitive-affective symptoms in the prevalence section of this chapter. The prevalence section is followed by an analysis of cognitive and affective factors that can also act independently, and influence symptoms. Thirdly, an analysis of factors that may influence MPA (personality variables, experience, and situational variables) is presented according to the MPA Relationship Model (Figure 2.5), developed from the literature and presented at the end of Chapter Two.

There is considerable overlap among various MPA components and aspects of the influential factors, and at times results did not clearly fit into one particular category. Therefore, results should be considered together, rather than as discrete subtopics. Previous research generally reports differences in anxiety-experience for males and females. To date research has focussed almost exclusively on classical musicians, with little known about jazz musicians. Therefore, for each section, results are generally first presented for the sample overall and, then for gender and music genre (i.e., classical/jazz). Data are also analysed to investigate whether age might influence MPA.

SECTION 1: PERFORMANCE ANXIETY SYMPTOMS

Prevalence

Analysis of results for the prevalence of symptoms investigates the following two questions:

1. Do MPA symptoms vary relative to the time of the performance (i.e., before, during, after)?

2. To what extent are symptoms of MPA (physiological, cognitive, affective, behavioural) experienced in this sample?

Table 4.1 below shows details of mean scores, standard deviations, and percentages of participants reporting *marked*¹ symptoms, for all physiological, cognitive-affective, and behavioural symptoms before, during, and after performing. Although the range of possible scores for symptoms is restricted to a six-point scale (0-5), a comparison of scores and standard deviations among symptoms nevertheless reveals that different levels of symptomology are identifiable, depending on the time of measurement.

Physiological symptoms

There was little difference overall in mean symptomology scores from *before* to *during* performing. However, symptoms reduced considerably *after* performing. Of the eleven physiological symptoms, mean scores for five symptoms increased from before to during performing, four decreased, one remained the same, and one (sleeping) did not apply. Bonferroni post-hoc tests revealed a significant difference from before to during performing for only one physiological symptom: there was a reduction in the need for the toilet (mean difference = 1.189, $p < .001$, $d = 1.09$).

For the sample as a whole, the most *marked* physiological symptoms *before* performing were: increased heart-rate, reported by 37% of participants; need for the toilet, 28%; trouble sleeping, 28%; nausea, 28%; tense muscles, 26%; and shaking, 22%. *During* the performance, the most marked symptoms were: increased heart-rate, 38%; shaking, 28%; changes in breathing, 26%; and sweating, 23%; and *after* performing, marked heart-rate was reported by 29% of participants, followed by shaking reported by 19%.

¹ Marked symptoms are those that were rated 4 or 5 on the 0 - 5 scale. (0 = never - 5 = extreme)

Table 4.1: MPA symptoms (physiological, cognitive-affective, behavioural): Mean, SD, and percentage of participants reporting marked¹ symptoms before, during, and after performing.

Symp Type ¹	Symptom	Before				During				After				F
		N	Mean	SD	Marked ² Symp	N	Mean	SD	Marked ² symp	N	Mean	SD	Marked ² symp	
C-A	Fear mistakes	39	3.77	1.27	64.10	39	3.41	1.39	46.15	37	1.57	1.19	10.81	41.07**
C-A	Evaluation awareness	37	3.54	1.61	59.46	39	3.41	1.5	51.28	37	2.46	1.79	29.73	9.60**
Phys	Heart change	38	2.89	1.27	36.84	39	2.87	1.28	38.46	38	2.32	1.34	28.95	4.23*
C-A	Feeling panicky	39	2.67	1.44	33.33	39	2.49	1.55	28.20	38	1.32	.93	5.26	15.37**
C-A	Feeling detached	36	2.31	1.43	30.55	39	2.85	1.60	43.59	34	1.44	.96	5.88	13.91**
Phys	Toilet	39	2.54	1.35	28.20	39	1.41	.94	7.69	37	1.30	.70	2.70	16.16**
Phys	Trouble sleeping	39	2.38	1.51	28.20	N/A				38	1.61	1.75	10.53	t(37) = 2.92**
C-A	Trouble remembering	39	2.36	1.46	28.20	39	2.26	1.41	20.51	37	1.27	.69	2.70	16.22**
Phys	Nausea	39	2.26	1.50	28.20	39	1.9	1.29	15.38	36	1.28	.70	2.78	7.86**
Phys	Tense muscles	39	2.38	1.51	25.64	36	2.00	1.39	19.44	35	1.60	.95	5.71	4.90*
C-A	Feeling edgy/grumpy	38	2.11	1.31	23.68	37	1.38	.79	5.40	37	1.59	1.12	10.81	7.03**
Beh	Smoking	9	2.11	1.54	22.22	N/A				9	1.89	1.36	22.22	t(8) = 0.80 ns
Phys	Shaking	37	2.27	1.30	21.62	39	2.62	1.39	28.20	36	2.28	1.32	19.44	1.56 ns
C-A	Trouble concentrating	37	2.00	.27	16.22	39	2.00	1.39	20.52	36	1.50	1.06	11.11	3.22 (.053) ns
Phys	Sweating	37	1.89	1.20	16.22	39	2.26	1.40	23.08	36	1.58	.84	2.78	5.43**
C-A	Angry/impatient	38	2.16	1.35	15.79	37	1.38	.79	2.70	37	1.27	.87	5.4	7.95**
Phys	Breathing- change	38	2.24	1.22	10.53	39	2.54	1.37	25.64	34	1.68	1.09	8.82	8.07**
Phys	Dry mouth	38	1.84	1.17	10.53	39	2.03	1.31	17.95	37	1.41	.96	5.4	4.50*
Phys	Tight chest	38	1.50	0.83	2.63	39	1.62	1.14	7.70	37	1.19	.52	0.00	4.88*
Phys	Trouble seeing	39	1.18	.51	0.00	39	1.18	.60	2.56	37	1.03	.16	0.00	1.36 (.053) ns
Beh	Substance-use	39	1.51	1.02	7.69	N/A				37	1.65	1.21	10.81	t(36) = 0.35 ns

Notes:

1. C-A: cognitive-affective symptom; Phys: physiological symptom; Beh: behavioural symptom
2. Percentage of participants reporting symptom scores of 4-5 on Question 19a-u, of the PeQM. Scores for each item range 0- 5 (never to extreme).
3. ** < .01; * < .05

In summary, levels of physiological symptoms were similar for *before* and *during* performing, with considerable reduction for most symptoms after performing. Heart-rate appears to be the most prominent indicator of MPA before, during, and after performing. The percentages of marked symptoms indicate that high levels of physiological symptoms were widespread in this sample.

Total mean score for all physiological symptoms

Following analysis of scores for the individual physiological symptoms, each participant was allocated a total score for 10 of the 11 physiological symptoms for each of the three times (before, during, and after performing). The eleventh symptom, sleeping difficulty, was excluded from the total because there was no *during*-score for this variable. This produced total mean scores for physiological symptoms for the sample (see Table 4.2).

A one-way repeated measures analysis of variance test (ANOVA) was conducted to compare total mean scores for physiological symptoms before, during, and after performing. There was a significant effect for time: Wilks' Lambda = .558, [F (2,28) = 11.09, $p < .001$, multivariate $\eta^2 = .442$]. Bonferroni post-hoc tests revealed no significant difference in total mean physiological scores from *before* to *during* performing, but a significant reduction from *during* to *after* (Mean difference = 4.833, $p < .005$, $d = .674$).

Cognitive-affective symptoms

Similar to physiological symptoms, there was little difference in mean symptomology from *before* to *during* performing, and a considerable reduction after performing. Of the eight cognitive-affective symptoms, six reduced from before to during the performance, one remained the same, and one increased. However, Bonferroni post-hoc tests revealed a significant reduction for only two symptoms: feeling edgy/grumpy (Mean difference = 0.703, $p < .005$, $d = .665$); and feeling angry/impatient (Mean difference = 0.757, $p < .005$, $d = 0.704$). There was significant *increase* for feeling detached (Mean difference = -.647, $p < .05$, $d = .429$).

Overall, higher percentages of the sample reported *marked* cognitive-affective symptoms than reported marked physiological symptoms. For the sample as a whole, the most marked cognitive-affective symptoms *before* performing were: fear

of mistakes (64% of participants), evaluation awareness (59%), feeling panicky (33%), feeling detached (31%), trouble remembering (28%), and feeling edgy (24%). *During* the performance, the most marked symptoms were: evaluation awareness (51%), fear of mistakes (46%), feeling detached (44%), feeling panicky (28%), and trouble remembering (21%); and *after* the performance, evaluation awareness (30%).

In summary, levels of cognitive-affective symptoms were similar for *before* and *during* performing, with considerable reduction for most symptoms after performing. Prominent among the marked symptoms were evaluation awareness, which was experienced by a large proportion of the sample before, during, and after performing, and fear of mistakes which was experienced before and during the performance. Scores demonstrate that prior cognitive-affective arousal is generally maintained into the performance for this group.

Total mean score for all cognitive-affective symptoms

Following analysis of scores for the individual cognitive-affective symptoms, each participant was allocated a total score for the eight cognitive-affective symptoms, to produce one total cognitive-affective score for each of the three times (before, during, and after performing). Again, this produced a total mean cognitive-affective score for the sample (see Table 4.2).

A one-way repeated measures ANOVA test was conducted to compare total mean scores for cognitive-affective symptoms before, during, and after performing. There was a significant effect for time: Wilks' Lambda = .314, $[F(2,32) = 34.879, p < .001, \text{multivariate } \eta^2 = .686]$. Bonferroni post-hoc tests revealed no significant difference in the total mean score for cognitive-affective symptoms from before to during performing, but a significant difference from during to after performing (Mean difference = 7.06, $p < .017, d = 1.093$).

Behavioural symptoms

The two behavioural symptoms (substance-use and smoking) were investigated before and after performing. Analysis did not include any data for behavioural symptoms *during* the performance. Overall, mean scores for substance-use increased marginally from before to after performing, and mean scores for smoking

remained the same. Marked substance-use (i.e., alcohol/medication) was reported by 7.69% of the sample before performing, and by 10.81% of the sample after performing. Two (22%) of the nine smokers reported marked symptoms before and after performing.

In summary, the increase in smoking before performing, and the increase in substance-use (e.g., alcohol) after performing, may be consistent with a reduction in MPA from before to after performing. This is consistent with the reduction in physiological and cognitive-affective symptoms also, from before to after performing.

Total mean score for behavioural symptoms

Each participant was allocated a total score for the two behavioural symptoms (substance-use and smoking), to produce a total mean score for *before* performing, and a total for *after* performing. There was no total score for the behavioural symptoms *during* the performance. (See Table 4.2 for total mean behavioural scores.)

A paired samples t-test for substance-use before and after performing revealed no significant difference for time [$t(36) = -.947, p = .350, ns$]. Statistical analysis was not appropriate for increased smoking behaviour, given the small number of smokers (9) in the sample overall.

Overall, questions for behavioural symptoms were either not applicable to the whole sample, or not answered by most participants. Analysis of total scores for this variable are therefore brief and not necessarily representative of the sample as a whole.

A comparison of total mean scores for physiological, cognitive-affective, and behavioural symptoms

Total scores for each type of symptom were influenced by the number of items within each symptom-group [i.e., 10 physiological items ('sleeping difficulty' was excluded because there was no *during*-score for this variable); 8 cognitive-affective items; and 2 behavioural items]. Therefore, to enable comparisons to be made

among the symptom-groups, the total score is also stated as a percentage of the possible maximum score for that symptom-group (see Table 4.2 below).

Total scores for physiological and cognitive-affective symptoms are now compared. Behavioural symptoms are not compared with physiological and cognitive-affective symptoms, as there was insufficient behavioural data representative of the sample as a whole.

A comparison of total mean symptom scores for classical and jazz participants

Total mean scores for physiological, and cognitive-affective symptoms were compared for classical and jazz groups (see Table 4.2). Again, reports of behavioural symptoms were inadequate for further analysis, and thus are not included in a comparison of classical and jazz participants. Mixed between-within subjects ANOVA tests were conducted: *between* classical and jazz, and *within* before, during, and after performing. There was a significant difference between classical and jazz participants for physiological symptoms [$F(1, 28) = 4.736, p < .05$, partial $\eta^2 = .145$], with classical participants consistently reporting higher mean scores before, during, and after performing. There were no significant differences between classical and jazz participants for cognitive-affective symptoms. There was no significant interaction effect between time and music genre.

Table 4.2 does not show separate scores for males and females, as mixed between-within subjects ANOVA tests across the three time periods did not reveal any significant differences for gender, although females had a higher variance in the total score. This variance reflected females tending to be represented more often at the extreme ends of the scales across most individual symptoms.

Table 4.2: Mean and SD scores for total physiological, cognitive-affective, and behavioural symptoms before, during, and after performing.

Symptom-type	Before performance		During performance		After performance	
	Mean	SD	Mean	SD	Mean	SD
Physiological						
Classical	22.44	8.92	22.11	8.47	17.78	6.12
Jazz	18.83	7.77	16.75	7.82	11.17	1.70
Total	21	8.53	19.97	8.51	15.13	5.82
Total score as percentage of possible maximum score	42.00		39.94		30.26	
Cognitive-affective						
Classical	20.63	8.26	20.42	7.44	12.73	7.06
Jazz	21.00	6.49	18.26	5.77	12.00	5.00
Total	20.79	7.42	19.50	6.75	12.41	6.16
Total score as percentage of possible maximum score	51.97		48.75		31.02	
Behavioural						
Classical	3.50	1.91	N/A		3.25	2.50
Jazz	3.80	2.48			4.60	3.57
Total	3.66	2.12			4.00	3.04
Total score as percentage of possible maximum score	36.60				40.00	

Notes:

1. Scores for the separate items in each of the three symptom-groups (physiological, cognitive-affective, behavioural) were combined to provide a single score for each participant for each symptom-group. ('Sleeping difficulty' was excluded from the physiological group because there was no score for *during* the performance.)
2. Each item was scored from 0-5 to indicate from never to extreme levels of the symptom. Thus, there was the potential for mean scores to be higher where there were greater numbers of items per symptom group. Thus, for comparative purposes, the total score is also stated as a percentage of the possible maximum score for the symptom-group.
3. Possible ranges: Physiological: 0 - 50; Cognitive-affective 0 - 40; Behavioural: 0 - 10.
4. Behavioural symptoms were not applicable for *during* the performance.

Summary of symptoms

Overall, neither physiological nor cognitive-affective symptoms reduced significantly from before to during the performance. Cognitive-affective symptoms reached a comparatively higher level than physiological symptoms. The sustained level of MPA symptoms during the performance itself, and the comparatively higher level of cognitive-affective, than physiological symptoms, have implications for the intervention study.

M-PAS scores

As described in Chapter Three, a post-hoc refinement of the PeQM scale produced the Musicians Performance Anxiety Scale (M-PAS), which provides a single MPA score for each participant. MPA scores in this chapter refer to scores on the M-PAS scale. Mean scores and standard deviations for the sample are shown in Table 4.3 below. There were no significant differences between males and females, or between classical and jazz participants.

Table 4.3: *M-PAS scores for participants in Study One*

	n	M-PAS score	
		Mean	SD
Total sample	39	66.06	18.33
Males	19	64.96	18.52
Females	20	67.10	18.57
Classical	21	69.75	18.00
Jazz	18	61.75	18.25

Note: Possible range of M-PAS scores: 26-130

Cognitive and affective factors

Results for cognitive and affective aspects of performance are further reported in this section, as PeQM questions pertaining to cognitive and affective factors provided information apart from the presence of symptoms (which are already reported in the previous *prevalence* section).

Although particular cognitive and affective aspects of performance may manifest as symptoms of MPA, these factors can also act independently, thus playing an influential role on subsequent levels of MPA. Reported below are results concerning the roles of cognitions and attention, beliefs, perceptions of talent and confidence, motivation, and affect associated with performing.

Cognitive factors

Cognitions and attention

In this section, results are analysed to investigate the following two questions:

1. What is the nature of cognitions (i.e., self-statements) before, during, and after performing?
2. During the performance, is attention directed toward self-statements regarding the process of performing, or toward the outcome of the performance?

The following section on cognitions and attention refers specifically to the self-statements participants made to themselves in association with their performing. Results were examined as they applied to the time periods, before, during, and after performing, for different types of performances (i.e., solo or group) and in different types of performance situations (i.e., during practice, in lessons, performing for friends, for peers, in non-judged situations, and performing in judged situations).

To investigate cognitions in relation to MPA, participants provided examples of statements they made to themselves before, during, and after performing. Participants provided a total of 120 typical self-statements. For the purposes of analysis, these statements were categorised as positive, negative, or neutral, and

an inter-rater reliability check was carried out to confirm that both raters agreed with the particular categorisation of each statement. Kazdin (2003b) states that Pearson product-moment correlations of over 0.80 are acceptable, and this criterion was met.

Positive statements were those likely to have a positive effect on the performer or the performance (i.e., statements that could in some way facilitate performance-potential, rather than undermine it). Examples of positive self-statements were:

Come on; Reap the rewards; groundwork has been done; It'll be fine; Just go for it; I just want to get up there and play; I'm going to get this; That felt good; That was great; Sweet; I learnt from that performance.

Negative statements were those likely to have a negative effect on the performer or the performance (i.e., any statements that may serve to reduce confidence, or impair the performance). Examples of negative statements were:

Can't wait to get it over with; This is going to be very bad; I shouldn't be doing this; I'm not sure about the memory; I didn't get much sleep last night so I don't know how I will play; Very untidy; Concentration lacking; Oh my God!; I'm glad that's over; That wasn't good; I can't do it well; Shit!; This is bad!; I'm very embarrassed; I've never mucked that up before; That was a stupid mistake; I know I'm going to muck that bit up; I had everything down and I panicked; I played very badly; I'm glad that's over; The nerves really affected me badly; That went very badly; Could have been much better; Could perhaps have been even worse!

Neutral statements were those unlikely to have any effect on the performer or performance. Examples included:

I wonder what they'll think of it; Oh, that will do; How did it go?

Some statements were initially difficult to categorise, for example, *Oh well, maybe I'll fluke it*. This type of statement may sound casual, but it suggests an

underlying acknowledgement that preparation is incomplete. Likewise, *Don't forget anything*, may sound positive to the performer, but the possibility of memory failure is implied, or *Please God, let it be all right* suggests reliance on luck, rather than there being a degree of confidence. Other self-statements contained mixed suggestions of self-doubt and positive focus, for example, *I hope I can maintain focus - stay relaxed*. The raters identified all such statements as negative, because a lack of confidence is implied in all of these examples.

Where *two* statements were provided for one time period, they were summarised as 'positive' if both statements were positive, or if one statement were positive and one neutral; statements were summarised as 'neutral' if both statements were neutral; statements were summarised as 'negative' if any negative statement was included, as negative statements are potentially powerful in producing anxiety.

Negative statements focussed on potential, perceived, or actual playing-mistakes, and on negative emotions and cognitions. Positive statements tended to be general statements of self-reassurance. Most participants (58%) reported some negative statements before performing; 41% reported some negative statements during the performance itself, and 58% reported negative statements after they had performed. Fewer participants reported exclusively positive self-statements before performing (33.3%), and still fewer reported positive statements after performing (30.3%); during the performance, positive statements were reported by 45% of participants. The remaining statements were neutral. Ten of the 39 participants made only negative statements, regardless of time, and five participants made only positive statements. Statements for the other 24 participants were mixed. The types of self-statements were compared before, during, and after performing: there was no significant difference in the distribution of positive and negative self-statements for time ($\chi^2 = 2.23$, $df = 4$, ns).

Overall, statements tended to be broad or general (see examples above), and attention was focussed on the self (usually negatively), rather than on the process of performing. That is, most comments were about the performer him/herself or about the outcome, rather than about the requirements of performing the music. Of the positive statements, only two referred to the specific requirements of performing: a classical pianist instructed herself to 'breathe,' and a jazz vocalist instructed herself to talk to the audience.

The presence of negative self-statements before performing was significantly correlated with MPA, as measured by the M-PAS scale ($r = .500, p < .002$). There was no significant relationship between the presence of negative self-statements and M-PAS scores during or after performing. There were no significant differences for gender or music genre.

Beliefs

In this section, results are analysed to investigate the following two questions:

1. What beliefs do participants hold about the effect of anxiety on performance, and are these beliefs related to M-PAS scores?
2. Are beliefs about the presence of anxiety during performance related to perceptions regarding performance-standards, to the perceived importance of the performance-situation, and to concentration during the performance?

The mean score¹ for believing that anxiety has a negative effect on performance ($M = 3.31, SD = 1.09$) was higher than for the belief that anxiety has a positive effect on performance ($M = 2.57, SD = 1.06$). Perceptions of previous performance standards were moderate ($M = 3.11, SD = 0.85$), as were perceptions of the level of importance of situations where participants performed at their very best ($M = 3.12, SD = 1.15$). Difficulty concentrating during important performances was indicated by a low mean score for this item ($M = 2.31, SD = 1.04$).

The belief that anxiety can have a positive effect on a performance, and the belief that it can have a negative effect on performance is not incompatible. However, there was a negative correlation between believing that anxiety had a negative effect on performance, and that it had positive effect on performance, ($r = -.587, p = .001$).

The belief that anxiety has negative effects on performance was positively related to the M-PAS score ($r = .344, p = .040$). Beliefs about the positive effects of anxiety on performance, and beliefs about the importance of the situation for best performances were not significantly related to the M-PAS. The perception of performance standards was negatively related to the M-PAS score ($r = -.395, p = .017$).

¹ Scale for *Beliefs, Perceptions of talent and confidence, Motivation*: 1(low) – 5 (high).

Believing that anxiety had a negative effect on performance was also negatively correlated with perceptions of previous performance standards ($r = -.512$, $p = .002$). There was a positive correlation between believing that important situations produced the best performance, and ratings for perceptions of previous performance standards ($r = .366$, $p = .036$). The belief that anxiety had negative effects on performance was correlated with difficulty concentrating during important performances ($r = .355$, $p = .043$). Belief in negative effects of anxiety was also correlated with general worry about performing ($r = .506$, $p = .002$).

Overall, positive beliefs, rather than negative beliefs regarding performance and anxiety, appear to facilitate confidence and be associated with perceptions of higher performance standards. Negative beliefs are associated with impaired concentration during performance. The examination of beliefs regarding performing has implications for treatment.

Perceptions of talent, and confidence

This section investigates the following question:

1. What level of confidence do participants have regarding their own ability as musicians/singers, and is confidence related to the M-PAS?

Confidence in musical ability was measured by asking participants to rate how they, their peers, and experts might rate them. This question has implications for MPA, as low confidence in one's ability can lead to negative self-statements, which may undermine a performer's ability to perform.

A one-way ANOVA test revealed a statistically significant difference in the three ratings for perceptions of talent [$F(2, 96) = 6.239$, $p < .003$, $\eta^2 = .115$]. Post-hoc comparisons using the Tukey HSD test indicated that the lower rating participants believed experts would give them ($M = 2.59$, $SD = 1.07$) was significantly different from how they rated their own ability ($M = 3.40$, $SD = .85$); the effect size was large ($d = 0.84$). Differences between other ratings were not statistically significant. Mean scores and standard deviations for perceptions of talent for the sample as a whole, and for gender, and music genre are shown in Table 4.4 below.

The three different perceptions of talent were compared for males and females, and for classical and jazz participants. Two-way ANOVA tests revealed a main effect

for gender, only on perceptions of how participants perceived experts might rate them [$F(1,28) = 6.202, p < .019, \eta^2 = .181, d = 1.07$], with females reporting higher scores. Overall, jazz participants generally rated themselves slightly higher than did classical participants, although differences were not statistically significant.

In summary, participants rated their own talent higher than they perceived peers or experts might rate them, respectively. This discrepancy between ratings may suggest that anxiety increases as the individual performs for an increasingly informed or evaluative audience. With more powerful analysis, an association between perceptions of talent and the M-PAS might be established: there was a trend toward a relationship between self-rating for ability and the M-PAS ($r = -.334, p = .058$).

Table 4.4: *Descriptive statistics for perceptions of own-talent: self-rating; perceived peer-rating; and perceived music experts' rating.*

Rater of talent	Total sample	Gender		Music genre	
		Male	Female	Jazz	Classical
	N=31	n=19	n=20	n=18	n=21
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Self	3.40 (.85)	3.20 (.862)	3.63 (.885)	3.56 (.814)	3.27 (.961)
Peers	3.13 (.90)	3.00 (.845)	3.25 (1.0)	3.13 (.806)	3.13 (1.06)
Experts	2.59 (1.07)	2.13 (.915)	3.13 (.957)	2.81 (1.05)	2.47 (1.06)

Note: Possible range of mean scores: 1(low) – 5 (high)

Motivation: Need to excel; and effort

This section analyses results for the following question:

1. How important is the need to excel, and is this matched by effort to develop music skills?

The mean score for desire to excel was 4.61 (SD = 0.75), compared with a mean score of 3.82 (SD = 0.80) for effort to develop music skills. There was a significant correlation between these two variables ($r = .547, p = .001$). However, while 72% of

the participants indicated importance to excel as *extremely high* (i.e., a score of 5 on a 5-point scale), only 15% of participants indicated a corresponding score of 5 for effort to develop their music skills. As separate variables, neither the need to excel, nor the effort to develop music skills was significantly related to M-PAS scores.

There was no statistically significant difference between males and females, or between classical and jazz participants on their level of importance to excel as musicians, or on their effort to develop music skills, suggesting that motivation was similar across the sample.

Affect

This section analyses results to investigate the following question:

1. What range of affect is experienced in different types of performance situations?

Participants were asked to describe how they 'felt' as a *soloist* in different types of situations (e.g., performing for peers, for friends, in a non-judged performance, in a judged performance). More participants (62%) were 'nervous' performing in front of music peers, than in front of friends (15%). In any non-judged performance, 33% said they were 'nervous' or 'frightened', and 31% felt 'confident'. Overall, 50% of participants expressed their feelings in negative terms for any *non-judged* performance, compared with 85% who expressed feelings in negative terms for performing for *judged* performances.

Participants were asked a general question regarding how much they worry about performing. On a five-point scale, 44% of the participants reported a score of 4-5, indicating a high level of worry about performing. This result reflects the levels of negative feelings regarding performing, reported above.

Correlational investigations between the M-PAS and feelings (positive/negative) when performing in different situations were not conducted because closely related items are included within the M-PAS measure itself. Likewise, a correlation between worry and MPA was not investigated.

Chi-square analysis revealed no significant differences in affect associated with performing in a range of different situations for gender, or for music genre (classical/jazz). See also the later section, *Situational variables*, for further results reporting affect associated with performing in different types of situations.

Summary of cognitive and affective factors

Overall, negative cognitions, attention directed away from the process of performing the music, negative beliefs regarding the effect of anxiety on performance-outcomes, and negative affect regarding performing were associated with reduced confidence as a performer, and increased MPA.

SECTION 2: FACTORS INFLUENCING MPA

Factors influencing MPA include personality variables (trait-anxiety, neuroticism, and extraversion), preparation and previous performing experience (e.g., technical and non-technical preparation, and learning to perform), and situational variables (e.g., solo and group performing, judged and non-judged performing). At times MPA may also be associated with the demographic variables of gender, music genre (classical/jazz), and age.

Personality variables

Tests for the personality factors, trait-anxiety, neuroticism, and extraversion, are normed separately for males and females. Thus results of the present study are presented by gender, and compared with norm scores. Gender results are followed by a comparison of results for classical and jazz groups. Mean personality scores by gender and music genre, with norm scores, are presented in Table 4.5 below.

The following section analyses results to investigate the following questions:

1. Are scores for the personality factors consistent with norm scores?
2. Are the personality factors related to cognitive-affective factors, to MPA according to performance situation, to M-PAS scores, or music genre?

Trait-anxiety

Mean trait-anxiety scores for males and females were significantly above the mean norm-scores (Spielberger, 1983) for United States (US) university student males [$t(340) = 8.98$, $p < 0.001$ (two tailed), $\eta^2 = .19$] and university student females [$t(547) = 10.89$, $p < 0.001$ (two-tailed), $\eta^2 = .18$]. The STAI manual states that university student norms for trait-anxiety were derived from students in an introductory psychology course; no information is provided on ages of the normative group.

Table 4.5: *Trait-anxiety, Neuroticism, and Extraversion scores (mean & SD) for male and female groups by population¹*

Population	Male			Female		
	n	M	SD	n	M	SD
Trait-anxiety						
Classical	11	44.55	7.99	8	50.00	10.17
Jazz	7	42.00	8.92	10	43.50	10.70
Total	18	43.56	8.20	18	46.39	10.68
US university students	324	38.30	9.81	531	40.40	10.15
Neuroticism						
Classical	12	5.67	3.36	9	9.89	1.69
Jazz	7	4.71	4.19	11	4.82	3.34
Total	19	5.32	3.60	20	7.10	3.71
Adjusted age norms ²	300	4.76	3.39	400	6.07	3.01
Extraversion						
Classical	12	6.17	4.97	9	8.33	2.39
Jazz	7	7.43	5.50	11	8.73	3.60
Total	19	6.63	5.05	20	8.55	3.05
Adjusted age norms ²	300	6.38	3.44	400	7.76	3.14

Notes:

- 1. Scores for trait-anxiety are normed for US university students by gender.
- 2. Scores for neuroticism and extraversion are normed according to age and gender.

Trait-anxiety was significantly correlated with the use of negative self-statements before performing ($r = .351, p = .05$), and during the performance itself ($r = .489, p < .05$), (but not after performing). Trait-anxiety was also correlated with difficulty concentrating during important performances ($r = .516, p = .01$). (See previous section for mean scores for the cognitive factors.)

A number of significant correlations were revealed between trait-anxiety and MPA (according to M-PAS scores) when performing as a soloist, and as part of a group in a range of different situations. The strongest relationships between trait-anxiety and MPA in different situations included performing in non-judged solos ($r = .511, p = .001$), in groups for peers ($r = .515, p = .001$), in any judged group ($r = .531, p = .001$), and in groups for friends ($r = .621, p = .001$). All of these situations involve the potential for high levels of scrutiny.

As might be expected, trait-anxiety was significantly correlated with neuroticism ($r = 0.735, p = .001$). Trait-anxiety was significantly correlated with MPA, as measured by the M-PAS scale ($r = .743, p = .001$).

Gender and music genre

Trait-anxiety was examined by gender and by music genre, as trait-anxiety is typically higher in females, and little is known about the personalities of jazz musicians. As shown on Table 4.5, mean trait-anxiety was higher in females than males, and higher in classical than jazz participants. Two-way ANOVA tests revealed no statistically significant effect for gender [$F(1,32) = 1.175, p = .286, ns$], or music genre [$F(1,32) = 1.988, p = .168, ns$]; there was no interaction between gender and music genre [$F(1, 32) = 0.380, p = .542, ns$]. However, a further investigation was conducted to compare trait-anxiety levels across gender by music genre groups. The contrast between the classical female group and the other three groups is of particular interest, as the median split for classical females indicates that approximately 50% of the classical females were above the upper quartile of the other three groups (see Figure 4.1 below).

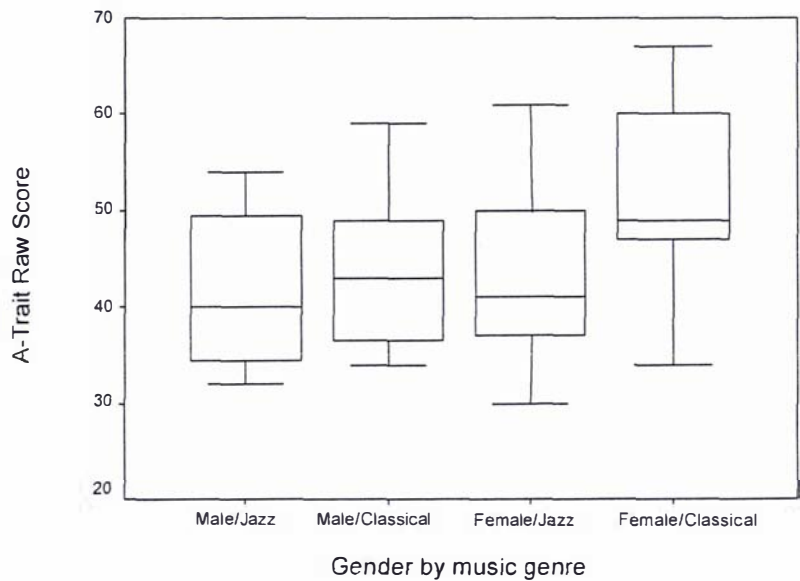


Figure 4.1: *Boxplot showing trait-anxiety median scores for gender by music genre. The median score is indicated by the horizontal bar in the box.*

In summary, trait-anxiety scores in the present study were significantly above norm scores. Trait-anxiety was correlated with negative cognitions regarding performing, with difficulty concentrating while performing, and with M-PAS scores in a range of situations. Classical female participants emerged with particularly high trait-anxiety scores.

Neuroticism

Mean neuroticism scores for males and females were significantly above the mean norm scores for age and gender as referenced in Eysenck and Eysenck (1996): males [$t(317) = 2.61$, $p < .01$ (two tailed), $\eta^2 = .02$]; and females [$t(418) = 5.50$, $p < .001$ (two tailed), $\eta^2 = .07$].

Neuroticism was negatively correlated with the belief that anxiety symptoms had a positive effect on performance outcomes ($r = -.339$, $p = .047$), and positively correlated with the belief that anxiety had a negative effect on performance ($r = .366$, $p < .028$). There was a statistically significant negative correlation between neuroticism and the level of non-technical preparation for important performances ($r = -.357$, $p = .026$).

Neuroticism was not significantly correlated with negative self-statements before ($r = 0.236$, ns), during ($r = 0.038$, ns), or after ($r = 0.018$, ns) the performance. Neuroticism was correlated with MPA when performing in a range of different situations, the highest correlations being for non-judged solos ($r = .524$, $p = .001$), solo lessons ($r = .457$, $p < .003$), any judged group ($r = .412$, $p = .011$), and any judged solo ($r = .391$, $p = .014$). These situations may involve high levels of concern for performers when exposed as soloists and, in the instance of the judged group situation, when they are more closely exposed to the judgement of their group-peers.

As expected, and as previously stated, neuroticism was significantly correlated with trait-anxiety ($r = 0.735$, $p = .001$). Neuroticism was significantly related to M-PAS scores ($r = .615$, $p = .001$).

Gender and music genre

Neuroticism was examined by gender and by music genre, as neuroticism is typically higher in females, and little is known about the personalities of jazz musicians. A two-way ANOVA test was conducted to compare mean neuroticism scores by gender and music genre. There was a significant main effect for music genre [$F(1, 35) = 8.132$, $p = .007$, partial $\eta^2 = .189$], and for gender [$F(1, 35) = 4.195$, $p < .05$, $\eta^2 = .107$], classical participants reporting a higher mean score for neuroticism, and females reporting a higher mean score than males. There was no interaction effect for gender by music genre.

Again, a further investigation was conducted to compare neuroticism levels across gender by music genre groups. Once again, the female classical group contrasts with the other three groups, as the median split for classical females shows that in this instance, 75% of this group were at the upper end of the scale (see Figure 4.2 below). The high neuroticism in this group, together with their high trait-anxiety levels, suggests that this group is particularly vulnerable to MPA.

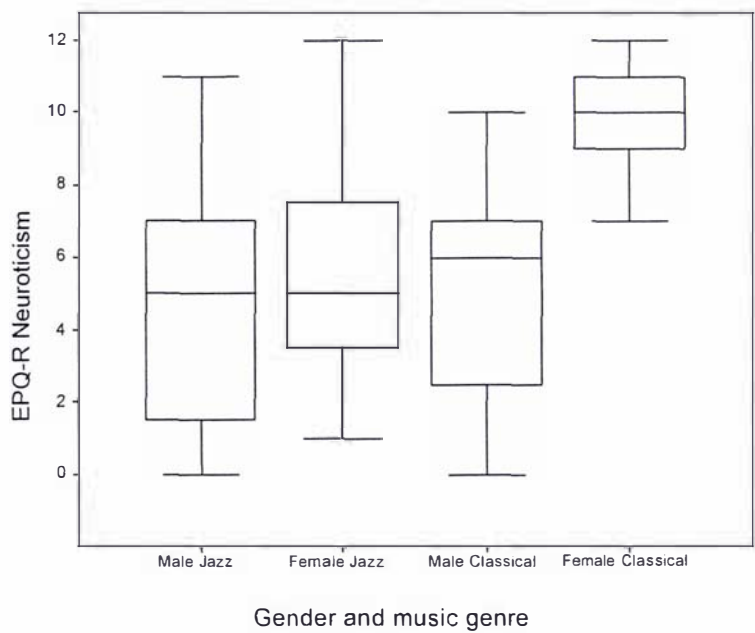


Figure 4.2: *Boxplot showing neuroticism median scores for gender by music genre. The median score is indicated by the horizontal bar in the box.*

In summary, like trait-anxiety scores, neuroticism scores in the present study were significantly above norm scores. Neuroticism was correlated with M-PAS scores, and with the belief that anxiety has a negative effect on performance. Similar to results for trait-anxiety, classical female participants emerged with particularly high neuroticism scores.

Extraversion

Mean scores for females in the present study were significantly higher than mean female norm scores as referenced in Eysenck and Eysenck (1996): [$t(418) = 5.01$, $p < 0.001$ (two tailed), $d = .06$]. There was no significant difference between mean

scores for males in the present study and male norm mean scores [$t(317) = 0.85$, ns].

Mean extraversion scores were significantly negatively correlated with negative self-statements after performing ($r = -.367$, $p = .036$), but not before or during performing. Extraversion was significantly negatively correlated with MPA when performing solo for peers ($r = -.337$, $p = .036$) and when performing solo for friends ($r = .411$, $p = .009$). There was a significant correlation between extraversion and enjoyment when performing as a soloist, both when being judged ($r = .360$, $p = .024$) and when not being judged ($r = .361$, $p = .024$), and when performing in a group for friends ($r = .401$, $p = .013$). These results suggest that the extraverted performer may enjoy the social aspect of performing and of being the centre of attention, and may be less prone to MPA. However, overall, there was no significant relationship between extraversion and M-PAS scores ($r = -.103$, $p = .531$, ns).

Extraversion was not significantly related to trait-anxiety or neuroticism.

Gender and music genre

Extraversion was examined by gender and by music genre, as the literature suggests the possibility of a relationship between music genre and extraversion. Two-way ANOVA tests revealed no statistically significant effect for gender [$F(1,35) = 1.559$, $p = .220$, ns], or music genre [$F(1,35) = 0.356$, $p = .555$, ns], and no significant interaction for gender and music genre [$F(1, 35) = .098$, $p = .756$, ns]. To achieve consistency with the presentation of results for the previous two personality variables, a further investigation was conducted to compare extraversion levels across gender by music genre groups. As shown on Figure 4.3 below, the male and female classical groups demonstrate lower median scores than the jazz groups. For participants who are high on trait-anxiety and neuroticism, the presence of low extraversion levels in these participants may increase the pressure they experience in public performance.

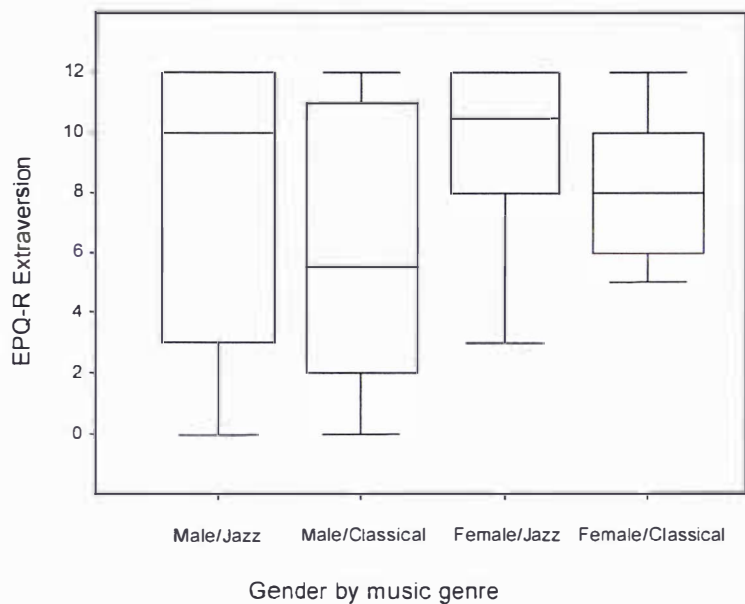


Figure 4.3: *Boxplot showing extraversion mean scores for gender by music genre*

In summary, higher extraversion was associated with fewer negative self-statements after performing, and with enjoyment as a soloist, perhaps demonstrating a bias toward a more positive view concerning MPA.

Summary of personality variables

In summary, without exception, mean scores for the three personality scales, trait-anxiety, neuroticism and extraversion in the present study, exceeded the norm scores for males and females. The only score that was *not significantly* higher than the norm score was the male neuroticism score. Neuroticism and trait-anxiety were correlated. Overall, higher trait-anxiety and neuroticism, and lower extraversion, were associated with a more negative view of MPA and its effects on performing. In the present study, neuroticism was the only personality variable where scores between males and females, and classical and jazz participants were significantly different, with female scores and classical scores being higher. Thus, the high level of neuroticism, and the high level of trait-anxiety demonstrated in the classical females, may mean that classical females in the present study were particularly vulnerable to MPA. There was no interaction between gender and music genre for any personality variable.

Remaining EPQ-R Short Scale, scales (Psychoticism, Lie)

A psychoticism scale was included as part of the standard EPQ-R Short Scale used in the present study. However, there are no reported theoretical links between psychoticism and MPA or any other variables investigated in the present study. Thus, no systematic analysis of psychoticism was conducted. No participants scored above $\frac{2}{12}$ on the lie scale. Therefore no participants were excluded from the study on the basis of their lie score.

Experience: Preparation and performing history

Experience is the second group of factors influencing MPA. This section and the following section on situational variables should be read together, as there is considerable overlap in the content. For example, it would be expected that the level of preparation would impact differently on performance in different types of situation.

Preparation

This section analyses results to investigate the following four questions:

1. Is technical preparation (i.e., skill-mastery) related to cognitive-affective factors and age?
2. Is non-technical preparation (e.g., relaxing prior to performing) related to cognitive-affective factors and age?
3. Is the level of technical and/or non-technical preparation related to MPA?

Technical preparation¹ refers to practising and developing skills that are required to perform the piece. The mean score for technical preparation for important performances was 3.79 (SD = 0.92). The level of technical preparation was correlated with: positive self talk during the performance ($r = .549, p < .01$); enjoyment in solo lessons ($r = .449, p < .01$); enjoyment in group lessons ($r = .446, p < .01$); and the belief that important situations produced the best performances ($r = .568, p < .001$).

¹ Technical preparation was measured by asking participants to rate their level of preparation for important performances: Scale 1(low) – 5 (high)

However, technical preparation was not correlated with perceptions of previous performance standards ($r = .176$, ns). Nor was technical preparation correlated with age ($r = -.080$, $p = .634$, ns). The level of technical preparation was not significantly correlated with M-PAS scores ($r = -.114$, ns). Overall, higher levels of technical preparation were associated with positive, rather than negative cognitive-affective factors.

Non-technical preparation refers to anything participants did in preparation for important performances, apart from practising. Almost a quarter of the participants (23%) said they did not do any non-technical preparation; 38% said they relaxed (which included listening to music and reading); and 20% said they exercised. The remainder of participants (19%) did not respond to this question. The time spent on these activities was not indicated, and nor did participants report on any perceived benefits the activities might have had for them.

There was a significant negative correlation between non-technical preparation for important performances and the belief that anxiety has negative effects on performing ($r = -.400$, $p = .016$). There was no correlation between non-technical preparation and the belief that anxiety has *positive* effects on performing. Non-technical preparation was significantly correlated with enjoyment when performing solo for friends ($r = .368$, $p = .021$), and when playing solo for peers ($r = .318$, $p = .048$). There were no significant correlations between non-technical preparation and: the presence of positive *or* negative self-talk; beliefs regarding situations where best performances occurred; or perceptions of own performance standards. A negative correlation was revealed between *non*-technical preparation and age ($r = -.322$, $p = .049$). The level of non-technical preparation was negatively correlated with M-PAS scores ($r = -.326$, $p = .043$). Results generally indicate that lower levels of non-technical preparation are associated with negative beliefs about performing and MPA, and with higher M-PAS scores.

Performing history

This section analyses results to investigate the following two questions:

1. Is performing experience (measured by length time as a performer), related to anxiety as a soloist or group performer?

2. Is the length of time as a performer related to MPA levels, as measured by the M-PAS scale?

For the purposes of the present study, 'length of time as a performer' is defined as the year of study at the conservatorium. This definition was selected as there is considerable variety among the learning backgrounds of the students by the time they arrive at the conservatorium. However, the conservatorium programme requires students to perform on a regular basis, and thus learning to perform can be quantified by using participants' year of study at the conservatorium. While this may be a somewhat imprecise definition of *length of time as a performer*, it appears to be the most appropriate method of quantifying performance experience in the circumstances.

Instinctively, it may appear that longer periods of training as a musician should result in more highly developed skills that enable coping with public performance. The participants' year of study at the conservatorium was correlated with: the number of years learning to play or sing ($r = .412, p < .01$); total performance-experience ($r = .365, p < .05$); experience as a soloist ($r = .349, p < .05$); and highest music pass ($r = .326, p < .05$). However, not one of the variables mentioned above (including the year of study at the conservatorium) was significantly related to anxiety levels in any of the 12 solo or group situations investigated in the present study. Although mean M-PAS scores consistently reduced from the first year of study ($M = 73.75, SD = 21.20$), to the second year ($M = 67.13, SD = 17.72$), to the third year ($M = 58.65, SD = 15.53$), a one-way between-groups ANOVA test did not reveal a significant difference for year of study.

Gender and music genre

Two-way between-groups ANOVAs were conducted for *technical* preparation for important performances, and for *non-technical* preparation for important performances, by gender and music genre. There was a significant main effect for technical preparation for music genre [$F(1,35) = 4.791, p < .035, \eta^2 = .12$], with higher mean scores reported by classical participants. There were no other main or interaction effects for gender or music genre.

Summary of experience factors

In summary, higher levels of technical preparation were associated with positive self-talk during the performance and a belief that best performances could be produced in important situations. Higher levels of non-technical preparation were associated with lower MPA. There was a trend toward lower MPA as performance-exposure increased in relation to years of study at the conservatorium.

Situational variables

Situational variables is the third group of factors influencing MPA.

This section analyses results to investigate the following four questions:

1. Does anxiety vary from solo to group performing?
2. Does anxiety vary according to the type of performance-situation (i.e., level of audience scrutiny)?
3. Does enjoyment vary from solo to group performing?
4. Does enjoyment vary according to the type of performance-situation (i.e., level of audience scrutiny)?

Anxiety associated with group and solo performances in different types of situations

A two-way ANOVA test was conducted to investigate the variation in anxiety levels, dependent on the type of performance (i.e., solo/group), and the type of situation (i.e., practising, lesson, performing for peers, for friends, any non-judged performance, any judged performance. Any *non-judged* performance could be a concert, for example; any *judged* performance could be an audition, examination or competition.) For this question, 39 participants were each asked 12 questions, providing up to 468 separate answers if all participants provided answers for all questions. Thus, SPSS required a restructured data set to carry out this analysis. A statistically significant main effect was revealed for the type of performance (i.e., solo or group) [$F(1, 453) = 35.897, p = .001, \text{partial } \eta^2 = 0.073$]. Except for practice situations, participants experienced higher levels of anxiety in solo performances, compared with performing as part of a group (see Figure 4.4 below).

There was also a statistically significant main effect on anxiety for performing in different types of situations [$F(5, 453) = 45.462, p < .001, \eta^2 = 0.334$]. Post-hoc comparisons using the Tukey HSD test to compare overall mean anxiety scores for the type of situation, revealed significant differences from practice situations ($M = 1.43, SD = .818$) to a sub-set of three situations, specifically: performing for friends ($M = 2.15, SD = 1.127$); playing during lessons ($M = 2.44, SD = 1.123$); and performing in non-judged situations ($M = 2.48, SD = 1.147$). There was a significant difference from this subset to performing for peers ($M = 3.15, SD = 1.239$), and a significant difference from performing for peers to performing in a judged situation ($M = 3.82, SD = 1.197$). There was a significant interaction effect for the type of performance (solo/group) and the type of situation [$F(5, 453) = 2.911, p < .01, \eta^2 = 0.031$].

In summary, participants experienced the highest levels of anxiety in performance contexts that potentially exposed them to the highest levels of scrutiny and judgement. The relationship between anxiety and the level of exposure is demonstrated in Figure 4.4: anxiety is higher for solo versus group performances in all situations except for group practice, where there is exposure to the scrutiny of others in the group, compared with the solo practice situation.

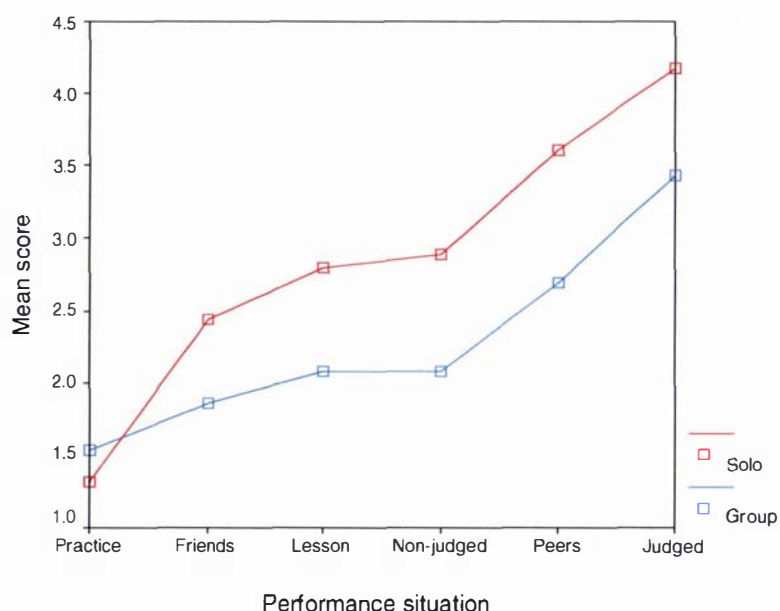


Figure 4.4: Mean anxiety scores by performance situation and type of performance (i.e. group/solo). Scale: 1(low) – 5 (high).

Anxiety by gender and music genre

A series of two-way between-groups ANOVA tests were conducted to explore the impact of gender and music genre on anxiety levels for solo and group performances in the six different types of situations. There were no main effects for gender. There was a significant main effect for music genre for non-judged solo performances only [$F(1, 35) = 9.071, p = .005$, partial $\eta^2 = .206$], with lower mean scores reported for jazz participants.

Two-way between-groups ANOVA tests were conducted to investigate the impact of gender and music genre on perceptions of how important the occasion should be for best performances to occur, and on beliefs about the optimal level of anxiety that might facilitate best performances. There were no significant main or interaction effects.

Enjoyment associated with group and solo performances in different types of situations

A two-way between-groups ANOVA test was conducted to investigate the variation in enjoyment levels, dependent on the type of *performance* (i.e., solo/group) and the type of *situation* (e.g., judged, non-judged, for friends, for peers). There was no significant interaction between the type of performance and the type of situation, for enjoyment.

A statistically significant main effect was revealed for the type of performance [$F(1, 446) = 16.930, p < .001$, partial $\eta^2 = 0.037$]. Without exception, participants experienced higher levels of enjoyment in group situations than in solo situations (see Figure 4.5 below).

There was also a statistically significant main effect on enjoyment for the type of situation [$F(5, 446) = 15.338, p < .001$, partial $\eta^2 = 0.147$]. Post-hoc comparisons using the Tukey HSD test indicated that mean scores for enjoyment by type of situation, fell into two bands: (a) performing in a judged situation ($M = 3.17$, $SD = 1.174$) and performing for peers ($M = 3.39$, $SD = 1.137$), and (b) all other situations: lessons ($M = 3.86$, $SD = 1.018$); practice ($M = 4.14$, $SD = .899$); performing for friends ($M = 4.08$, $SD = .997$); and performing in non-judged situations ($M = 4.29$, $SD = .841$) (see Figure 4.5).

In summary, with one exception, participants experienced the greatest enjoyment in performance contexts that potentially exposed them to the lowest levels of scrutiny and judgement. The exception to this pattern was the enjoyment level compared with anxiety level, for performing in any non-judged situation (e.g., an informal concert). In this situation, participants demonstrated a certain tolerance of anxiety. Enjoyment was always higher when playing in a group, compared with a solo situation.

Overall, mean scores for enjoyment were slightly higher for males than females, and slightly higher for classical participants than for jazz participants. However, differences were not statistically significant for gender or for music genre.

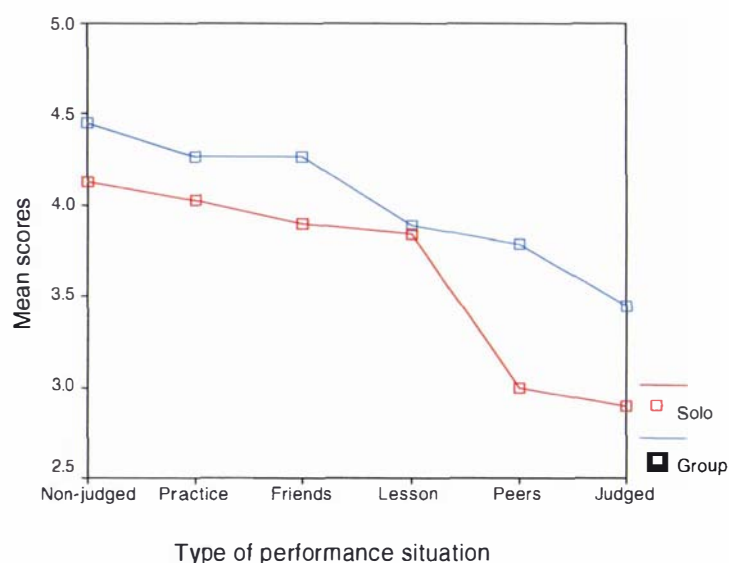


Figure 4.5: Mean enjoyment scores by performance situation and type of performance (i.e. group / solo). Scale: 1(low) – 5 (high).

Enjoyment by gender and music genre

A series of two-way between-groups ANOVAs were conducted for enjoyment in the six solo and group situations for different types of performance, by gender and music genre. There was a significant main effect for music genre for performing for friends as part of a group [$F(1, 34) = 5.556, p = .024, \eta^2 = .14$], and a significant interaction effect for gender and music genre [$F(1, 34) = 5.387, p = .026, \eta^2 = .137$]. Jazz participants enjoyed performing in a group for friends, more than did classical

participants. There was a significant interaction effect for gender and music genre only for practising in a group [$F(1, 34) = 6.713, p = .014, \eta^2 = .165$]; jazz female participants enjoying this less than any other gender by music genre group.

In summary, for anxiety and enjoyment when performing, anxiety increased from group to solo performing, and from informal to judged situations. Enjoyment generally increased inversely.

Summary of situational variables

In summary, participants experienced higher levels of anxiety in solo versus group performances, and they generally experienced the greatest anxiety and the least enjoyment in situations where they were exposed to the highest levels of audience scrutiny.

SUMMARY OF RESULTS

Prevalence of symptoms

According to total mean symptom-scores, physiological and cognitive-affective symptoms generally reached 40-50% of their potential score, before and during the performance. Importantly, there was little reduction in symptomology from before to during the performance, with levels of cognitive-affective symptoms remaining comparatively higher than physiological symptoms. However, cognitive-affective symptoms reduced more rapidly than physiological symptoms after the performance. While total scores for behavioural symptoms were lower than for physiological and cognitive-affective symptoms, the behavioural data applied to the sample more narrowly, and behavioural results may not necessarily be representative of the sample as a whole. In summary, MPA symptomology was widely experienced by participants in Study One.

Factors influencing MPA

Mean scores for the three personality variables all exceeded norm scores for males and females, the male neuroticism score being the only one that was not significantly different. Differences between males and females, and classical and

jazz participants in the present study were not significantly different, except for neuroticism, where female and classical scores were significantly higher.

Higher levels of technical and non-technical preparation were generally associated with more positive beliefs and cognitions regarding performing, although not associated with previous performance standards. Anxiety levels were not clearly related to performing experience, although there was a trend toward reduced anxiety as students progressed through the three years of their degree. Generally, participants experienced more anxiety and less enjoyment from group to solo performing, and from situations with the least exposure and scrutiny, to situations with the greatest.

With some exceptions, classical participants and female participants generally reported higher mean scores for anxiety symptoms and factors associated with anxiety than jazz and male participants respectively, regardless of whether or not these differences were significant. Overall, however, results of Study One suggest that participants generally experienced considerable anxiety associated with performing. Particularly important was that high levels of MPA were generally maintained from before performing, into the performance itself.

Summary of M-PAS items indicating MPA, and factors correlated with MPA

The M-PAS is a multi-dimensional scale, intended to measure the level of MPA. The scale contains items that relate to physiological, cognitive, and affective aspects of MPA. However, the M-PAS is not intended to capture every indicator of MPA. A number of other factors from the PeQM (from which the M-PAS was derived) were significantly correlated with MPA, as measured by the M-PAS, and reference to these factors broadens the description of MPA in this sample. Together, items from the M-PAS scale, and factors correlated with MPA have implications for understanding MPA in this sample, and for the intervention study.

The range of factors related to MPA that emerged from Study One is shown in Table 4.6 below. Two separate, but related, lists of items are shown. One list, from the M-PAS scale, contains items indicating MPA; the other list contains items correlated with MPA (but not appearing on the M-PAS scale).

Table 4.6 : *M-PAS items and factors correlated with MPA*

	From the M-PAS	Correlated with MPA
Physiological	Sweating Shaking Elevated heart-rate Breathing disturbance Tight chest Dry mouth Nausea Need for toilet Sleep disturbance Tense muscles	
Cognitive	Memory disturbance Concentration difficulties Concern about mistakes Evaluation awareness	Self-consciousness Negative self-talk Perception of previous performance-standards (Negative) Perception of own talent (Negative) Belief that anxiety has negative effect on performance
Affective	Anxious in a range of situations Detached Panicky	Edgy Angry/impatient Negative feelings about performing General worry about performing Enjoyment (Negative)
Behavioural		Non-technical preparation (Negative)
Personality		Trait-anxiety Neuroticism
Situational factors	Exposure (solo/group) Evaluation and consequences (level of audience scrutiny)	

DISCUSSION

Results are discussed for the sample overall, and for gender and music genre where appropriate. The discussion concerns the four components of MPA and three broad groups of influential factors.

SECTION 1: PERFORMANCE ANXIETY SYMPTOMS

The sustained MPA symptoms during the performance, and the comparatively higher level of cognitive-affective symptoms, than physiological symptoms, is consistent with previous studies of student-musicians (e.g., Fredrikson & Gunnarsson, 1994; Salmon, Schrodtt & Wright, 1989), where there is variation among the levels of different symptoms-types. The high level of physiological and cognitive-affective symptoms in the present study has implications for the intervention study.

Prevalence

Physiological symptoms were generally maintained at a high level from before to during performing, a finding that comes within the range and timing of symptoms as reported in previous studies of student-musicians (e.g., Hamann, 1982; Salmon, Schrodtt, & Wright, 1989; Wilson, 1997). Also consistent with the literature (e.g., Abel & Larkin, 1990; Brotons, 1994; Fredrikson & Gunnarsson, 1992), heart-rate appears to be the most identifiable physiological indicator of MPA. High levels of physiological arousal, reported by a large proportion of participants prior to, and during the performance, can be uncomfortable and disturbing for many performers. Most important, however, is the interference than can result from high levels of sustained autonomic arousal, manifested as for instance, shaking, breathing-interference and sweating. Such disturbance can compromise the technical quality of the performance through disruption to motor coordination and cognitive processes. In this case it is likely that affective involvement, critical to high levels of performance, is disrupted, and the enjoyment of performing is lowered.

At all three times, before, during and after performing, levels of cognitive-affective symptoms were, proportionally, even higher than physiological symptoms, and the percentage of participants experiencing *marked* cognitive-affective symptoms was

also higher. A higher level of cognitive symptoms than physiological has also been reported in previous studies of student-musicians (e.g., Miller & Chesky, 2004).

Unlike the pattern for physiological symptoms, all but one cognitive-affective symptom decreased during the performance itself: a feeling of detachment *increased*. Difficulties with concentration remained constant before and during the performance. The elevated levels of cognitive-affective symptoms before the performance, and particularly during the performance itself, suggest that participants were focusing on the outcome of the performance, rather than on the process of performing. This view is supported by the level of evaluative concerns about the performance, the only cognitive-affective symptom that did not reduce considerably after performing. Concerns about others' opinions regarding mistakes, and a sense of depersonalisation are likely to exert considerable negative impact on the musician's ability to perform. Generally, there appears to be considerable intrusion on the performance-process by negative and task-irrelevant thoughts, affective disturbance, and attention being diverted from the requirements of performing. Further, the critical role of memory in performance is likely to be compromised under conditions of reduced cognitive capacity that result from the many cognitive-affective distractions and disturbances. The importance of focussing on the process of performing, rather than on the outcome, is given major emphasis in the training of sports-men and -women striving for high levels of performance in sports endeavours (Hodge, 2004; Ravissa & Hanson, 1995, Wann, 1997), and the principle of *process versus outcome*, applies equally in music performance. Although MPA studies have investigated the nature of cognitions associated with performing, the *process versus outcome* approach to managing anxiety has, to date, *not* been applied directly to music performance. The importance of *process versus outcome* is addressed in Study Two.

It is perhaps not surprising that physiological and cognitive-affective MPA symptoms continue to be reported *after* performing, as the physiological arousal associated with performing can take some time to slow down, and cognitive-affective symptoms can continue to some extent after the performance as the performer reflects on the performance.

The two questions on the PeQM questionnaire regarding behavioural symptoms of MPA, either did not have sufficient application to the sample, or were not widely

answered by the participants. However, the increase in behavioural symptoms after performing, compared with the decrease in physiological and cognitive-affective symptoms, may suggest that behaviours typically associated with relaxing occurred after the performance. The inclusion of questions concerning anxiety behaviours such as avoidance may have provided more useful information about behavioural symptoms of MPA in this sample. However, it should be noted that particular symptoms such as shaking, muscle tension and mistakes during the performance may be perceived as either physiological symptoms or, according to Gabrielson (1999), as behavioural symptoms. (In the present study, these symptoms are classified and discussed in the section concerning physiological symptoms.)

The slightly higher level of symptoms for females than males, was consistent with the higher reporting rates for females in previous MPA studies (e.g., Kaspersen & Gotestam, 2002; Nagel, 1988; Wesner, Noyes, & Davis, 1990); though not significantly higher in the present study, the increased level of symptoms for females may mean a functional difference for females. The different patterns of symptoms in the classical and jazz participants may suggest that the two disciplines attract a particular type of performer, or perhaps that classical and jazz performing makes different demands on the performer.

Overall, the mean scores and marked levels of physiological and cognitive-affective symptoms for this sample suggest that MPA is likely to be exerting a considerably negative influence on the performance process itself, and thus potentially on the quality of performance outcomes and enjoyment for the performer. While mean scores for the individual symptoms generally tended to fall just above the middle of the scale, some participants achieved scores at the high, and some at the low end of the scale; the distribution was bimodal at all three times. This pattern may suggest that participants have a reasonably stable level of anxiety that is uniformly raised or lowered as anxiety-evoking situations occur. That is, the same pathway may lead to performance anxiety, regardless of time. While mean scores provide a perspective of MPA overall, it is acknowledged that individuals with extremely high or extremely low levels of anxiety symptoms are not identified in this type of analysis.

In summary, two main points arise regarding the levels of MPA symptoms in this sample. First, regardless of whether there are statistically significant differences between gender or music genre groups, the elevated levels of MPA symptoms reported among this sample at large suggest the possibility of a considerable impact on the functioning of many participants in performance situations. Second, there was a pattern of higher symptoms in the classical group compared with the jazz group. Physiological symptoms were consistently significantly higher in classical musicians, and cognitive-affective symptoms were also consistently higher in the classical group, but not significantly so. This may suggest that classical musicians tend to be more vulnerable to MPA than jazz musicians.

Findings regarding symptoms of MPA in the present study were similar to findings for student-musicians in previous studies. Most important, was that MPA was generally maintained from before to during performing in the present study, as reported in previous studies of student-musicians. Elevated anxiety during the performance itself can have profoundly disruptive consequences, resulting in impaired performance and lowered enjoyment for the performer. It is clear that MPA is a considerable problem for many of the student-musicians in the present study.

Cognitive and Affective factors

In this section, cognitive and affective aspects of performance are discussed as they act independently, and as they influence subsequent levels of MPA. The following are discussed: the roles of cognitions and attention, beliefs, perceptions of talent and confidence, motivation, and affect associated with performing.

Cognitive factors

Cognitions and attention

Overall, cognitions associated with performing were largely negative. It is likely that participants' negative self-talk before performing served to undermine their confidence to perform, and contributed to them setting up negative performance environments for themselves, a finding also reported in previous studies (e.g., Heckhausen, 1982; Radocy & Boyle, 1997; Steptoe & Fidler, 1987). Negative self-talk continued into the performance itself for a large proportion of the sample,

in this instance serving as a likely distraction to the requirements of performing, interfering with concentration and memory for example, thus possibly creating a vicious cycle of anxiety. Following the performance, self-talk frequently focussed on evaluation concerns, suggesting that performance ratings, whether formal or informal, were a dominant concern for these participants. The considerable reduction in negative cognitions after performing contributes to evidence that MPA is a particular type of state-anxiety, rather than a generalised anxiety.

Only a third of participants reported exclusively positive self-statements before performing, these statements being rather *general* types of statements that may have served to boost confidence about performing (e.g., *It'll be fine*). However, only two self-statements were specifically linked to the process of performing. Overall, the most important point emerging from an examination of the typical self-statements provided by participants, was that participants' thinking and thoughts were focussed on performance outcomes, rather than on the process of performing. There appeared to be little recognition that one hundred percent of cognitive capacity is required for the process of performing.

As discussed above, self-statements and focus of attention are linked to the individual's expectation of outcomes, and expectations are inevitably linked to the individual's beliefs, assumptions, and interpretations of events. The role of beliefs associated with performing, is discussed next.

Beliefs

Believing that anxiety had negative effects on performance was associated with other negative beliefs and perceptions about performance, suggesting that the more anxious performers focus on more negative aspects of performing, or perhaps perform below their expectations. It appears that a performer's perception of how anxiety might influence a performance may, in the case of negative beliefs, undermine performance outcomes, and thus it may be helpful for performers to understand the facilitative role of anxiety. The importance of beliefs concerning anxiety and one's ability to perform, are fundamental to confidence and self-efficacy regarding performance. As stated by Wells (1997), underlying beliefs are critically linked to cognitions.

Negative beliefs regarding the relationship between anxiety and performance were also associated with difficulty concentrating during important performances, a finding consistent with previous studies (e.g., Steptoe & Fidler, 1987; Wesner, Noyes, & Davis, 1990). Negative beliefs are likely to be self-fulfilling as attention is diverted to MPA symptoms and to various slips or disappointments that can occur from time to time, among even the most accomplished performers. Conversely, however, the acknowledgement that the importance of the occasion itself can be a catalyst for higher levels of performance can provide an adaptive context for the heightened arousal associated with high levels of performance.

Perceptions of talent, and confidence

Overall, confidence in one's talent as a musician (indicated by the performer's perceptions of talent ratings allocated by the self, peers, and experts), reduced as the performer was exposed to an increasingly informed and potentially evaluative audience. Where confidence is lowered, it is likely that the performer is more vulnerable to distractions while performing, and to self-doubt regarding performance outcomes. Both of these factors can compromise the quality and enjoyment of performing.

Females expressed greater confidence in their own ability as musicians than males, and jazz more than classical participants. Although the greater self-confidence of the females is consistent with previous MPA studies (e.g., Abel & Larkin, 1990; Wilson, 1997), in the present study this self-confidence might be explained by 13 of the 20 females being singers or brass players. Singers and brass players are typically among the most extraverted of musicians (e.g., Buttsworth & Smith, 1995; Kemp, 1981a, 1981b), and their representation in the present study may reflect a greater self-confidence as performers overall, for the female participants. Little is known about the confidence of jazz musicians, but their slightly higher levels of confidence may be linked to their tolerance of, even desire, for the attention of other people, including peers and experts. Building confidence in one's ability as a musician has implications for treatment of MPA. This is addressed in Study Two.

Motivation: Need to excel, and effort

The desire to excel was not matched by effort to develop music skills; that is, the behaviour did not match the attitude. It is possible that some participants may not have had the confidence that they were able to excel. Reduced effort may also be a representation of avoidance behaviour, the incompatibility between the desire to excel and the effort expended giving rise to anxiety about performing. Motivational aspects of performing were similar for gender, and music genre groups.

Affect

Enjoyment was related to anxiety in a range of situations, with enjoyment decreasing and anxiety increasing as exposure to audience scrutiny increased. The parallel increase in MPA and audience scrutiny in the present study is consistent with findings of previous studies (e.g., Craske & Craig, 1984; Wilson, 1997). Previous studies do not report relationships between enjoyment and MPA. A high level of worry about performing was widespread across the sample in a range of situations. This appears to be consistent with the high level of evaluation awareness reported in the earlier section detailing prevalence of cognitive-affective symptoms. While some performing situations tend to evoke similar types of responses for many performers, ultimately it appears that affect associated with performing is dependent on the combination of individual factors the performer brings to the situation, rather than on whether they are male or female, or whether they are classical or jazz musicians.

Overall, cognitive and affective symptoms can play an influential role in the level of MPA due to: the nature of self-statements; the focus of attention; beliefs regarding anxiety; perceptions of own talent as a musician; confidence as a performer; attitudes and motivation to prepare; and affective responses to performing.

SECTION 2: FACTORS INFLUENCING MPA

Personality variables

Trait-anxiety

While trait-anxiety scores were significantly above norm scores for males and females in the present study, classical females represented a group considerably higher than the other gender by music genre groups. While this may have been an artefact of the small numbers within the groups, the higher levels of trait-anxiety for females compared with males, and for classical compared with jazz participants, suggests that classical females may be particularly vulnerable to MPA (i.e., a type of state-anxiety), as trait-anxiety is correlated with state anxiety.

The study of music may appeal to the more trait-anxious individuals, who are attracted to endeavours where they strive to achieve high standards. Alternatively, the high levels of trait-anxiety for participants in the present study may suggest that individuals with higher trait-anxiety are attracted to situations where they are required to spend many hours on their own, without external pressures, practising. Perhaps ironically though, highly trait-anxious individuals might be expected to prefer situations that evoke *less* anxiety, rather than more, the ultimate cost to them being that public performing is likely to evoke higher MPA in them than in individuals with lower trait-anxiety.

Trait-anxiety was associated with a number of separate factors influencing MPA, in a range of performance situations, suggesting there may be a bias toward stimuli perceived as threatening in the highly trait-anxious individual; this view is supported by, for example, the relationships between trait-anxiety and negative self-talk, and between trait-anxiety and difficulty concentrating during important performances.

In summary, consistent with the literature (e.g., Cox & Kenardy, 1993; Craske & Craig, 1984; Hamann, 1982; Lehrer, Goldman, & Strommen, 1990), trait-anxiety in the present study was correlated with state-anxiety, specifically MPA as measured by the M-PAS scale developed for the present study.

Neuroticism

Neuroticism scores in the present study were also above norm scores for males and females, again with classical female participants comprising a group considerably higher than the other gender by music genre groups. This finding is consistent with findings for trait-anxiety scores, suggesting that this sample overall is vulnerable to the, often, stressful demands of public performance. The significant differences between gender, and music genre may again suggest that classical females are particularly vulnerable to MPA.

The association of neuroticism with negative beliefs about performance and with lower levels of non-technical preparation, suggests that the more neurotic performer may believe MPA to be an inevitable part of being a performer, a belief consistent with findings in previous studies (e.g., Piperek, 1981; Rae & McCambridge, 2004; Steptoe et al., 1995). Neuroticism was related to anxiety-levels in a range of solo and group situations, and more strongly associated with anxiety in non-judged solo situations, compared with judged solos. This perhaps surprising finding, might be explained by there being a more diffused worry associated with a non-judged solo compared with a more focussed attention required in a judged solo performance. Not surprising were other situational relationships with neuroticism, which had the potential to evoke a strong sense of evaluation. For example, the solo lesson situation can set up an environment of close scrutiny by the teacher (even in supportive environments), and the judged group situation can potentially create an atmosphere of responsibility toward other group members. As stated by Eysenck and Eysenck (1996), highly neurotic individuals often experience prolonged emotional responses to stimuli. Thus, individuals high in neuroticism, including high emotional lability, may be more sensitive than others to the emotional arousal associated with the scrutiny of others, and be more susceptible to a preoccupation with potential performance-problems.

Extraversion

The extraversion scores for females in the present study, significantly higher than norm scores, might be explained by the proportionally high number of female singers and female brass players in the present study (comprising $^{13}/_{20}$ females):

according to Kemp (e.g., 1981a, 1996), the highest levels of extraversion are found among the singers and brass-instrumentalists.

The negative correlation between extraversion and negative self-talk after performing (but not before or during), may suggest the more extraverted participants tend to reflect on their enjoyment of the performance, rather than on aspects of the performance associated with anxiety. This view is supported by the positive correlation between extraversion and enjoyment when performing in judged solo, but not when performing in a judged group. Further, the more extraverted performers may enjoy the attention that is central to being a performer, particularly in the exposed solo situation. It is possible that high extraversion is facilitative in performance situations where exposure is the greatest. However, for the more introverted performers, situations with the greatest levels of exposure may present more difficulty, as such situations also tend to do for introverted individuals in everyday situations.

Although not significantly different, the slightly higher level of extraversion in jazz participants in the present study, is consistent with tendencies in the few reported studies concerning popular musicians, where extraversion was elevated (e.g., Dyce & O'Connor, 1994; Wills & Cooper, 1988).

In summary, knowledge concerning an individual's personality may be useful to predict how a particular individual is predisposed to react in a particular situation. It may be particularly important for the highly trait-anxious or neurotic performer, for instance, to develop a greater range of strategies to manage MPA, than may be required by the less trait-anxious or neurotic performer. The more-extraverted performer may be able to capitalise on the level of attention afforded the performing musician, and the more-introverted performer may require more assistance with focussing on the demands of performance, rather than on concerns about being the centre of attention. Proactive treatment for MPA, based on a consideration of particular personality factors, may contribute to the ultimate management of MPA for musicians. This possibility is addressed in Study Two.

Experience: Preparation and performing history

Results concerning preparation indicate that high levels of technical preparation alone do not ‘protect’ against MPA, as measured by the M-PAS scale. Regardless of the year of study, and the various levels of qualifications or skills of these student-musicians, they were subject to their performing being disrupted by negative self-statements and unfocussed attention, a finding consistent with previous studies for student and professional performers alike (e.g., Dweck & Wortman, 1982; LeBlanc, 1994). Any maturational change that might be associated with age was not represented in levels of technical preparation. This may suggest that cognitions and attention were a greater influence than age in respect of technical preparation. The association of technical preparation with positive, rather than negative, cognitive-affective factors, as was demonstrated in some performance situations, would be likely to boost rather than undermine confidence to perform. Alternatively, more positive cognitive-affective factors may motivate greater technical preparation.

Public performance can be particularly daunting where technical facility is insecure, the added pressure of public performing often resulting in exposing weaknesses in technical preparation, a performance outcome demonstrated in a study of performance under pressure (Craske & Craig, 1984), discussed in Chapter Two.

Non-technical preparation, a critical element of performance, is the preparation that builds towards normalising the act of going out and performing for others. It includes elements such as frequent exposure to performing publicly in a range of situations, and the development of strategies that increase a sense of confidence and control in performance situations. Participants in the present study generally demonstrated limited non-technical preparation. The positive correlation between non-technical preparation and the belief that anxiety can have a positive effect on performing, may reflect positive outcome-expectations, and a consequent motivation to attend to matters such as becoming familiar with the venue ahead of time, or developing preparation routines. The significant relationship between non-technical preparation and performing solo for friends and solo for peers is consistent with positive beliefs regarding anxiety and performance.

The significant negative correlations between non-technical preparation and age, and non-technical preparation and M-PAS scores, may be a result of greater exposure to public performing in the older participants, rather than any maturity associated with age. With more experience of public performing, the older participants may have developed more preparation-routines over time, and more effective strategies to better manage the demands of public performing than the younger performers.

Overall, student-participants in the present study have had less time, and thus fewer opportunities, to experience exposure to a broad range of performing opportunities that appear to benefit professional musicians. Quantifying the length of time as a performer by using the 'year of study at the conservatorium' may have been too narrow a time-frame with which to compare anxiety in a range of solo and performance situations. However, the reduction (ns) in mean M-PAS scores for the year-of-study at the conservatorium, suggests a potential benefit of the performance-exposure that students are gaining in the conservatorium programmes.

There were no significant differences in preparation (technical or non-technical) for males and females. However, there was a significantly greater level of technical preparation by the classical compared with the jazz participants. Whether this is a fact or whether it reflects the higher trait-anxiety in the classical group is unclear.

Situational variables

The range of anxiety and enjoyment levels experienced in different types of solo and group performances indicates that, generally, as the potential for audience-scrutiny increases, anxiety increases and enjoyment decreases. This view suggests that attention is directed toward the possibility of negative performance-outcomes, and to discomfort and dissatisfaction, rather than to the possibility of positive outcomes, involvement, and satisfaction. It could appear just as logical a view, however, that the opportunity to perform under high levels of scrutiny might provide an opportunity for performers to enjoy an important occasion for which they have been training and preparing for years, and which may provide considerable fulfilment for performer and audience alike. Essentially, the affect associated with performing depends largely on the performer's focus of attention.

Since the ultimate objective of a musician is to perform and enjoy the experience, it is perhaps not surprising that greatest enjoyment was gained when performing in non-judged situations. This finding suggests that a certain level of anxiety will not diminish the enjoyment of performing to an audience where there is motivation and a requirement to perform to one's level of competence, and where the level of evaluative threat is not extreme. However, for many of these participants, anxiety reached intolerable levels in highly evaluative contexts, again indicating that attention was directed toward the outcome of the performance, rather than toward the process of performing.

Overall anxiety and enjoyment levels varied uniformly for male and female, and for classical and jazz participants, indicating that the situation itself, rather than gender or music genre, was a defining variable in the level of anxiety and enjoyment associated with performing. Consistent with the literature (e.g., Cox & Kenardy, 1993; Hamann, 1982; Wilson, 1997), the highest levels of MPA in the present study were found in situations carrying the highest levels of scrutiny and the most important consequences for the performer. Perhaps the most consistent finding in MPA studies to date is that performance anxiety increases with the level of perceived evaluation.

MPA: A DISTINCT ANXIETY CONSTRUCT

The question arises of whether MPA is a separable and distinct anxiety construct, or whether it is an alternative description of, for instance, generalised anxiety or social phobia. And, does the musician with high MPA necessarily experience high anxiety in other sorts of performance domains?

The terminology used to describe MPA typically refers to a sense of apprehension about one's ability to perform effectively for others in certain music-performance situations only, the critical element being the degree to which the performer experiences that apprehension.

As discussed in Chapter Two, MPA appears to be a type of social phobia. Powell (2004) suggests four ways in which MPA can be differentiated from social phobia itself (see Chapter 2). However, the most convincing difference is that MPA is limited specifically to musical performance. The variation in MPA levels generally

relates to the proximity of the task, and the individual functions normally in other social situations; this contrasts with the social phobic who generally experiences a constant and high level of anxiety regarding social interactions (Powell, 2004).

The distinction between anxiety levels being dependent on the performance domain was demonstrated in a study of musicians who were required to give a speech and to perform a piece of music (Clark & Agras, 1991). Performance anxiety was higher in the music condition than in the speech condition, rather a graphic illustration of domain specific anxiety, given the recognised and widespread fear of public speaking: public speaking has been cited as one of the two greatest fears (the other being dying) (e.g., Fletcher, 1998).

MPA can be identified as a separate and distinguishable construct from other anxieties, as MPA does not generalise to other situations. MPA occurs only in music performance situations, and it usually reduces markedly or disappears altogether after the performance has been completed.

CHAPTER SUMMARY

This study investigated the prevalence of MPA, its symptomology, and influential factors. The coverage of a wide range of factors associated with MPA is unique to the present study, contrasting with previous studies that generally focus on only one or a few factors

The results of Study One confirm that MPA can be defined as a four-part construct, comprising physiological, cognitive, affective, and behavioural components. These components interact, but can also act independently, feeding back into the arousal to influence subsequent MPA.

MPA was widespread in the sample of the present study, with marked physiological symptoms reported by about a third of participants before and during performing, and a higher proportion of the sample (40-60%) reporting marked cognitive-affective symptoms before and during the performance.

A defining feature of participants in the present study was that, as a group, this sample did not experience a marked fall-off in symptoms just prior to performing. This result is consistent with a claim that less experienced performers are more

likely to peak during the performance itself, compared with experienced performers who typically reach peak arousal *before* a performance (e.g., Epstein & Fenz, 1965, Wilson, 1997). Reaching peak arousal during the performance itself is likely to have negative implications for the quality of performance, as responses to arousal, particularly autonomic and cognitive-affective responses, interfere with the physical, mental, emotional, or behavioural requirements of performing.

It appears that performers high in trait-anxiety are most vulnerable to high MPA. High neuroticism was also associated with high MPA. Extraversion tended to be negatively correlated with MPA, supporting a suggestion in previous studies that extraversion may be negatively related to MPA, at least in classical musicians. The relationship between extraversion and MPA in jazz musicians remains unclear.

The range of factors believed to influence MPA, according to previous studies, is confirmed in Study One, and can generally be classified according to the three broad categories reviewed in Chapter Two: personality variables; experience (including preparation and performing history); and situational characteristics of the performance itself.

There were few differences for gender in the present study. Previous studies have given little attention to jazz musicians who, according to the present study, appear to be less anxious and neurotic than classical musicians, but perhaps more extraverted, differences that may in principle, impact on MPA levels. However differences for music genre were significant only in a few cases. MPA can be influenced by personality, experience, and situational factors, each of these three categories comprising sub-categories that can vary in nature, and can affect particular individuals to varying extents. It appears, therefore, that MPA is influenced by, and is the result of, a *range of factors* present in *different* combinations and intensities in *different* individuals at *different* times of their careers, and in *different* types of performing situations. According to the literature reviewed in Chapter Two, situational factors play a major role in MPA for most performers.

One of the few aspects of MPA that is consistent and clearly understood throughout the literature, is that MPA occurs only in association with performing music for other people. However, the increased arousal that defines MPA should not be

described as exclusively a distressing, negative experience, or as a state that inevitably results in impaired performance (as in Salmon's, 1990, definition). MPA is a matter of degree; there is no measure to date that quantifies MPA, and its manifestations vary from individual to individual, from situation to situation, and from time to time. Two key problems with measuring and describing MPA are (1) the emphasis given to the physiological component (as in, e.g., Fredrikson & Gunnarsson, 1992), and (2) the absence of a widely accepted definition, apart from referring to MPA in general terms such as 'performance anxiety' (as in, e.g., Marchant-Haycox & Wilson, 1992) or as 'stage fright' (as in, e.g., Fishbein et al., 1988).

In summary, the range of influences on MPA is individually differentiated. MPA does not have to be negative. Even when performers describe themselves as anxious or highly anxious, manifestations of MPA indicate that the body is preparing for the increased alertness and sensitivity required for high levels of performance. Thus, MPA can be facilitative. The point at which MPA can impair a performance is determined by the activity of its four components. With appropriate strategies, these four components can be managed by the performer. Strategies for managing MPA are addressed in Study Two.

MPA is a complex process. Based on previous studies and the results of Study One, a flow chart (*The MPA Process Model*: Figure 4.6 below) was developed to illustrate the MPA process. The model, described below, contributes to the development of the MPA intervention described in Study Two.

The MPA Process Model

The *MPA Process Model* assists in the understanding of how MPA can develop and be sustained, or how a negative cycle of performance anxiety can become a positive cycle of arousal (and vice-versa).

The three broad categories of factors influencing MPA (i.e., personality factors, performing-experience, and situational factors) are represented as influential factors on the link between the impending performance (trigger) and the appraisal of potential performance outcome. Where appraisal of the potential performance, results in a perceived threat, anxiety is likely to rise with an expectation of failure.

The physiological, cognitive-affective, and behavioural factors are represented as *anxiety symptoms*.

High anxiety may result in a negative outcome, and where cognitive appraisal of the outcome is destructive, it is likely that the next performance opportunity will be perceived as a threat. Thus a negative cycle of anxiety is set up.

Conceivably, a performer could move from a negative to a positive cycle of arousal, or from a positive to a negative cycle (shown by dotted arrows on the model). A shift from a negative to a positive cycle could occur, for example, when anxiety symptoms are reframed as facilitative, rather than destructive, or when anxiety symptoms reduce as a result of other positive cognitive shifts. A shift from negative to positive could also occur where, in the case of negative outcomes, constructive critical appraisal of results assists in understanding factors that can influence performance, and the performer then acts on this increased understanding.

A shift from a positive to a negative cycle could also occur however, for instance when performing again after a long break from performing. The renewed experience of performing may be associated with feelings of uncertainty, resulting in increased arousal. A shift from positive to negative could also occur where a positive performance outcome was appraised in terms of good luck, or where a performer under-rated his/her own high performance standard.

A new definition of MPA

Based on the findings of Study One, and the emergent model, a new definition of MPA may be as follows:

Music performance anxiety is the presence of increased arousal, either facilitative or disruptive, that can occur exclusively in response to performing music for others, and may manifest in elevated levels of its four components (physiological, cognitive, affective and behavioural).

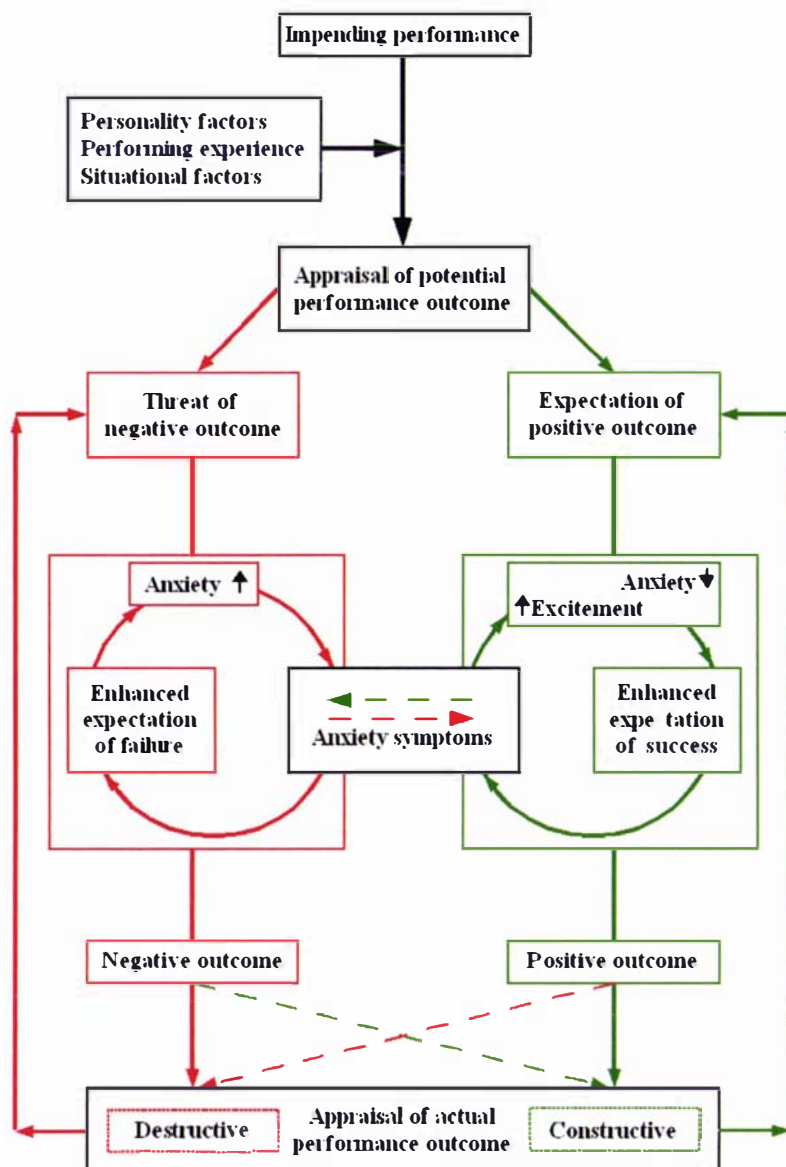


Figure 4.6: An MPA process model, developed for the present study. The solid arrows indicate the negative, or positive cycles of anxiety that can be set up from one performance to the next. The dotted arrows show possible crossover points from negative to positive, and positive to negative cycles.

METHODOLOGICAL ISSUES AND LIMITATIONS OF STUDY ONE

The number of participants in the present study, and the voluntary basis of participation, suggests the need for caution in generalising the findings of Study One to a wider population of university-student-musicians. Linked to the number of participants, is the possibility of insufficient power to detect some actual differences among variables. Likewise, comparisons between classical, and the less researched jazz musicians were somewhat restricted.

IMPLICATIONS FOR STUDY TWO

The survey design of Study One was based on previous studies of MPA, and was designed to investigate MPA in the context of anxiety theory and findings from previous studies. The *MPA Process Model* (Figure 4.6) was developed from the findings of Study One to show the process of MPA. The *MPA Relationships Model* (Fig. 2.5) was developed from the MPA literature reviewed in Chapter Two, and shows the relationship between MPA and influential factors. These models, together with psychological theory, are used to inform Study Two.

The intervention of Study Two explicitly targets the cognitive factors shown in Table 4.6, shown earlier in this chapter. Participants in the intervention study will be encouraged to reflect on cognitive processes associated with their past performing endeavours, to assist in their understanding of the role cognitive processes play in performance. A positive change in cognitive factors is expected to positively impact on their performing through a change in affective, behavioural, and physiological factors also, the latter group of symptoms also being targeted through application of relaxation techniques.

Associated with cognitive factors shown in Table 4.6, is the locus of attention while performing. Findings from Study One strongly suggest that MPA is influenced by participants focussing on outcome issues while they are performing, rather than focussing on the process of performing. The *process versus outcome* approach to performing will be given particular emphasis in the intervention study.

Study Two will also include two factors associated with MPA, not specifically investigated in Study One, but linked to factors investigated in Study One. These are the need for participants to understand the relationship between the four

components of anxiety, and the benefits of participants understanding how personality factors can impact on MPA.

Study Two will also consider the role of preparation, technical and non-technical. The well-prepared performer can learn effective management strategies that can assist with MPA. Conversely, for the performer who is not well-prepared management strategies are unlikely to be very effective. Thus, the intervention addresses the importance of thorough preparation as a pre-requisite for managing MPA.

SUGGESTIONS FOR FUTURE RESEARCH

1. There is a need to investigate MPA in jazz and popular musicians.
2. There is a need to investigate MPA in beginning-musicians, who are usually young (i.e., school children), and for whom MPA may be a significant deterrent to their continuing with music.
3. It would be useful to trial the M-PAS scale with amateur and professional musicians to determine its ability to discriminate among MPA levels in these groups.

TREATMENT APPROACHES FOR MPA

This chapter provides a brief review of different approaches to treating MPA, followed in each case by a review of studies that have trialled the different approaches, to date. The different treatments include: drug therapy, cognitive therapy, behaviour therapy, cognitive-behaviour therapy, and psychodynamic therapy, Alexander technique and hypnotherapy.

INTRODUCTION

Regardless of treatment approach, treatment of MPA needs to match the multifaceted construct of MPA. Effective management of MPA begins with the awareness and practice of adequate preparation for performing. Where preparation is inadequate, MPA could be a consequence of prior negative performing experiences, rather than being the direct cause of impaired performance, in itself. In cases of inadequate preparation, it is unlikely that any anxiety intervention would be particularly effective.

Where preparation is inadequate, MPA can be more readily understood and potentially managed. However, identifying reasons for MPA is complex, because different individuals are likely to experience MPA for individually differentiated combinations of factors. Many studies have approached treatment on the assumption that the same influential factors apply to all performers. This is an oversight in treatment studies, as while some particular factors (e.g., negative cognitions) are likely to have relevance for a wide range of performers, the varying importance of different influential factors among individuals contributes to a unique experience of MPA for each individual.

There is no agreement regarding the most effective treatment for MPA (Brodsky, 1996). Comparative treatment studies to date have assessed the efficacy of different types of therapies for MPA, regardless of variations within the particular approaches, and regardless of variations among the participants themselves. Within the various cognitive therapy (CT), cognitive behavioural therapy (CBT),

and combined treatment studies, the numbers of participants in the groups who complete treatment are typically small (e.g. Nagel, Himle & Papsdorf, 1989: CBT, $n = 12$, 6 sessions) or, where numbers tend to be larger, treatment is conducted over a reasonably short time (e.g., Kendrick, Craig, Lawson, & Davidson, 1982: CT & Behaviour rehearsal, $n = 2 \times 16$, 3 weeks), or studies comprise small numbers *and* a short time duration (e.g. Clark & Agras, 1991: CBT & Drug therapy, $n = 7-8$ per group, 5 sessions). However, together, these studies contribute to a larger view of treatment effects. Different treatments are discussed below.

DRUG THERAPY

Musicians generally perceive MPA to be a specific problem, unrelated to other psychological difficulties. This view is evidenced by orchestral musicians' use of behavioural strategies to self-medicate with sedatives, alcohol, and prescription or illegal drugs (e.g., Valium, beta-blockers, cannabis) to cope with performance anxiety (see Sataloff, Rosen & Levy, 2000; Steptoe & Fidler, 1987; Wesner, Noyes, & Davis, 1990; Wilson, 1997). Although at times, musicians aim to reduce their anxiety through use of drugs, cerebral depressant substances can have side-effects that are detrimental to performance (Wilson, 1997), and careers could be jeopardised as performance-quality diminishes along with increasing lapses in memory (see Wesner, Noyes & Davis, 1990.)

Anxiolytic drugs can also have negative effects on performance, as they operate in the emotional centres of the brain such as the amygdala of the limbic system to "reduce both the acquisition and expression of conditioned emotional responses," (Wilson, 1997, p. 238). Thus, their effect as cerebral depressants can be to impair psychomotor function, and to produce a state of mild euphoria that can interfere with judgement concerning the performance. Benzodiazapines have also been found to interfere with performance, Diazepam for example, perhaps lowering arousal below the level necessary for high levels of performance (James & Savage, 1984). Likewise, Buspirone has been largely ineffective for reducing MPA, resulting in a lower quality of performance, compared with psychological treatment (Clark & Agras, 1991; see also, CBT section below.)

The only drugs prescribed with any frequency for MPA are the beta-adrenergic blockers, for example, Nadolol, Oxprenolol, and Propranolol (Wilson, 1997). In a

survey study of 2212 American orchestral musicians, 27 percent had used beta-blockers to assist in the control of MPA (Fishbein et al., 1988). In a later study (Clark & Agras, 1991), 20 of 42 professional musicians had used beta-blockers during their careers. Several controlled clinical trials (e.g., Clark, 1989; Fredrikson, Klein, & Ohman, 1990; James & Savage, 1984; Liden & Gottries, 1974) have shown that beta-blockers reduce anxiety symptoms such as heart-rate and tremor, but have minimal effect on *subjective anxiety*. Furthermore, the quality of musical performance in these circumstances was not enhanced as independently judged.

Because beta-adrenergic blockers specifically act to inhibit the autonomic manifestations of the fight-flight reaction, they are used to control anxiety symptoms that interfere with performance, for example, unsteady hands or voice, palpitations, or sweatiness, while still leaving the head clear for optimal performance. However, when investigating efficacy of drug treatments, it is important to keep in mind that there are likely to be individually differentiated responses to medications, as well as dose dependent performance-outcomes.

Beta-blockers are not effective in the long-term management of MPA. The temporary reduction in physiological symptoms is unlikely to remove the causes of symptoms that may recur in similar performance situations, later. Further, the consequences of habitually using anxiety-reducing substances before a performance can result in a feeling of greater anxiety when the performer attempts to perform *without* the use of drugs. This encourages a dependence on the drug, which is required in greater quantities over time to maintain a feeling of well-being (Wilson, 1997). Overall, it appears that any reduction in physiological symptoms, due to drug-use, is at the cost of a reduction in performance-quality. For long-term management of MPA, psychological treatments are likely to be a more appropriate anxiety intervention than medical treatments.

COGNITIVE THERAPY

The general aim of cognitive therapy is for the client to examine beliefs, cognitions and interpretation of events and, where appropriate, to modify dysfunctional beliefs and appraisals (Wells, 1997). Studies have found that destructive thoughts or negative self-talk are often associated with increases in performance anxiety

(e.g., Lloyd-Elliott, 1991; Steptoe & Fidler, 1987). Further, some experienced and successful performers may still “selectively attend to those cognitions and perceptions that confirm their explanatory hypotheses while selectively ignoring information or sensory input that is inconsistent with their beliefs” (Barsky, Geringer, & Wool, 1988, p. 323).

Some performers make negative statements about themselves or about their pending performance that can serve to excuse potential failure. This cognitive strategy can be counter-productive, evolving into *actual* self-handicapping where performers may sabotage their own performance. Examples of self-handicapping may include engaging in negative behaviours such as inadequate preparation, or becoming intoxicated before a performance (Wilson, 1997). Wilson states that susceptible individuals and their therapists should be alert to the signs of self-handicapping such as negative self-statements, and replace such statements with positive and realistic statements.

Awareness, mental simulation, and mental rehearsal

In discussing cognitive approaches to performing physical skills, Green and Gallwey (1986) borrow Fritz Perls' phrase from Gestalt psychology: “Trying fails; awareness cures” (p. 43). Likewise, Millman (1999, p. 19) states that “awareness of a problem is the beginning of the solution.” Ristad (1982) provides a revealing demonstration of how a particular aspect of awareness can apply to improvement in musical performance. Ristad assisted two violinists to achieve a smooth crescendo and diminuendo by asking them to repeatedly draw the shape of the required sound with their bows, and to practise until the playing became smooth and even. As a result of this exercise, instead of just ‘trying again’ to achieve the desired result, the violinists’ mental imagery of the required sound served to increase their awareness of what they were doing and hearing, and ultimately assisted them to achieve the required performance. This exercise demonstrates that a performer might put in hours of dedicated practice, the result of which may only be increased tension, whereas, after even a relatively short practice-period, performance based on a cognitive shift toward greater and specific awareness may result in considerably improved performance. Ristad graphically illustrated that

trying to improve performance is not necessarily useful unless the performer has a specific mental awareness of what is required during the process itself.

Awareness of the performance-process, however, can be disrupted by a variety of factors. For example, an investigation of the effect of self-statements on MPA among student, amateur and professional musicians revealed that negative cognitions were positively correlated with MPA, and positive cognitions were negatively correlated (Steptoe & Fidler, 1987). That is, performers can undermine their own confidence with negative self-talk, and increase self-doubt about their ability to perform, even where they have put in many hours of focussed practice. The association of negative self-talk with higher levels of MPA, has been demonstrated in Study One of the present study.

Mental rehearsal in real time is an important strategy to help artists prepare for a performance, serving to increase focus on the particular skill requirements of a difficult or less familiar passage, enhancing skill development and self-confidence (Roland, 1997). Visualising successful past performances, and creating positive images to replace negative images of less successful performances can also help to build a sense of self-confidence that can be taken into the next performance (Roland, 1997). Many high achieving performers use mental imagery in their training as they clarify their objectives, perfect their skills, imagine themselves in successful situations, and strengthen their beliefs to meet their ultimate goals (Orlick, 1986). Aural imagery is also relevant to musicians (i.e., hearing the music in the mind, together with imagined physical movements required to produce that music). The Australian soprano Dame Joan Sutherland stated that “sounds don’t just happen,” but have to be heard in the mind before they can be produced vocally (Roland, 1997, p. 45).

Mental rehearsal represents only one aspect of non-technical preparation that can raise the performer’s awareness of where attention should be directed in readiness for performing. The value of mental imagery, simulation and rehearsal, from the earliest planning phases through to leaving the stage, has implications for treatment. Mental rehearsal and the use of imagery can form part of a performer’s preparation routine, and this aspect of preparation is addressed in the intervention of the present study.

Stress inoculation

While stress inoculation involves a behavioural component (i.e., exposure to a stressful situation), stress inoculation is discussed here under cognitive therapies, because of its cognitive component. The underlying principle is that “the development of realistic expectations is just as important as replacing negative self-statements with positive ones” (Wilson, 1997, p. 241). Stress inoculation therapy encourages the subject to anticipate the symptoms of performance anxiety, and then to use the symptoms constructively. Anxiety cues are thus acknowledged as normal, but are restructured as desirable rather than as threatening. For example, the subject is taught to perceive the adrenaline effects of anxiety (e.g., pounding heart, sweating, shaking) as normal emotional reactions, which are not conspicuous to the audience. Further, these normal emotional reactions can contribute to a more vital and superior performance.

Cue-controlled relaxation

Three therapeutic approaches were compared against a musical-analysis training group and a wait-listed control group in a study investigating the management of MPA (Sweeney & Horan, 1982). The therapeutic approaches included: (1) cognitive restructuring; (2) a behavioural technique: cue-controlled relaxation; and (3) a combination of the cognitive restructuring and relaxation techniques. The cognitive restructuring condition comprised identification of self-defeating thought patterns, followed by the learning of constructive self-statements to replace the maladaptive thoughts. The cue-controlled relaxation condition comprised the learning of progressive muscle relaxation training, paired with the word *Calm*, this word acting as a self-instruction cue to be used while playing. Cue-controlled relaxation can be helpful in instances where the performer may experience acute anxiety associated with a particularly important occasion (Horan, 1980).

In the Sweeney and Horan (1982) study, cognitive restructuring, and cue-controlled relaxation were both effective in reducing pulse rate and self-reported MPA. The cognitive restructuring produced a reduction on a behavioural anxiety index (including such behaviours as biting lips, wringing hands, shuffling knees). However, the relaxation procedure resulted in improved musical performance and a reduction in trait-anxiety. As might be expected, the combined treatment showed

most of the benefits relating to the individual treatment procedures. The musical-analysis training group was not superior to the wait-listed group. Whether the cognitive therapy or relaxation therapy was superior, is likely to be determined by which of the outcomes is perceived to have the highest value; the cognitive restructuring therapy resulted in lowered measures of behavioural anxiety, but the relaxation therapy resulted in higher levels of performance-quality.

Realistic appraisal

Before assuming that anxiety is the causal factor in low performance standards, it is important to consider the possibility that anxiety may in fact be a *consequence* of previous low performance standards (see Chapter 2). However, whether MPA is a cause or consequence of negative performance outcomes, it is important to appraise performance factors realistically, so effective change can be implemented. At times, performers who are otherwise competent, undermine their own performance efforts by negative cognitions about their performing (see Bergee, 2002).

If performance anxiety has an inverted U-shape relationship with performance quality, then realistic appraisal could be among the most effective strategies to use during public performance (Steptoe & Fidler, 1987). For example, realistic appraisal would allow the performer to acknowledge the possibility of his/her own and other performers' mistakes, and to understand that the audience wants to hear a good performance (which may well contain a few slips). This sort of approach would allow the performer to accept a few mistakes while maintaining a positive or optimistic view of the performance overall. Mental anxiety, rather than somatic anxiety (e.g., sweating, heart palpitations), is more likely to lead to loss of concentration, memory lapse, and a considerable escalation of anxiety or even panic (Steptoe & Fidler, 1987). Cognitive therapy examines factors that can lead to mental anxiety. Since cognitions are linked to affect, to physiological responses, and behaviours (as discussed in Chapter 2), it is important that interventions for MPA pay particular attention to cognitive factors.

Cognitive therapy, behaviour rehearsal therapy, and a wait-listed control group were compared in a study of 53 pianists, aged 12-53 years (Kendrick et al., 1982). The 1½-2-hour therapy sessions were conducted once a week for three consecutive weeks. The cognitive therapy condition consisted of, first, attention-training to

identify negative self-talk and task-irrelevant thoughts during performance and, secondly, training to replace negative and irrelevant thoughts with positive and task-focussed self-talk. The cognitive therapy condition also comprised a homework component (behavioural in part) where participants were required to play for family members, but were also required to record positive and negative thoughts, and to rate their anxiety and performance-quality levels. The behaviour rehearsal condition required participants to play for the other members of the group during the therapy sessions, where the atmosphere was supportive and encouraging. Homework assignments for this condition required participants to play for family members first, and then for family members plus non-family members. Participants in this condition were asked to rate their anxiety and the performance-quality in the homework exercises (but were not asked to record their thoughts). Since there were only three therapy sessions for each condition, there was opportunity for only two homework exercises.

At the end of treatment, there were no differences between any of the groups. However, at five-week follow-up, multivariate analysis revealed that both conditions were effective, relative to a wait-listed control group. Cognitive therapy was more beneficial than behaviour rehearsal however, in enhancing expectations of personal efficacy and in reducing visual signs of anxiety. Overall, the improvement at follow-up in this study may demonstrate the benefits gained over time, from applying techniques learnt in therapy. Kendrick et al. (1982) acknowledge the possible impact of performance accomplishments, instruction, and group influence, but nevertheless conclude that dealing with maladaptive thoughts is important in addition to any behaviour therapy programme. They also note that behaviour rehearsal produced almost as much change toward positive self-talk as did attention-training. This result demonstrates that different therapies can have the potential to be helpful for the same problems when programme-components are pertinent to, and targeted toward, critical cognitions or behaviours. Thus, awareness of underlying influences on, or of, MPA for different individuals is necessary for the development of individually appropriate management strategies.

While Kendrick et al. (1982) acknowledge that being part of the group may have therapeutic benefits in itself, they also raise the view that all therapies may operate on the basis that modified cognitions are involved. Further, the measured

higher efficacy of one self-management programme over another at follow-up is consistent with the nature of self-management therapeutic programmes because, as mentioned above, clients frequently continue to practise newly acquired skills. The authors note that the number of completed homework exercises did not correlate with therapeutic outcomes. Nevertheless, it is possible that the content of homework exercises (e.g., performing for others, and becoming aware of associated thoughts) actually did occur, but that it occurred after the homework set-dates and before follow-up, as the participants continued in their music programmes.

Pham and Taylor (1999) compared mental focus on the *process* of a performance, versus focus on the *outcome* of performance. While this study did not concern musicians specifically, its findings appear to have relevance for musicians. Students who had practised *process*-only mental simulation for the week leading up to a written examination, significantly outperformed students who practised *outcome*-only mental simulation: mean examination scores were eight percentage points higher for the process-only group. Pham and Taylor suggest that the process-simulation meant that these students became more aware of what was required to facilitate examination performance, and were consequently activated to study. The authors conclude that the benefits of process simulation stem largely from its “effects on problem-solving activities - specifically planning - and on the regulation of emotional states” (p. 257).

The focus on *process-versus-outcome*, has relevance for performers in many domains: task-focussed attention is essential for high levels of performance. However, where attention is divided between the process and the possible outcome, cognitive capacity is reduced. Thus, less cognitive capacity is available to execute the task, and the quality of the performance outcome is likely to be reduced. Craig Watson, a New Zealand triathlete and bronze medallist at the World Championships, 2003, commented on the critical nature of attentional focus during high level athletic performance: “There’s twenty of us on the line who have the same ability and we’re equally fit.... It comes down to who keeps their head on their shoulders best during the race.... At this level you can’t afford to lose your focus” (cited in Hodge, 2004, p. 13).

In summary, cognitive therapy aims to assist the individual to examine and, where appropriate, modify dysfunctional beliefs, cognitions and interpretations of events.

In relation to music performance, the nature of cognitive activity is critical to anxiety levels and performance outcome. However, MPA is also influenced by behaviour associated with performance. Behaviour therapy is discussed below.

BEHAVIOUR THERAPY

Behaviour therapy is the application of behaviour theories, for example conditioning and reinforcement, to music performance. Specific conditioned anxieties are most effectively reduced by exposure to real-life situations, and neither graded exposure nor relaxation is necessary (Hawton, Salkovskis, Kirk, & Clark, 1989). In terms of learning theory, the feared object or situation is the conditioned stimulus that the individual has learned to fear. This fear has been maintained because the individual has avoided or escaped the stimulus, rather than having been repeatedly exposed to it until the anxiety has begun to decline (Hawton et al., 1989).

Hawton et al.'s (1989) theory of MPA (i.e., as a type of phobia) accounts for MPA only as a *learned* response. However, individuals high in trait-anxiety are likely to be more vulnerable to higher levels of state-anxiety (Spielberger, 1971), and thus may be more resistant to treatment. Since personality variables are perceived to have a high genetic component, it is probably too great a leap to assume that all MPA is a learned response.

Systematic desensitisation and exposure

In spite of this, some studies have reported treating MPA as a type of social phobia, with techniques used for phobias, for example, systematic exposure to feared stimuli (e.g., in Clark & Agras, 1991). The positive results of the Clark and Agras study (discussed earlier) used an exposure technique in the CBT treatment sessions, but followed the exposure with discussion within the therapeutic group, rather than directly pairing exposure with relaxation. Classic desensitisation has been useful for acting and for speech anxiety (Allen, Hunter, & Donohue, 1989), but no study to date has demonstrated that such exposure paired with relaxation is effective in treating musicians, even after many years as performers (Wilson, 1997).

According to Lehrer (1987), however, frequent exposure to performing, starting from the least to the most threatening performance situations, appears to be the most beneficial behavioural therapy for MPA. Thus, Lehrer is supporting a graded exposure perspective, claiming there has still been no study that has demonstrated any behavioural therapy more effective than rehearsal therapy, which is in fact systematic desensitisation. Lehrer is referring, however, to a depth of behaviour rehearsal built up gradually over many years, and not to a brief desensitisation treatment. For most musicians, ongoing exposure to performance situations is generally necessary to maintain a tolerable and facilitative level of MPA (e.g., Davidson, 2002). Where performers experience lengthy intervals between public performances, however, MPA can again increase until the performer has been exposed to, and managed, further anxiety-evoking situations. Some musicians more than others, may experience greater increases in MPA after periods of not performing. This more vulnerable group typically comprises those who experience anxiety in a wide range of life-situations, and who are likely to have higher levels of trait-anxiety (Lehrer, 1987).

Nevertheless, to assist performers to manage MPA, it is important for them to experience frequent exposure to performance situations in order to become conditioned or accustomed to performing for other people: "Some form of exposure is an essential element of any treatment for this condition" (Powell, 2004, p. 807). Behaviour rehearsal is a type of conditioning where performers are required to perform frequently (e.g., three times per week for several months) for other people, ranging from family members to peers and experts. Specifically, behaviour rehearsal needs to be directed toward building familiarity and confidence in behaviours that are required in particular circumstances (Horan, 1980).

Behaviour rehearsal cannot be viewed in isolation however. There is a relationship between behaviour rehearsal, performance-experience, and technical skill. Performers who have a deficit in technical skill are more at risk for reduced quality of performance due to MPA, than are performers who have a higher degree of technical skill (Lehrer, 1987). Also, anxiety can *facilitate* performance for more experienced performers, but it tends to reduce performance-quality for less experienced performers (e.g., Hamann, 1982; Lehrer, 1987; Wilson, 1994).

With experience *and* a high level of skill, even the most anxious performer may produce a higher quality of performance than the less anxious performer (Lehrer, 1987). But, being able to cope as a performer requires more than technical skill. Being able to cope is identified by Spielberger (1971) as the experience the person can bring to bear on the specific circumstances. Experience is gained through behaviour rehearsal, and direct exposure to live performance. In all, *coping* is bringing technical competence and appropriate performance-experience to a performance situation without being distracted or overwhelmed by the situation itself.

Relaxation

In instances where individuals are leading up to an important performance, anxiety may be at an elevated level over several days or weeks. Regular relaxation techniques can reduce general autonomic arousal in people who tend to be 'up-tight' or fearful (National Health Committee, 1998). Relaxation techniques may include visual imagery, or focussing on a particular thought or idea. Focussing on a particular thought or chosen image can be helpful in allowing individuals to realise that they *can* control what they think about. However, the use of relaxation techniques can occasionally provoke further symptoms in anxious individuals, and thus relaxation exercises need to be monitored (National Health Committee, 1998). For example, where an individual exerts considerable energy managing anxiety regardless of the situation, anxiety may increase during a relaxation exercise. In such circumstances, a therapist can support the individual while encouraging him/her to experience the symptoms (Melmed, 2001), thus assisting the individual to realise that autonomic symptoms of anxiety are not harmful.

Relaxation can also be simulated mentally by, for instance, imagining the completion of a successful performance in a relaxed state, thus associating performance with a state of relaxation. Through such imagery the body is being trained to carry out actions the person has mentally seen him/herself doing (Roland, 1997).

While relaxation techniques are frequently purported to be useful for reducing anxiety in the performing artist, views of the beneficial effects tend to vary (see above). In a study of 100 British orchestral players (James, 1984), 25% of

respondent reported that they engaged in relaxation exercises prior to a concert. However, they were as likely to experience MPA during a performance as players who did not engage in prior relaxation. This finding may be explained by the presence of various other factors that can influence MPA (e.g., negative cognitions, recall of negative reviews, inadequate preparation), which are not necessarily eliminated through relaxation.

Performance-exposure

A study examined performance-quality under conditions of high and low anxiety, and compared outcomes to the assumed retrospective exposure participants had had to performing opportunities (Hamann, 1982). Hamann concluded that there were benefits associated with the greater levels of exposure to performing situations that might be expected with increasing years of formal music education: 90% of participants with over 11 years of experience had their performances judged as 'superior', compared with 62% of those with 6-10 years experience, and 49% of those with less than six years performance-experience. Hamann concluded that increased exposure, as a consequence of years of formal study, together with task mastery, may result in higher performance outcomes. Thus an understanding of the need for sound task mastery and increased exposure to performing opportunities is likely to have implications for inclusion in behavioural therapy programmes.

Behaviour therapy is frequently a component of a broader therapeutic approach (e.g., Clark & Agras, 1991; Nagel et al., 1989). Thus, behavioural aspects of therapy are generally discussed in reviews of studies that include other therapeutic components. Behaviour therapy alone is unlikely to be an effective therapy for MPA, as cognitive processes play a critical role in anxiety (see Chapter 2). When behaviour therapy is combined with cognitive therapy, however, there are likely to be benefits for the anxious performer. Cognitive-behavioural therapy is discussed next.

COGNITIVE-BEHAVIOURAL THERAPY

Cognitive-Behavioural Therapy (CBT) has proven efficacy in anxiety management (see National Health Committee, 1998; Wilkinson, Moore & Moore, 2000),

combining the benefits of cognitive therapy and behavioural therapy into one therapeutic approach. CBT requires individuals to focus on their thoughts, beliefs, and mental images regarding their fears and anxiety, to 'test' cognitions that are harmful or wrong, and to consider symptoms associated with various thoughts. The behavioural component includes relaxation and systematic desensitisation exercises (Wilkinson, Moore & Moore, 2000). Changes to thinking patterns, and attempts to trial new behaviours can be carried out on a daily basis, and feedback can be evaluated, with further changes made to thinking and behaviour where appropriate. Because thoughts and feelings are examined as they affect present functioning, CBT can move at a fast pace (Wilkinson, Moore & Moore, 2000). CBT is thus typically conducted over several weeks (e.g. 4-10 weeks) (Wilkinson, Moore & Moore, 2000), rather than over prolonged periods.

Cognitive-behavioural therapy (CBT) trialled on a group of performance-anxious musicians resulted in significant reductions in trait anxiety and test-anxiety scores for the treatment group (Nagel et al., 1989). Likewise, following cue-controlled relaxation training for MPA (Sweeny & Horan, 1982), there was a significant reduction in scores on the *Debilitating* subscale of the Achievement Anxiety Test Scale (AATS). (The AATS is a measure of trait-anxiety). Nagel and colleagues (1981, p. 33) claim that if performance anxiety has been a "longstanding problem ... reduction of that anxiety will take time, patience, and perseverance," a claim supported by Clark and Agras (1991), and demonstrated in the follow-up results of the Kendrick et al. (1982) study mentioned earlier. (Nagel and colleagues point out that cognitive coping skill applied to musical training and performance was a 'new' and exciting concept at the time of their research in 1981.)

In a study comparing CBT with placebo, CBT with the anxiolytic Buspirone, Buspirone alone, and placebo alone (Clark and Agras, 1991), performance-quality was rated on a scale of -2 through to +2 to denote whether performance-quality was much worse (-2) or much better (+2) from pre- to post-treatment. The highest post-treatment performance-rating was achieved in the CBT with placebo group (1.6), followed equally by the CBT with Buspirone group, and the Buspirone alone group (0.6), and then by the placebo alone group (0.3). There was a significant difference between the two groups that received CBT and the two groups that did not, but there was no significant difference between the Buspirone and placebo

groups. The lower rating of CBT with Buspirone, compared with CBT with placebo, may suggest that negative side effects of Buspirone had affected performance-quality (as discussed earlier). Negative side-effects of Buspirone can include minimal impairment of motorskills, low levels of sedation, and low levels of cognitive impairment (Roth, Noyes, & Burrows, 1988). While Roth et al. state that these side-effects are low in comparison to many other anxiolytics, it is possible that an activity such as musical performance is sensitive to such interference.

In Clark and Agras (1991), scores on the Personal Report of Confidence as a Performer Questionnaire did not reveal a significant difference between pre-and post-treatment for the CBT group with placebo. However, at one-month follow-up, there was a significant difference between pre- and post-treatment for the CBT groups. The Buspirone and placebo groups did not show any significant change. The authors suggest that the improvement in the CBT group scores at one-month follow-up may be attributed to subjects having practised useful skills learned in CBT, but which they had not had sufficient time to practise during the 5-week CBT group therapy programme. Overall, all significant paired comparisons among treatment groups favoured cognitive-behaviour therapy with placebo. For Buspirone, there was not any statistically significant improvement found on any measure. MPA is widely viewed as a type of social phobia, (e.g., Clark & Agras, 1991; Cox & Kenardy, 1993; Steptoe & Fidler, 1987), and of particular importance in the Clark and Agras study, is that participants were required to meet DSM-III-R criteria for social phobia regarding “at least a definable subset of performance situations” (Clark & Agras, 1991, p. 599), to be included in the treatment study. Thus, it is possible that the required exposure to performing in the treatment sessions may have been a significant element for participants in this study.

Results of the CBT studies suggest that CBT treatment can assist in breaking the cycle of negative patterns of thinking and behaving that, over time, may have become part of the performance-routine for many anxious performers. A performer who has received CBT treatment, will have been exposed to a range of cognitive and behavioural strategies that can be further developed over time, and applied across the entire performance-career.

ALTERNATIVE THERAPIES

The *psychodynamic approach* to managing MPA, centres around “unresolved unconscious conflicts,” the underlying dynamics of the performer’s personality development being activated in the relationship (s)he has with the audience (Nagel, 1993, p. 495). Nagel claims that MPA has its roots in the life history of the individual. Psychodynamic therapy is carried out on an individual basis, usually over an extended time.

The *Alexander technique* was developed specifically to replace bad postural habits with good habits, in order to reduce muscular tension and to facilitate smooth, effective technique. Although many musicians believe the technique can assist in the control of performance anxiety (Wilson, 1997), only one study (Valentine, Fitzgerald, Gorton, Hudson, & Symonds, 1995) has demonstrated any reduction in performance anxiety following instruction in the Alexander technique, this reduction being non-significant and limited to low stress situations. Although the Alexander technique is widely practised to reduce physical tension in performance, there are still no conclusive studies that support it benefiting MPA (Wilson, 1997).

Because all treatment methods involve an element of suggestion, it is possible that *hypnotherapy* may be effective to focus attention, and to increase positive thoughts regarding performing when combined with induced relaxation (Wilson, 1997). In a study by Stanton (1994), the effects of a two-session hypnotherapy procedure to reduce MPA were investigated with 40 second- and third-year Australian conservatorium of music students. A comparison of pre- and post-treatment scores revealed a statistically significant reduction in MPA scores for the experimental group only, and there was a further significant reduction for the experimental group between post-treatment and six-month follow-up. Reductions in MPA demonstrated in this study might be accounted for by the use of positive visual imagery concerning performing, and attention to positive verbal statements concerning performing. In this respect, there may be similarities with some aspects of CBT.

CHAPTER SUMMARY

Treatment approaches for performance anxiety in musicians have primarily aimed at: managing physiological symptoms of anxiety through drug therapy; or managing thoughts by using cognitive therapy; or managing thoughts and behaviours using cognitive-behaviour therapy (CBT); or exploring unconscious associations of anxiety in psychotherapy or hypnotherapy. Other treatment studies have investigated the combined efficacy of more than one approach.

Regardless of variations in results across a range of experimental treatment studies, CBT is the treatment most suited to the requirements of the anxious performer. CBT acknowledges the critical influence of thinking on anxiety, and addresses the negative effects of mental and muscular tension on the individual. CBT therapy aims to assist with effective cognitive strategies that can contribute to the control of mental and muscular tension, and to assist with anxiety reduction through behavioural methods such as relaxation and the use of positive imagery. CBT treatment is clearly relevant to the present study, to assist with the management of destructive negative cognitions, the inattention, and muscular tension frequently associated with high levels of MPA. Implications of previous treatment studies are discussed below.

IMPLICATIONS OF TREATMENT STUDIES FOR INTERVENTION

Review of previous treatment studies, together with results from Study One of the present study, indicates that the CBT approach to managing MPA is the most appropriate intervention for MPA. CBT interventions typically assist participants to examine their own thought processes, and to understand how these may be related to affective and physiological responses to MPA. CBT also typically assists participants to reduce physical and mental tensions through the use of relaxation exercises. These two aspects of CBT have direct application to the needs of musicians.

The intervention of the present study (outlined in the following chapter) is developed from a CBT approach, but it does not conform exactly to the CBT model. The intervention also includes components concerning the following critical aspects of performing that have received little or no attention in previous treatment

studies: (1) the *facilitative* role of anxiety in performance; (2) an examination of personal performance-history, and its relationship to present performing; (3) the direction of *attention* while performing (process versus outcome); (4) the importance of preparation (technical *and* non-technical); and (5) the possible impact of personality on performing. It is critical that thought processes regarding performance-*expectations* are examined in therapy. The intervention of Study Two contains a more extensive educational component than conventional CBT therapies.

There are two provisos to keep in mind regarding any interventions for MPA. First, a certain amount of anxiety facilitates performance, and treatment aims should include an acknowledgement of this. Second, thorough preparation is critical to effective performing, and no type of treatment is likely to be particularly effective in the absence of adequate preparation.

Data from treatment studies has generally been analysed on a group basis only, often obscuring individual results, and perhaps overlooking which aspects of treatment may have been helpful to different individuals. In the present study, individual results will be investigated as well as group results.

A final and important point concerning the treatment approach for Study Two concerns the situation in which the therapy is undertaken. The group situation is the favoured context for CBT treatment, reported in MPA studies to date. The present study is also conducted in a group situation: key advantages of the group situation include a supportive environment for performers who share common problems, personal doubts, and a history of performance anxiety. In the group situation, views and experiences previously perceived by participants to be unique and, at times, embarrassing, can be exchanged, and strategies developed for personal management of MPA.

STUDY TWO

KEYNOTES PROGRAMME FOR MUSICIANS

A PSYCHOLOGICAL THERAPY FOR MPA

METHODOLOGY

BACKGROUND AND RATIONALE

It could be argued that an intervention for MPA should be delivered on an individual basis, based on individual needs. However, such an approach would be time consuming, beyond the scope of the present study and ultimately, perhaps less effective than taking a group therapy approach. A group situation, however, can capitalise on providing a forum where participants can benefit from interacting with other performers who share a common experience of MPA. In group therapy, participants can be supported in an environment where MPA is normal for them, and where the common objective of the group is to understand and manage an aspect of performance that is of critical importance for them. Thus, for the purposes of the present study, it was decided that conducting an intervention in a group context would be the most appropriate therapeutic approach. As indicated in Chapter Five, this approach would provide a framework for cognitive appraisal and re-evaluation of factors influencing MPA, and provide participants with an introduction to behavioural techniques appropriate for managing tensions associated with performing. Accordingly, Study Two describes the development and trial of a psychological intervention, conducted as a group therapy.

The intervention has its basis in the anxiety literature, specifically in performance anxiety studies. It was expected that the coverage of all three groups of factors influencing MPA, in a treatment programme, would provide a sufficiently diverse coverage of MPA to have relevance for all group members. It is the inclusion of components from all three categories that distinguishes this intervention (described later) from previous approaches to intervention reviewed in the

literature. Previous approaches have generally focussed on a single category of influential factors.

AIMS

1. **To develop a psychological intervention to assist participants to identify factors of MPA that have personal relevance for them, and to provide participants with a range of strategies to manage personally relevant factors of MPA. The intervention would be delivered in a group therapy situation over six, weekly one-hour sessions.**
 - To develop standardised instructors' guidelines for the intervention, as above.
 - To develop educational material to accompany the various sessions, to hand out during the intervention. The educational material would clarify the concept of MPA, and assist participants to recognise and understand factors that are associated with, and that influence, MPA.
2. **To evaluate the efficacy of the intervention in terms of group and individual results, according to quantitative data from pre-test, post-test, and follow-up M-PAS measures and personality measures, and qualitative data from course feedback.**
 - To select measures appropriate for pre-test, post-test, and follow-up comparisons of MPA and personality factors (trait-anxiety, neuroticism, extraversion) in participants.
 - To investigate the relationship between M-PAS and personality scores at pre-test.
 - To investigate changes in personality measures between pre-test, post-test and follow up.
 - To compare the consistency of M-PAS scores between Course One and Course Two.

- To compare completers and non-completers. (“The loss of subjects is virtually inevitable”: Kazdin, 1994, p. 42).

3. To re-evaluate the M-PAS scale.

HYPOTHESES

Hypothesis 1: Mean M-PAS scores will reduce from pre-test to post-test to follow-up.

(Based on previous studies, discussed in Chapter Five, it was anticipated that some participants would drop out.)

Hypothesis 2: There will be a significant difference in mean M-PAS scores between pre-test and follow-up.

The rationale for this hypothesis is that according to previous studies (see Chapter 5), MPA-management techniques become increasingly effective as they are applied in performance situations over time.

Hypothesis 3: There will be a significant, positive correlation between mean M-PAS scores and trait-anxiety, and neuroticism scores at pre-test, and a negative but not significant correlation with extraversion scores for all participants who began the intervention.

This hypothesis was developed on the basis that: state-anxiety (of which MPA is a type) is typically correlated with trait-anxiety (Spielberger, 1983); MPA is typically correlated with neuroticism (e.g., Dyce & O'Connor, 1994; Rae & Cambridge, 2004); and MPA is not clearly, significantly related to extraversion (e.g., Kemp, 1996; Steptoe & Fidler, 1987).

⑨ **Hypothesis 4:** There will be wide variation in individual M-PAS scores at pre-test, post-test, and follow-up.

Hypothesis 5: M-PAS scores for most participants will reduce from pre-test to follow-up.

Hypothesis 6: Mean trait-anxiety scores will reduce from pre-test to post-test to follow-up.

This hypothesis was developed on the basis that although personality variables are generally stable, some change over time is possible (e.g., Nagel et al., 1981).

Hypothesis 7: Mean neuroticism and extraversion scores will not change significantly over time, and will be correlated over time.

Hypothesis 8: Results for the M-PAS scale at pre-test will be consistent with results for Study One.

METHOD

Design

Most previous treatment studies have comprised self-referred treatment groups that have then met some pre-selection criteria regarding MPA (e.g., 'marked distress,' 'problem,' 'extreme problem,' 'anxiety impairs performance'). Participants in the present study were self-referred, and were not required to meet any pre-selection criteria. That is, all participants requesting assistance in the treatment group were included in the present study.

The intervention was offered to an initial group of 25 participants, eight of whom completed, and then to a group of nine participants, six of whom completed. All participants were combined to form one group for the purposes of data analysis. In the absence of a control group (see below), the two intervention-groups also provided a set of comparative data that could be used to investigate consistency of effects. All participants who began the intervention provided pre-test data before the first session began. The pre-test data for participants who did not complete the intervention was compared with pre-test and follow-up data for participants who completed the intervention.

The intervention approach was based on the anxiety-treatment literature and findings from Study One; Study One and Study Two both comprised participants from the Massey University Conservatorium of Music. The present study is quasi-experimental.

Participants

Like Study One, participants recruited for Study Two were also students studying at the Conservatorium of Music at Massey University, Wellington, New Zealand.

Students were recruited in September 2003 and March 2004, for courses commencing shortly thereafter. Participants are described below.

Participants in Course One: September/October 2003. All students at the Conservatorium of Music were invited to take part in Study Two. The researcher met classical and jazz students at a routine conservatorium meeting, where the study was explained to students, and information sheets provided (see Appendix C.1 for Information sheet and consent form). Information sheets were also placed in student-notice areas of the conservatorium. The target population comprised 140 music students studying classical ($n = 40$) and jazz ($n = 100$) music.

It was anticipated that some students would decline to take part in the study because of time-pressures building toward the end of the year, while others might have seen it as an opportunity to take part in a potentially helpful course as performance-assessments approached. After a two-week period during which participants were able to consider participation, sixteen students enrolled for the course (9 males and 7 females; 15 classical students, and 1 jazz). Ages ranged from 18-26 years as follows: under 20 years 8; 20-23 years: 4; and 24-26 years: 4. Students came from three different years of degree-study: Year 1: 7; Year 2: 8; and Year 3: 1.

Participants in Course Two: March/April 2004. Participants were recruited for Course Two in the same manner as for Course One. The target population in 2004 comprised 160 music students studying classical music ($n = 40$) and jazz ($n = 120$). However, it should be noted that in recruiting participants for the second course, only the 53 first-year students (13 classical, 40 jazz) had not already been invited to take part in 2003. Thus, it was not surprising that fewer participants (9) enrolled for the second course (5 males and 4 females; 6 classical students, and 3 jazz). Ages ranged from 18-44 years as follows: under 20 years: 5; 20-23 years: 1; 24-26 years: 1, 41-50 years: 1; and unstated: 1. Students ranged from Year 1 to Honours: Year 1: 7; Year 2: 1; and Honours: 1.

In light of the conservatorium students' demanding schedules, attempts to recruit a control-group for the present study were unsuccessful.

In total, twenty-five participants began the intervention, described as the *Keynotes Programme for Musicians*, and 14 completed. Eight males and six females completed the intervention; six males and five females did not complete. (21 classical and 4 jazz participants began; 13 classical and 1 jazz completed). A description of completers and non-completers is shown in Table 6.1.

Similar numbers of males and females completed the intervention. Classical students were disproportionately represented (13 of 14 completions), particularly considering their smaller representation in total student numbers at the conservatorium (i.e., *Year 2003*: 40 classical, 100 jazz; *Year 2004*: 40 classical, 120 jazz).

Table 6.1: *Participants in Keynotes Programme for Musicians (Includes completers and non-completers).*

Code No.	Year of degree	Course No.	Gender	Age-group	Classical or Jazz	Instrument
COMPLETED INTERVENTION						
1	1	1	F	16-20	Classical	Cello
2	1	2	F	16-20	Classical	Guitar
3	1	2	F	16-20	Classical	Guitar
4	1	2	M	41-50	Classical	Guitar
5	1	2	M	16-20	Classical	Voice
6	1	2	F	31-40	Jazz	Voice
7	2	1	F	16-20	Classical	Viola
8	2	1	M	21-30	Classical	Trombone
9	2	1	M	16-20	Classical	Guitar
10	2	1	M	16-20	Classical	Guitar
11	2	1	F	16-20	Classical	French horn
12	3	1	M	21-30	Classical	Saxophone
13	3	1	M	16-20	Classical	Guitar
14	Hons	2	M	21-30	Classical	Guitar
DID NOT COMPLETE						
15	1	1	M	16-20	Classical	Guitar
16	1	1	M	16-20	Classical	Guitar
17	1	1	M	16-20	Classical	Voice
18	1	1	F	21-30	Classical	Voice
19	1	1	F	16-20	Classical	Piano
20	1	1	F	21-30	Jazz	Saxophone
21	1	2	M	Unstated	Jazz	Guitar
22	1	2	F	16-20	Classical	Clarinet
23	1	2	M	16-20	Jazz	Guitar
24	2	1	M	21-30	Classical	Guitar
25	2	1	F	21-30	Classical	Piano

Group interaction

Participants in this intervention, whether first-, second-, third-year, or honours-students, generally knew one another prior to the intervention starting. This facilitated reasonably relaxed and willing interaction from the first session, particularly in Course One, which was held towards the end of the year when participants had been studying together for some time. Although group composition changed slightly for some sessions, continuity within the groups did

not appear to be disrupted as participants shared their experiences and took part in the various activities and discussions. Participants interacted readily with the facilitators. Group tone remained positive throughout, and there were light moments during the sessions as students shared aspects of their own performing-experience with the group.

Instructors

Each course of the *Keynotes Programme for Musicians* had two instructors working with participants. The researcher was an instructor in both courses. Two other instructors, both completing the final (internship) year of their training as clinical psychologists, worked on the courses. In Course 1, the intern was in the final three months of her training; in Course 2, the intern was in the first three months of her final training-year. Neither of the interns had musical training. The researcher holds an Associate of Trinity College of Music London (ATCL) qualification in music. All instructors were female. Instructors conferred with a senior registered clinical psychologist before each session, to receive guidance and clarification of their roles within the group.

Measures

Quantitative measures (see Appendix C.2) were administered three times: at the beginning and end of the six-session course, and at four-month follow-up. The purpose of the measures was to:

1. Demonstrate any change in MPA levels, as measured by the M-PAS scale, among pre-test, post-test, and follow-up periods.
2. Show any relationships between MPA, as measured by the M-PAS scale, and personality variables, and to show any change in personality variables among pre-test, post-test, and follow-up periods.

Based on the results of Study One, reported earlier, measures selected for use in Study Two were:

1. The Musicians Performance Anxiety Scale (M-PAS);

2. The trait-anxiety scale (Form Y2) of the State-Trait Anxiety Inventory (STAI) (Spielberger, 1983); and
3. The neuroticism, and extraversion scales, only, of the Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R Short Scale) (Eysenck & Eysenck, 1996).

These measures are described in Chapter Three.

In Study Two, as well as providing one total score for MPA, a brief analysis of M-PAS scores was also conducted for subgroups of items, as follows: affective (Questions 1-10, 13 & 14); cognitive (Questions 11, 12, 15, & 16); and physiological (Questions 17-26). The range of possible scores for the subscales of items are as follows: affective: 12-60; cognitive: 4-20; physiological: 10-50.

Procedure

Participants for Study Two were recruited in the same manner as for Study One (see Chapter 3), with a new information sheet provided concerning the intervention study. Consent forms (see Appendix C.1) were completed prior to the course starting.

As described above, the *Keynotes Programme for Musicians* intervention for music performance anxiety was conducted twice, first in September/October, 2003 (Course 1) and second, with a different group of participants, in March/April, 2004 (Course 2)¹. In each case, the course began two weeks after providing participants with information sheets about the intervention study.

¹ One participant completed Sessions 1-5 in Course 1. He returned to Course 2, to complete the 6th session only, five months later. Therefore, this participant completed only pre-test and follow-up questionnaires. A post-test M-PAS score was estimated for this participant. The estimated score fell exactly between his pre-test and follow-up score. Estimating a post-test score for this participant enabled his course completion to be recognised in the results. Estimations for post-test scores for the personality scales were not made for this participant, as it was anticipated that this missing data would not interfere with results for the typically stable personality variables.

Structure

A broad view of the 'Keynotes Programme for Musicians'

The intervention used in Study Two was, in the first instance, based on theoretical and therapeutic rationale for CBT (see Chapter 5), and was designed to address a range of factors that can exert influence over performing and performance outcomes. Professional psychologists were consulted during the development of the intervention. Similar to CBT interventions, as described in previous studies, the *Keynotes Programme for Musicians* addresses the importance of recognising and managing thoughts, and of developing relaxation techniques. Additionally, and of particular importance in the present intervention, was (1) a focus on how the direction of attention concerning performance can have such profound consequences for the performing musician, and (2) a focus on the importance of preparation.

Direction of attention was considered in terms of process versus outcome. Process versus outcome is a term frequently used in sports psychology (see Chapter 2), and has specific application to any performance endeavour. It refers to the importance of focussing on the process of performing, of focussing on the present, and of directing attention away from the outcome of a performance. Performers are encouraged to develop strategies to assist them to focus on the process of performing, compared with allowing their attention to be directed toward the outcome of a performance, the consequences of which would be to reduce the cognitive capacity required to perform. The inclusion of a process versus outcome component in this intervention is unique in MPA interventions. Previous studies have examined the content of cognitions associated with performing (e.g., unrealistic and destructive self-statements), but have not before approached performing from a process point of view.

The importance of *preparation* was considered from a technical (i.e., skill-based) and non-technical perspective. The non-technical perspective of preparation included aspects of performance-development other than practising the pieces. Non-technical preparation included aspects of performance such as selection of appropriate pieces, relevant and frequent exposure to a range of performing situations, critical appraisal of previous performance outcomes to inform future

performing, becoming familiar with venues ahead of time, and developing performance routines. Again, preparation has received little emphasis in previous MPA treatment studies.

Structure of sessions

The group intervention was developed by the researcher specifically for the purposes of the present study, and delivered in a manualised format (see Appendix C.3 for Instructor's guide and course handouts). The manual was designed following an examination of cognitive and behavioural therapies in respect of a range of authors and their approaches to therapy. Authors of particular influence on the development of the manual, were Beck (1995), Beck, Emery, and Greenberg (1985), and Greenberger and Padesky (1995). For a full list of authors, see the bibliography provided at the end of the instructor's section of the manual in Appendix C.3.

Details of the standardised structure and procedures for Sessions One to Six are shown in the Instructors Guide to the *Keynotes Programme for Musicians*. Broadly, the six sessions were thematically focussed as shown in Table 6.2.

Table 6.2 *Keynotes Programme for Musicians: Session topics.*

Session	Topic
1.	Understanding anxiety Understanding anxiety, and the relationship between thinking and feeling.
2.	Looking at your previous performing Examine your performance history, and use this information to understand and enhance what is happening now.
3.	Examining who you are Examine how personality factors can be used to enhance performance.
4.	Preparation There's more to preparing than just practising.
5.	Evaluation-issues and thinking What am I thinking that other people are thinking? Process versus outcome
6.	Thoughts, feelings and performance A closer look at relationships between thoughts and feelings, and how they can impact on performance.

To give participants a clear understanding of course expectations, the first session included an introduction outlining the purpose and structure of the course. Contact-information was also provided to participants in the event that they experience any course-related difficulties at any time during the course. The instructors answered participants' questions about course organisation. Guided by the instructor, participants set ground rules for confidentiality and the conducting of sessions.

The measures were completed by participants at the start of the first session and at the end of the last session. (An extra 10 minutes was allowed for the administration and completion of questionnaires.) Otherwise, sessions comprised the same components: a review of homework from the previous session; educational material; group discussion; group exercises; setting of personal application exercises (homework), and in four of the sessions, relaxation exercises. Each session followed a typical pattern where the researcher conducted the education section, and the intern guided the discussion, session-exercises, and the weekly personal application exercise (homework).

Feedback to participants on the personality questionnaire

At the beginning of Session One, participants were told they would receive confidential feedback on their own personality questionnaire-results in Session Three (*Examining who you are*). Thus, in the third session, participants were each given, confidentially, a broad description of whether they were *about average*, *slightly above average*, or *slightly below average*¹ on the two personality measures, trait-anxiety and extraversion.

The decision to provide individual participants with broad information about their own trait-anxiety and extraversion scores was based on a view that it could be useful for participants to know that their feelings and responses in a performance situation were normal for them, and constituted their own particular reality. Thus, participants may better understand their own reactions, and recognise the value of using particular strategies to manage or capitalise on their responses to performing. For the purposes of personality feedback in Session Three, participants

¹ Scores were categorised as *average*, *slightly above average*, and *slightly below average* on the following basis: *average*: within one SD of the mean score; *slightly above average*: at least one SD above the mean score; *slightly below average*: at least one SD below the mean score.

received two descriptions of their trait-anxiety scores: (1) their own score compared with the norm score for university students, according to gender (as in Spielberger, 1983), and (2) their own score compared with the mean score of peers at the Massey University Conservatorium of Music who took part in Study One (and who were significantly above norm scores – male and female). Thus, a participant could be above average when compared with USA university students, but average compared with Massey University conservatorium students. Extraversion feedback was provided on the basis only of participants' gender and age-band (as in Eysenck & Eysenck, 1996), because extraversion scores in Study One were not significantly different from norm scores. Feedback on neuroticism scores was not provided to students, as it was believed that students might perceive neuroticism in pejorative terms, given the difference between everyday usage of the term and the psychological definition.

Request for written feedback on course

At the end of the last session in Course One, participants were given a written course-feedback form (Appendix C.4) to complete voluntarily and anonymously. Participants were asked to return the form in a preaddressed envelope, via the conservatorium office (which they had to walk past every day), during the following week. Initially, it had been planned to request written feedback at the end of the last session of the course, but this was changed because of the possibility of a positive response bias, thus threatening the validity of the information (see, e.g., Watson & Leathem, 1996). In the event, only three participants returned the completed form following Course One. Attempts at follow-up phone calls were largely unproductive, as many students could not be reached after the course, the second semester having ended around that time. There was a need to balance the possibility of response bias against the need to obtain feedback on participants' response to the intervention. Therefore, for Course Two, a revised effort was made to gather some course feedback. In this instance, participants were invited to voluntarily and anonymously complete a written course-feedback form and leave it with the researcher (in a provided envelope) before they left the sixth and final session. In this instance, all Course Two participants completed the feedback form.

Organisation

The six sessions ran over four to six weeks, depending on time constraints. Course One ran over four weeks toward the end of the year. Course Two ran over six weeks, as more time was available to the participants early in the year.

CBT therapy can progress quickly (e.g., Wilkinson, Moore, & Moore, 2000, state that therapy sessions are typically conducted weekly across 4-10 weeks). Thus, it was believed that a four-week time frame for Course One, toward the end of the year, was also a reasonable and sufficient to trial the *Keynotes Programme for Musicians* for the first time. It was also appropriate to offer students assistance in the period leading up to their assessments. This first trial would also provide an opportunity to reassess any aspect of the course requiring modification before the second offering of the course, planned for early in the following academic year. The course was not modified for the second delivery in March/April of 2004.

Ideally, each one of the six sessions would have run for 1½ hours to cover material for each sub-topic. However, this time-length was reduced, as other classes at the conservatorium generally ran for one hour, meaning a time-frame of 1½ hours for sessions would, for some participants, have encroached on class-time either before or after the therapy sessions. Therefore, apart for an extra 10 minutes taken in Sessions One and Six to complete pre- and post-questionnaires, sessions were kept to one hour to encourage participation and to minimise loss of participants.

Because of conservatorium timetables, it was not possible to set the same time for all six sessions at the beginning of the course. Organising session-times to suit all participants was complicated, as participants came from four different degree-years with various and variable timetables which also included different elective subjects. Further, participants also had to manage employment commitments and, in some cases, child-care. Thus, students set the session times themselves from week to week on the basis of when they were able to attend. As students could not always all attend at the same time in any week, each of the six sessions was run at two different times per week and in two cases, three times a week to provide suitable time-slots. In the last week of each course, an extra 'catch-up' session was held for participants who had unavoidably missed an earlier session (2 participants in Course 1; 2 participants in Course 2).

Occasionally, a participant would arrive late to a session, or leave early because of changes in their individually scheduled lessons at the conservatorium, or because of employment commitments, extra classes, or child-care requirements. However, participants who missed a few minutes with the group were encouraged to read the provided material and complete the session exercises and homework to maintain pace with the rest of the group.

Participants generally met in groups of four to six. This group-size was determined by the number of participants who were able to attend at the particular arranged times. The composition of the groups was reasonably consistent over the six sessions, although timetabling idiosyncrasies resulted in a few changes of group membership at times. However, continuity within the groups did not appear to be compromised. This is likely to be explained by the conservatorium being relatively small (140-160 jazz and classical students, combined), where students generally knew one another. Further, most participants in Course One were classical students (of whom there were only 40 in total at the conservatorium). Therefore, in Course One, students had generally been working together for one, two or three years. These students appeared comfortable with one another, and they interacted readily with peers and group instructors.

Each session ran from 1-1¼ hours. Overall, session length and the number of sessions in the present study, compare with previous CBT studies. In previous studies, sessions ran from one to two hours, and the number of weekly sessions ranged from four to ten. The number of individuals attending each weekly group-session in the present study was also comparable with group-sizes in previous studies, which typically ranged from 4-8 individuals. The number of participants who completed the intervention in the present study also compares with completion rates in previously reported studies, which frequently range from 10-20 completions (see Chapter 5).

Non-completion. In *Course One*, two participants had been encouraged by their music teacher to attend. Although they attended the first session, they did not want to commit time to the course, and did not return. Three participants were away on a conservatorium trip for two sessions, and on returning, did not attend further sessions (dropping out after the fourth session). Phone calls were made, or messages left, for the three remaining non-completers to catch up on missed

sessions. One of these participants said that she did not have time to finish the course, and the other two did not contact the researcher again.

In *Course Two*, the three participants who dropped out left the course after either Session One or Session Two. Two of these participants were reluctant to fill in all questions on the pre-test questionnaires, both leaving two answers blank. The third non-completer did not return after the second session. As for Course One, wherever possible, any participant who missed a session was phoned the following day, and the researcher invited him/her to attend a 'catch-up' session for the missed session.

After the intervention had been completed, the two non-completers with the highest pre-test M-PAS scores were emailed to ask if they could be interviewed regarding the intervention. Despite attempts by the researcher to word the email in a manner that would not be perceived as threatening (see Appendix C.5), the participants did not respond. Telephone numbers were not available for participants who had left during the intervention.

Ethical considerations

Approval for Study Two was given by the Massey University Human Ethics Committee (Protocol 03/128). Ethical considerations for Study Two included issues concerning informed consent, confidentiality and anonymity, treatment of data, and potential harm to participants. Management of these issues is outlined below.

Informed consent

Prior to giving their consent to take part in the intervention, participants were given an information sheet detailing the purpose of the study, stating expectations of participants and their right to withdraw from the course at any time, and details of issues concerning anonymity and confidentiality (see below). Contact-details for the researcher and supervisors were also provided. Consent forms were signed two weeks after initial contact with participants, and before the intervention commenced.

Confidentiality and anonymity

Study Two involved direct contact among the researcher, course instructors, and participants. The participants' information sheet assured participants that they would remain anonymous in any write-ups regarding the study, and that questionnaires completed by them during the study would be kept secure until destroyed according to Massey University requirements.

Before the first treatment-session began, under the guidance of an instructor, ground rules were agreed within the group, including an agreement that contributions of participants within the group remain the confidential property of the group. Confidentiality was upheld by the researcher and instructors according to the Code of Ethics of the New Zealand Psychological Society, and the New Zealand College of Clinical Psychologists.

Treatment of data

While the majority of the analysis was carried out on a group basis, questionnaires were coded so they could be made into sets for analysis on an individual basis where relevant. When individual sets were complete, code numbers were substituted for the names. Results were reported on a group basis, or if reference was made to an individual result, care was taken to preserve the anonymity of that participant. Participants were invited to collect a summary of group data after the intervention had been completed.

Potential harm to participants

Potentially, any participant may have experienced psychological distress at some point during the anxiety intervention. To minimise the possibility of potential harm to participants, the information sheet provided the researchers' contact phone numbers so participants could arrange for assistance if required. At the first session, participants were reminded of this assistance should they require it, and this information was given to them again in writing in the course hand-outs for Session One.

Overview of data analysis

The aims of Study Two were to: investigate equivalency of Courses 1 and 2 to establish that results could be treated as one set of data; to investigate the efficacy of the intervention; and to re-evaluate the M-PAS scale. (The M-PAS scale, which provided a single measure of MPA for each participant, was developed from the PeQM questionnaire, and first used in Study One. See Chapter 3 for a description of the development and evaluation of the scale.)

The total sample of Study Two comprised 25 participants. According to Pallant (2001), where numbers are small, it is possible that the sample may not be normally distributed on some dimensions, and non-parametric tests are appropriate. Thus, non-parametric tests were used in Study Two unless otherwise stated. Descriptive statistics, including means, standard deviations, and ranges were used to summarise the quantitative measures of personality tests and MPA data, these results forming the base for inferential statistics. Data were analysed using the SPSS 11.5 statistical package for Windows (SPSS Inc, 2002).

Equivalency between the two deliveries of the intervention (Courses 1 and 2) was established through descriptive statistics of demographic, personality and MPA data. Mann-Whitney U tests were then conducted to compare the two groups on personal characteristics and M-PAS scores at the outset of the intervention. M-PAS scores were also compared at post-test and follow-up, as the absence of any significant differences would further justify Courses 1 and 2 being combined into one data set for analysis.

Efficacy of the intervention (change between pre-test, post-test, and follow-up) was investigated using the Friedman Test. The Wilcoxon Signed Rank Test was used to compare change between pre-test and follow-up scores. Spearman's product-moment correlations were conducted to investigate stability within personality measures, and to compare relationships between M-PAS and personality measures.

The total sample comprised 25 participants, equally distributed according to tests of normality. To compare M-PAS and personality scores for all completers at pre-test, and to compare pre-test scores for non-completers with follow-up scores of completers, t-tests were used.

Weiner and Sher (1998) state that the language individuals use to describe their response to treatment indicates much of the therapeutic response. Qualitative analysis of self-reported outcomes was used in addition to the quantitative data. Together, the qualitative and quantitative data provide a broader view of intervention results.

The re-evaluation of the M-PAS scale was conducted by comparing consistency of results for Studies One ($N = 39$) and Two ($N = 25$). Again, with the larger participant numbers of the two studies, Pearson's product-moment correlations were used to compare the relationships of M-PAS scores (i.e., MPA) with the personality variables for both studies. The range of mean scores for Studies One and Two was also compared.

STUDY TWO

RESULTS AND DISCUSSION

The intervention was conducted over two identical courses. In total, 25 participants began the intervention, and 14 completed. As participant numbers and results for gender were similar, and as only four participants studied jazz, results for gender and music genre are not presented separately.

Courses 1 and 2 are compared first, to establish that results for participants who completed the intervention could be treated as one group. Efficacy of the intervention is then considered according to the hypotheses listed. Completers and non-completers are compared. Finally, the M-PAS scale (developed in Study One to measure change in MPA) is re-evaluated.

EQUIVALENCY OF COURSES 1 AND 2

Participants were all students at the Massey University Conservatorium of Music, with similar demographics (see Table 6.1 in Chapter 6). Of the sixteen participants who began Course 1, eight completed (50%), and of the nine in Course 2, six completed (66%). At the outset, there was no significant difference¹ between the two groups in terms of personal characteristics: trait-anxiety [$Z = -1.811$, Asymp. Sig. (2-tailed) = .070, ns]; neuroticism [$Z = -.523$, Asymp. Sig. (2-tailed) = .601, ns]; extraversion [$Z = -.066$, Asymp. Sig. (2-tailed) = .948, ns]; and M-PAS scores [$Z = -.645$, Asymp. Sig. (2-tailed) = .519, ns].

Another consideration prior to pooling the data, was the degree to which the two courses were the same (i.e., in terms of content and delivery). As discussed earlier (see Chapter 6), a manualised format was used to assist with uniformity of the

¹ Where numbers are small, and there is the possibility that the sample may not be normally distributed on some dimensions, non-parametric tests are appropriate (Pallant, 2001). Accordingly, non-parametric tests were used in Study Two. The Mann-Whitney U Test was used to compare independent samples at the same time. The Wilcoxon Signed Rank Test was used to compare paired samples at two different times. The Friedman Test was used to compare scores for the same sample of participants at three different times. Spearman's r was used to investigate correlations.

intervention across deliveries. There was also consistency among instructors: two instructors led each course; the researcher was an instructor on both courses; the second instructors on each course were both clinical interns in the final year of their training; and the same senior registered clinical psychologist provided guidance for instructors on both courses (see Chapter 6). As outlined in Chapter Six, session-times for both courses were arranged on a flexible basis to accommodate participants' timetabling needs.

There were no known extraneous or confounding factors that might have influenced results for the intervention, and although at post-test for Course 1, end-of-year assessments were approaching, likewise, at post-test for Course 2, end-of-semester assessments were approaching. In both courses, follow-up data was collected after the semester breaks while participants were in the early part of the following semesters.

Finally, it was important to compare MPA (M-PAS scores) for Courses 1 and 2 across time periods (pre-test, post-test, and follow-up results: see Table 7.1 below), as finding that there were no significant differences between courses would further justify pooling data. In the event, while M-PAS scores for Course 2 were lower than for Course 1 at pre-test, differences were not statistically significant. Follow-up scores for the two courses were less than three points apart. On the basis then of similarity of demographics, personal characteristics, proportions of participants completing in each group, and MPA (M-PAS) scores over time, the two courses were combined into one group for statistical purposes.

Table 7.1: *A comparison between the two courses of the intervention: Mean and SD M-PAS scores at pre-test, post-test, and follow-up.*

	M-PAS scores				% difference ¹
	Course 1		Course 2		
	M	(SD)	M	(SD)	
Pre-test	80.38	(15.41)	73.67	(20.02)	8.35 (ns)
Post-test	71.38	(18.36)	66.67	(20.11)	6.61 (ns)
Follow-up	63.12	(13.06)	66.00	(16.10)	4.36 (ns)

Note:

¹ Percentage difference between mean scores for Courses 1 and 2.

EFFICACY OF TREATMENT

The evaluation of efficacy of the intervention was based primarily on changes in MPA (as measured by M-PAS scores at pre-test, post-test, and four month follow-up, as well as self-report of outcome).

M-PAS scores

Hypothesis 1: Mean M-PAS scores will reduce from pre-test to post-test to follow-up.

Although the mean M-PAS score reduced consistently from pre-test ($M = 77.50$, $SD = 17.15$) to post-test ($M = 69.36$, $SD = 18.52$), to follow-up ($M = 64.36$, $SD = 13.92$) (see Table 7.2, *Completers*), there was no significant difference for time ($\chi^2 = 5.491$, $df = 2$, Asymp. Sig. = .064, ns).

Each subscale of the M-PAS (cognitive, affective, physiological: see Chapter 5 for description of groupings) was examined across time (pre-test, post-test and follow-up). There was a significant difference for the physiological subscale, which consistently reduced from pre-test to post-test to follow-up ($\chi^2 = 9.347$, $df = 2$, Asymp. Sig. = .009). (See Table 7.3 for a full list of mean and SD scores for subscales of items.)

Hypothesis 2: There will be a significant difference in mean M-PAS scores between pre-test and follow-up.

As predicted, there was a significant difference (reduction) in M-PAS scores between pre-test and follow-up ($Z = -2.167$, Asymp. Sig. (2-tailed), $p = .030$). When analysed by subscales, scores for the physiological subscale of symptoms reduced by 24% [$Z = -2.627$, Asymp. Sig. (2-tailed), $p = .009$]; cognitive reduced by 21% (ns); and affective, by 10% (ns).

Table 7.2: Mean and SD scores for M-PAS, trait-anxiety, neuroticism, and extraversion at pre-test, post-test, and follow-up

		M-PAS			Trait-anxiety			Neuroticism			Extraversion		
		Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up
Completers (n=14)	Mean	77.50	69.36	64.36	43.00	40.31	40.43	6.21	5.69	5.86	7.79	7.38	7.50
	SD	17.15	18.52	13.92	9.58	9.44	8.76	2.91	3.64	3.44	3.19	4.11	3.82
Non-completers (n=11)	Mean	84.55			51.00			7.55			6.09		
	SD	16.50			8.48			2.16			2.74		
All participants beginning intervention (N=25)	Mean	80.60			46.52			6.80			7.04		
	SD	16.90			9.80			2.65			3.06		

Note: Possible range of scores: M-PAS: 26 – 130 Trait-anxiety: 20 – 80 Neuroticism: 0 – 12 Extraversion: 0 - 12

Table 7.3: Mean and SD scores for symptom-subcales of the M-PAS: physiological, cognitive, affective at pre-test, post-test, and follow-up

		M-PAS sub-scales								
		Physiological			Cognitive			Affective		
		Pre- test	Post-test	Follow-up	Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up
Completers (n=14)	Mean	29.00	24.46	22.07	12.14	12.07	9.64	36.36	33.61	32.71
	SD	8.37	7.96	4.07	3.48	5.07	3.81	7.62	7.29	6.91
	Mean score as percentage of possible score	58	49	44	61	60	48	61	56	54
	Percentage-change (reduction) from pre-test to follow-up			24			21			10
Non-completers (n=11)	Mean	31.73			15.45			37.36		
	SD	8.33			3.59			6.53		
All participants beginning intervention (N=25)	Mean	30.20			13.60			36.80		
	SD	8.29			3.84			7.03		

Note: Possible range of scores:

Physiological: 10 - 50

Cognitive: 4 – 20

Affective: 12 - 60

Hypothesis 3: In order to authenticate the M-PAS scale as a measure of MPA, it was necessary to establish that it correlated appropriately with other measures of personality (for which relationship details to MPA had already been established in the research literature).

Accordingly, Hypothesis 3 stated that there will be a significant, positive correlation between mean M-PAS scores and trait-anxiety, and neuroticism scores at pre-test, and a negative but not significant correlation with extraversion scores for all participants who began the intervention.

As predicted, M-PAS scores were correlated with trait-anxiety scores at pre-test ($r = .419$, $p = .037$).

The correlation between M-PAS scores and neuroticism scores did not reach significance at pre-test ($r = .347$, $p = .09$).

As predicted, the correlation between M-PAS scores and extraversion was negative, but not significant at pre-test ($r = -.277$, $p = .180$, ns).

Hypothesis 4. There will be wide variation in individual M-PAS scores at pre-test, post-test, and follow-up.

As expected, there was wide variation among individual M-PAS scores at pre-test, post-test and follow-up (see Table 7.4 below). M-PAS scores reduced from pre-test to follow-up for eleven of the 14 participants who completed the intervention. Scores increased for three participants. Participants with higher pre-test scores tended to show the greatest decrease in MPA, as measured by the M-PAS. A summary of all individual scores for the M-PAS scale at pre-test, post-test, and follow-up is shown in Appendix D.1.

Hypothesis 5. M-PAS scores for most participants will reduce from pre-test to follow-up.

For the 11 participants whose M-PAS scores reduced from pre-test to follow-up, reductions generally occurred in all three sub-groups of symptoms on the M-PAS scale. For two of the three participants whose M-PAS scores increased from pre-test to follow-up, increases represented slight increases in the cognitive and affective components of the M-PAS scale, and no change in the physiological

component. For the third participant whose M-PAS score increased, the increase from pre-test to follow-up was larger: 63 at pre-test to 83 at follow-up. For this participant, the increase in M-PAS score was entirely due to an increase in the affective component of the M-PAS scale, where the score for affective symptoms increased by 91% from pre-test to follow-up. When this participant was removed from the analysis for Hypothesis 1, there was a significant reduction in M-PAS scores across time ($\chi^2 = 7.882$, $df = 2$, Asymp. Sig. = .019). For Hypothesis 2, the significant reduction in M-PAS scores changed as follows: [$Z = -2.552$, Asymp. Sig (2-tailed), $p = .011$]. The mean score for the affective subscale of the M-PAS reduced by 15% to become significantly different from pre-test to follow-up [$Z = -2.450$, Asymp Sig. (2-tailed), $p = .014$].

Table 7.4: *Individual M-PAS scores at pre-test, post-test and follow-up. The change in score from pre-test to follow-up is shown as a percentage-change; the change is shown as a decrease or increase in score.*

ID	M-PAS score			Percentage-change from pre-test to follow-up	Direction of change in M-PAS score
	Pre-test	Post-test	Follow-up		
1	103	67	59	42.72	Decrease
2	100	94	58	42.00	Decrease
3	96	93	72	25.00	Decrease
4	90	79	88	02.22	Decrease
5	87	94	72	17.24	Decrease
6	85	70	66	22.35	Decrease
7	83	68	59	28.91	Decrease
8	72	38	44	38.89	Decrease
9	70	77	77	10.00	Increase
10	67	70	72	07.47	Increase
11	65	59	53	18.46	Decrease
12	63	74	83	31.74	Increase
13	60	52	58	03.33	Decrease
14	44	36	40	09.09	Decrease
Mean	77.50	69.36	64.36	14.36	Decrease

Self-report of outcome

Weiner and Sher (1998) state that much of the response individuals have to therapy can be identified from the language they use to describe their experience. Nine of the 14 participants provided written feedback following the intervention.

When asked to identify the 'most helpful part of the course,' answers included: learning a range of strategies for MPA management; being aware of thoughts; understanding detail regarding preparation; understanding the importance of focussing while performing; knowing that others experience the 'same things'; self-reflection; and relaxation exercises (see Appendix D.2 for full list of comments).

The most helpful homework exercise had been 'keeping a thought record', followed by 'performing like an extreme extravert'. These two exercises were followed by 'creating balanced statements', and listing 'things to help prepare for positive performances'. Most participants did not practise all of the homework relaxation-exercises. However, across the whole group, all relaxation exercises had been practised by at least some of the participants, with muscle relaxation rated as 'extremely' helpful by three of the nine participants. Breathing was highly rated, followed by imagery, and distraction.

The only negative comment was that it was not helpful to have been told that the reframing of thoughts could not be applied outside MPA. This comment indicated that the instructors had not clearly explained the concept of reframing thoughts to this participant. One participant offered that (s)he had 'only become better from the course', and another that 'this course should be compulsory for all first years.' Participants indicated that no important areas had been omitted from the course. General comments indicated that the intervention had been helpful.

Stability of personality measures

Trait-anxiety

Hypothesis 6: Mean trait-anxiety scores will reduce from pre-test to post-test to follow-up.

Although mean trait-anxiety scores reduced slightly from pre-test ($M = 43.00$, $SD = 9.58$) to post-test ($M = 40.31$, $SD = 9.43$), they did not reduce further at follow-up ($M = 40.43$, $SD = 8.75$). There was no significant difference over time. (See Table 7.2 for mean personality scores; see Appendix D.1 for individual personality scores.)

Correlations for trait-anxiety reduced between pre-test and post-test ($r = .768$, $p = .002$), post-test and follow-up ($r = .761$, $p = .003$), and pre-test and follow-up ($r = .534$, $p = .049$).

Neuroticism and Extraversion

Hypothesis 7: Mean neuroticism and extraversion scores will not change significantly over time, and will be correlated over time.

Although mean neuroticism scores reduced slightly from pre-test ($M = 6.21$, $SD = 2.91$) to post-test ($M = 5.69$, $SD = 3.63$), they did not reduce further at follow-up ($M = 5.86$, $SD = 3.43$) and, as predicted, no significant differences were found. Corresponding with this, were significant correlations over time (pre-test to post-test: $r = .761$, $p = .003$; post-test to follow-up: $r = .650$, $p = .016$; pre-test to follow-up: $r = .707$, $p = .005$).

Mean extraversion scores also reduced slightly from pre-test ($M = 7.79$, $SD = 3.19$) to post-test ($M = 7.38$, $SD = 4.11$), but did not reduce further at follow-up ($M = 7.50$, $SD = 3.81$). Again, the differences were not significant, and extraversion scores were significantly correlated over time (pre-test to post-test: $r = .927$, $p = .001$; post-test to follow-up: $r = .809$, $p = .001$; pre-test to follow-up: $r = .711$, $p = .004$).

COMPARISON OF COMPLETERS AND NON-COMPLETERS

Twenty-five participants began the courses, and of these eleven dropped out. The dropout rate in Course 1 ($8/16$) was higher than in Course 2 ($3/9$). (As stated in Chapter 6: "The loss of subjects is virtually inevitable": Kazdin, 1994, p. 42.) Analysed by participants' year of study, $9/15$ students in Year One of their degree dropped out, and $2/10$ of Years Two, Three and Four combined. Dropout rates for males ($6/11$) and females ($5/11$) were similar.

Although it had been expected that some participants would drop out, exact numbers could not be predicted. As it turned out, there were sufficient non-completers to make post-hoc comparisons¹ between completers and non-completers statistically viable.

The 11 non-completers formed a comparison group with the 14 completers, as all 25 participants who began the intervention completed pre-test questionnaires. Thus M-PAS and personality scores of the two groups were compared at pre-test to investigate the possibility of any differences between the two groups. Pre-test scores of non-completers were also compared with follow-up scores for completers, to investigate efficacy of the intervention.

At pre-test, without exception, the non-completers reported higher mean scores than completers on the M-PAS, trait-anxiety and neuroticism measures, and lower extraversion scores, although there was a significant difference only for trait-anxiety scores [$t(23) = 2.177$, $p < .05$, $\eta^2 = 0.17$], with scores higher for non-completers. Mean scores for completers and non-completers on M-PAS, trait-anxiety, neuroticism, and extraversion are shown on Table 7.2 above.

Following the intervention, when pre-test scores for non-completers were compared with follow-up scores for completers, the effect size for the significant difference in trait-anxiety scores [$t(23) = 3.03$, $p < .01$, $\eta^2 = 0.29$] had increased by over 58% (from $\eta^2 = 0.17$ to $\eta^2 = 0.29$), and the difference in M-PAS scores had become significant [$t(23) = 3.32$, $p < .01$, $\eta^2 = 0.32$], with a large effect size. There were no significant differences in neuroticism or extraversion.

¹ Because participant-numbers were greater when the whole sample was included in the analysis, parametric tests were used because of their increased power, compared with non-parametric tests.

A comparison of follow-up anxiety scores [state (i.e., M-PAS) *and* trait] for completers, with pre-test scores for non-completers, suggests that completers benefited from the intervention.

RE-EVALUATION OF THE M-PAS SCALE

The M-PAS scale was re-evaluated in Study Two, for consistency.

Hypothesis 8: Results for the M-PAS scale at pre-test will be consistent with results for Study One.

As shown on Table 7.5, the M-PAS achieved reasonably consistent relationships with the personality variables measured in Studies One and Two.

Table 7.5: *Correlations of M-PAS and personality scores in Study One, and at pre-test in Study Two.*

	Relationship of M-PAS with personality variables			
	Study 1 (N=39)		Study 2 (N=25)	
	r	(sig.)	r	(sig.)
Trait-anxiety	.743	(.001)	.496	(.012)
Neuroticism	.615	(.001)	.347	(.09) ns
Extraversion	-.103	(.531) ns	-.277	(.180) ns

Correlations between the M-PAS and personality variables for Study Two are lower than for Study One, possibly explained by the smaller sample size in Study Two. Likewise, the smaller sample of Study Two could also account for the relationship between the M-PAS and neuroticism not reaching significance, although there was a trend toward significance. Importantly, the sign and relative ranking of correlations for all personality variables remains consistent. Confidence intervals for the slope of the regression lines for the M-PAS and the personality scales in Study two were consistent with results from Study One. That is, although correlations between M-PAS and personality scores are different for each study, the pattern in the relationships is comparable.

Validation of the M-PAS scale is further supported by a comparison of the ranges of M-PAS scores at pre-test in Study Two and scores in Study One, reported earlier: in Study One, M-PAS scores ranged from 31 to 108 ($M = 60.06$, $SD = 18.33$). In Study Two, scores ranged from 44-119 ($M = 80.60$, $SD = 16.90$). Appendix D.1 shows M-PAS scores for all participants. Scores for individual items on the scale are shown in Appendix D.3.

The higher range of scores in Study Two suggests that participants with, generally, higher levels of MPA accepted an opportunity in Study Two to gain assistance with managing MPA. The lower band of scores in Study One appears to represent a broader cross-section of musicians who took part in the survey study. In summary, it appears that the M-PAS scale consistently discriminated among levels of MPA, and identified consistent relationships with the personality variables.

Relationships between MPA, as measured by the M-PAS, and the personality variables investigated in Study Two are also consistent with previous studies (e.g., Clark & Agras, 1991; Rae & McCambridge, 2004; Steptoe & Fidler, 1987).

DISCUSSION

EQUIVALENCY OF COURSES 1 AND 2

On the basis of similarity of participants and course-content/delivery, and test-results of the two courses appearing equivalent at the various stages of the intervention from outset to follow-up, it is likely that any reduction in MPA is due to the intervention. The similar mean M-PAS scores reached at follow-up in Course 1, but at post-test in Course 2, may suggest a saturation point or floor effect for treatment, this point being reached sooner in Course 2 than Course 1 as a result of the slightly lower pre-test score in Course 2.

EFFICACY OF TREATMENT

Hypothesis 1: Mean M-PAS scores will reduce from pre-test to post-test to follow-up.

Hypothesis 1 was supported by the reduction in M-PAS scores, although differences were not statistically significant. It is acknowledged that if there were a significant effect, the low power of the analysis may have obscured this.

Although scores for subscales of items of the M-PAS scale reduced from pre-test to post-test to follow-up, the presence of an outlier in each of the cognitive and affective subscales was likely to have obscured differences in mean scores. Thus, although differences in mean scores for the cognitive subscale appeared similar to differences in the physiological subgroup, the difference in ranked scores for the cognitive subscale was not significant. An outlier in the affective subscale may, also, have influenced the difference in means for this subscale. The scatterplot for the physiological subscale did not reveal any outliers.

Overall, M-PAS scores reduced across time for most participants, as in previous CBT studies (e.g., Clark & Agras, 1991; Nagel et al., 1989). The presence of two outlier scores in subscales for two participants may have accounted for the difference in M-PAS across time not reaching significance in the present study.

Hypothesis 2: There will be a significant difference in mean M-PAS scores between pre-test and follow-up.

Hypothesis 2 was supported. The significant reduction in M-PAS scores from pre-test to follow-up suggests that participants had benefited from skills and strategies learnt and consolidated during and following the course. This result is consistent with previous studies (e.g., Clark & Agras, 1991; Nagel, Himle & Papsdorf, 1989), whose authors state that managing MPA is a learnt skill that develops and gains increasing effect over time. The significant difference revealed between pre-test and follow-up, but not across all three times (i.e., Hypothesis 1), may be explained by the reduced threshold for significance when comparing scores at two times (as in the Wilcoxon test), compared with three times (as in the Friedman test). While the Friedman test has the advantage of incorporating measures at all three times into one test, it is reasonable to recognise the importance of the difference between pre-test and follow-up scores, as change over this period is critical for participants. Also, because therapeutic effects generally consolidate over time as techniques learnt in therapy are applied, (see Kendrick et al., 1982; Nagel, 1989), change between pre-test and follow-up is of critical importance regarding outcome of the intervention.

The variation in levels of cognitive, affective, and physiological subscales of symptoms from pre-test to follow-up, is consistent with previous studies (e.g., Salmon, Schrodt, & Wright, 1989). As for Hypothesis 1, the presence of an outlier in the cognitive subscale is likely to explain why the reduction of 21% for cognitive symptoms did not reach significance. Overall, it appears that skills and strategies to manage MPA, develop over time as they are applied in live performance situations.

Hypothesis 3: There will be a significant, positive correlation between mean M-PAS scores and trait-anxiety, and neuroticism scores at pre-test, and a negative but not significant correlation with extraversion scores for all participants who began the intervention.

The hypothesised relationship between M-PAS scores and trait-anxiety at pre-test was supported, and is consistent with previous studies (e.g., Cox & Kenardy, 1993; Leher et al., 1990; Steptoe & Fidler, 1987), holding to the view that MPA is a type

of state-anxiety. The relationship between trait-anxiety and state-anxiety also provides support for the belief that the highly trait-anxious are more likely to experience high MPA. The expected correlation between trait-anxiety and M-PAS scores in the present study also supports the assertion, made in Study One, that the M-PAS measure is sensitive to indicators of MPA.

The hypothesised relationship between M-PAS scores and neuroticism at pre-test was not supported. Although the relationship did not reach significance, small numbers and the low power of the analysis may have obscured any statistical effects. The trend toward significance between M-PAS and neuroticism scores is consistent with the results of Study One, and with previous research.

The hypothesised negative, but non-significant relationship between M-PAS scores and extraversion was supported. Extraversion was not clearly associated with MPA in this group of, almost entirely, classical musicians. However, the direction of the relationship was consistent with previous research regarding classical musicians.

Overall, relationships between MPA and personality in Study Two were generally consistent with previous studies. (Most previous studies concern classical musicians, and the sample of Study Two was almost entirely classical.). That is, student-musicians tend to achieve higher trait-anxiety and neuroticism scores, and lower extraversion scores, compared with norm scores. These results suggest that musicians, particularly classical musicians, may be vulnerable to MPA on the basis of personality factors alone.

Hypothesis 4. There will be wide variation in individual M-PAS scores at pre-test, post-test, and follow-up.

It might be expected that some individuals will gain considerable benefit from an intervention, while others may gain little benefit (e.g., Lazarus & Abramovitz, 2004). Thus, while group results are useful to assess efficacy of the treatment overall, it is likely that analysis of data on a group basis only, may result in some important individual responses to the intervention being overlooked. Further, analysis of individual treatment outcomes is critical to the objectives of the present study. "When information is contained within raw data, it does not make sense to ignore it" (Watson & Leathem, 1996, p. 286). For five of the 14 completers,

consistent reductions in M-PAS, trait-anxiety and neuroticism scores (and generally stable or slightly increased extraversion scores), may suggest an overall reduction in anxiety for these five participants in particular.

Hypothesis 5. M-PAS scores for most participants will reduce from pre-test to follow-up.

Completers whose M-PAS pre-test score was above the mean pre-test score for all completers (77.50), experienced a decrease in M-PAS score following the intervention. Four participants below the mean pre-test score, also reported a decrease at follow-up (see Table 7.4). Mean M-PAS scores for the remaining three participants below the mean pre-test score, however, showed an increase at follow-up, suggesting that the ability for M-PAS scores to reduce as a result of the intervention may be lower for participants whose pre-test score falls below a certain level.

The greatest reductions in MPA tended to be represented by higher pre-test scores. It is also acknowledged that reductions in high scores from pre-test to post-test for the group as a whole may represent a regression toward the mean. (A “variable that is extreme on its first measurement will tend to be closer to the centre of the distribution for a later measurement”: Everitt, 2002, p. 320).

The large increase in M-PAS score reported by one participant only, from pre-test to follow-up, was consistent with increases in trait-anxiety and neuroticism scores for this participant (extraversion remained high and stable); thus the increase in M-PAS score may have reflected elevated anxiety overall for this participant. Although results for this participant were considerably different and opposite from the rest of the completers, her results are included in the analysis, as the researcher had no knowledge of any major incident during the intervention that might be considered grounds for excluding her.

Self-report of outcome

Written feedback regarding the intervention indicated that participants had found the course helpful to them. It was expected that in a group intervention, different individuals would receive benefit from different parts of the intervention that had personal relevance for them, and the self-reported outcomes suggest this was the

case; it was not possible to measure the specific effects of particular aspects of the intervention (e.g., relaxation exercises) on MPA. There was no apparent difference in the type of comment provided, between the two courses.

Self-reports indicated that many participants were not aware of some of the factors that can influence MPA, and nor had they been aware prior to the intervention that they had been influenced by some of these factors. Informal comments made by participants during and after sessions were consistent with the written feedback. Overall, participants indicated that they now had a better understanding of the role of anxiety in performance, and of how anxiety was exacerbated by negative self-talk. Two participants mentioned the inclusion of the homework exercise to 'play like an extreme extravert' as particularly useful. This exercise was included in anticipation of the typically more introverted, classical musicians who were expected to take part in the intervention; if individuals tend to be introverted socially, then these individuals may have more difficulty expressing themselves in performance situations. It was believed that the behavioural training exercise of playing like an 'extreme extravert' might assist such performers. Overall, it appears that different participants received varying benefits from different parts of the intervention, with attention to thought processes and focussing, and to preparation, cited among the most helpful components of the intervention. As with all written feedback following the delivery of a course, participants' comments should be viewed with caution, as there always exists the possibility of grateful testimonials. Nevertheless, quantitative results and self-reported outcomes are congruent.

The self-reported course outcomes suggest that participants who completed the course have learnt and practised some exercises that are likely to form part of a set of strategies participants can develop over time to assist in the management and maximisation of performance anxiety.

Stability of personality measures

Trait-anxiety

Hypothesis 6: Mean trait-anxiety scores will reduce significantly from pre-test to post-test, to follow-up.

The hypothesised reduction in trait-anxiety scores over time was not supported. The slight reduction in trait-anxiety from pre-test to post-test only, is consistent with the reduction seen in M-PAS scores, suggesting that MPA is associated with other types of anxiety. Although the reduction in trait-anxiety scores may have been due to test-retest variability, the slight reduction in neuroticism also, does suggest a reduction in tension associated with performing. Overall, personality scores were reasonably stable across time, and the small numerical changes might also be explained by a slight variation in reliability.

There was a correlation between pre- and post-test trait anxiety. There was a weaker correlation between pre-test and follow-up, only just reaching significance in this instance. This result parallels reductions in trait-anxiety reported in previous CBT studies for musicians (e.g., Nagel et al., 1989; Sweeney & Horan, 1982). Again, these results link trait- and state-anxiety, and suggest that strategies learnt in the intervention may have benefits for other anxieties.

Neuroticism and Extraversion

Hypothesis 7: Mean neuroticism and extraversion scores will not change significantly over time, and will be correlated over time.

Hypothesis 7 was supported, for though there was a slight reduction in neuroticism and extraversion scores across time (along with trait-anxiety and M-PAS scores), the differences were not significant. The slight decrease in extraversion scores from pre-test to follow-up appears counter to the slight decrease in neuroticism and trait-anxiety scores. Alternatively, again, variation in scores may be due to variability within test-retest conditions.

As expected from the literature (e.g., Eysenck & Eysenck, 1996; Steptoe & Fidler, 1987), correlations for neuroticism and for extraversion were generally stable over

time, and consistent with previous studies. In respect of the present study, the question of any relationship between extraversion and MPA in jazz musicians remains unresolved.

Summary of efficacy of treatment

Overall, according to M-PAS scores, the intervention benefited 11 of 14 participants who completed the course. Reductions in trait-anxiety and neuroticism scores were reported for approximately half the sample, also suggesting benefits of the intervention, since MPA is associated with trait-anxiety and neuroticism. Together, these results suggest that some factors influencing MPA were identified in the present study, and that appropriate intervention strategies were selected and applied in the *Keynotes Programme for Musicians*. Further, M-PAS scores continued to reduce from post-test to follow-up, suggesting that strategies participants had learnt during the intervention had consolidated in the period following the intervention.

The greatest percentage-change reported for the physiological subscale of the M-PAS scale, might be explained by individuals' greater awareness of these symptoms, compared with the often less recognisable changes that appear to have occurred in the associated cognitive and, perhaps, affective symptoms. However, the variation in levels of different subscales of MPA reported in the present study, including the predominance of physiological symptoms of MPA, is consistent with previous studies (e.g., Salmon, Schrod, & Wright, 1989).

Finally, in the present study a number of participants dropped out of the sessions due to their reported work-pressures; it may have been possible to demonstrate increased efficacy of the treatment if greater numbers of participants had completed the treatment, thus enabling the use of statistical tests with greater power. More-detailed benefits of the treatment may also have been evident if more-extensive qualitative feedback-data had been gathered; feedback was positive, but limited to comments from nine of the fourteen participants who completed. Although treatment in the present study was necessarily limited to six sessions, had there been further sessions available to participants, this would have allowed for greater opportunity to develop some of the treatment themes, ideas, and strategies further; participants may have benefited from a more extensive

examination of, and where appropriate, modification of thoughts and beliefs concerning performance. Further, had there been more session-time available, the inclusion of some performance-exposure with feedback during sessions would likely have been a useful addition to the intervention (see section later in this chapter, concerning suggested modification to the intervention).

COMPARISON OF COMPLETERS AND NON-COMPLETERS

The higher dropout rate in Course 1 ($8/16$), compared with Course 2 ($3/9$) may have been a result of the conflicting workload and time pressures that students were experiencing towards the end of Course 1. Apart from three participants who dropped out after the fourth session, all other dropouts left after the first or second session.

It is possible that Year One students may generally have greater difficulty than more advanced students, adjusting to the disciplines of university study, and the Year One students may ultimately have chosen to use the intervention-time for other endeavours. This may have been the case, particularly, for the six Year One non-completers in Course 1 who were approaching the end of their first academic year. Without exception, participants who volunteered a reason for dropping out, cited time-issues as the reason (including employment commitments and assessment deadlines).

In Course 2, one of the three non-completers scored the highest pre-test M-PAS score (119) of all 25 participants who began the course. During the first session of the course, this participant also appeared somewhat reluctant to participate in the group discussion. It is possible that the group therapy situation created too much performance anxiety for this participant. Another non-completer appeared slightly older than other participants, and declined to indicate his age group. In the first session, this student stated that because of his age, compared with most other students in the group, he felt he should be better at coping with MPA than he was. The third non-completer in Course 2 told the group that he was already receiving therapy for an anxiety disorder. This participant was actively involved with the group in the first two sessions, but also dropped out, after the second session.

Learning to manage MPA is not an instant process, and the dropout rate may reflect an impatience on the part of non-completers for immediate results. Alternatively, participants who dropped out may have believed they could not be helped, or may have found the group situation uncomfortable. Group participation requires some sort of performance, and thus performance anxiety within the group itself may be the strongest explanation of why some of the non-completers left therapy.

"The loss of large numbers of subjects in intervention research is not at all rare" (Kazdin, 1994, p. 43). In MPA treatment studies, participants who initially volunteer for treatment are often screened before treatment, and others choose to drop out of treatment. Therefore, initial pools of voluntary participants are often reduced to considerably smaller subgroups of participants who complete treatment (e.g., Clark & Agras, 1991: 99 recruited, 34 completed treatment; Sweeny & Horan, 1982: 80 recruited, 44 completed). It is somewhat complicated to compare the dropout rate in Study Two with dropout rates in previous intervention studies, however, as the present study accepted all volunteers, not requiring them to be screened or meet DSM criteria for psychological disorders. It is possible however, that there may have been participants in the present study who did meet criteria for psychological disorders, in particular for anxiety disorders (see Clark & Agras, 1991).

It might be expected that participants who drop out of therapy are different in some way from those who complete treatment (Kazdin, 1994). The mean M-PAS pre-test score for *all* 25 participants who began the intervention was 80.60; the mean pre-test score for the 14 completers was 77.50. Although the difference between the two scores was not significant, the higher mean score for *all* participants may suggest a tendency for the more anxious performers to withdraw from treatment. The two participants (one in Course 1 and one in Course 2) who reported the highest M-PAS scores (111 and 119) of all 25 participants at pre-test, both dropped out of the course after the first session. The possibility of the non-completers being more anxious is also supported by the higher neuroticism and M-PAS scores reported by this non-completing group. Also, while mean pre-test trait-anxiety scores were not significantly different for completers and non-completers, the higher mean score for non-completers may suggest this group

experienced more anxiety in terms of everyday functioning. Thus, participants who dropped out may have believed that their anxiety was inevitable, and that it was not possible to change how they felt as performers. It is also possible that some of the more anxious individuals were uncomfortable in a group-therapy situation, where they again experienced performance anxiety, and left the group for this very reason. “Nothing works with everyone, and clinical failures are inevitable” (Lazarus & Abramovitz, 2004).

The higher mean pre-test scores for non-completers, compared with completers, on M-PAS, trait-anxiety, and neuroticism measures, and the lower mean extraversion score, suggest that the non-completers were a slightly more anxious and introverted group than the completers.

The significant difference between M-PAS scores for non-completers at pre-test, and at follow-up for completers, revealed a large effect size; likewise, for trait-anxiety, there was a large effect in the difference between non-completers at pre-test and completers at follow-up. Thus, together, a comparison of these results for completers and non-completers suggests efficacy of the intervention.

As discussed above, paradoxically, the non-completers may have dropped out because of negative beliefs regarding, for instance, anxiety-control, or because the group situation itself may have resulted in too much performance anxiety. Little is known about members of the group who did not complete treatment. After they left the intervention, the two non-completers who reported the highest pre-test MPA scores were sent email messages asking them if they could be contacted for feedback concerning the intervention, but they did not respond to the e-mails. As these two non-completers had the highest M-PAS scores of all 25 participants at pre-test, it was expected that had they later been available to discuss their early experience in the intervention, they may have provided some useful information regarding their response to the intervention and to the group situation.

RE-EVALUATION OF THE M-PAS SCALE

Hypothesis 8: Results for the M-PAS scale at pre-test will be consistent with results for Study One.

At pre-test in Study Two, comparisons between the M-PAS and personality variables were consistent with results from Study One, reported earlier, and with comparisons between MPA and personality variables in previous studies. The trend toward significance, rather than a significant difference, between neuroticism and MPA in Study Two may be due to the small numbers and limited statistical power in Study Two. In Study Two, overall, the lower correlations between the M-PAS and personality variables may be accounted for by the smaller sample size of Study Two, compared with Study One. However, the direction of all relationships in the two studies is the same.

It might be expected that the mean pre-test M-PAS score of participants who volunteered to take part in the intervention, would be higher than the mean M-PAS score of participants in Study One, and this was the case. The higher mean M-PAS score at pre-test in Study Two, compared with the mean M-PAS score of Study One, supports the ability of the M-PAS scale to discriminate among levels of MPA; the participants of Study Two are likely to represent a more anxious group who self-referred for MPA treatment, compared with the survey sample of Study One.

In summary, there was a consistent relationship between the M-PAS scale and the personality measures in the present study, and with the findings of previous studies. The re-testing of the M-PAS scale to measure MPA in Study Two, yielded similar results to those emerging from Study One. The M-PAS scale appears to measure what it purports to measure. The re-evaluation of the M-PAS scale in Study Two appears to confirm the reliability and validity of the scale asserted in Chapter Three (see section concerning the development of the M-PAS scale).

CHAPTER SUMMARY

The goal of treatment was to reduce MPA to a level that participants perceived as individually facilitative, acceptable, and manageable. If the efficacy of the intervention is measured by a reduction in M-PAS scores, then when examined individual by individual, it appears that almost all of the participants who completed the intervention experienced some reduction in, or control over, MPA.

In terms of therapeutic intervention, Kazdin (2003a, p. 696) states, "Sometimes a little means a lot." Regardless of statistical significance, any reduction in MPA could have a functional benefit for the individual, even if symptoms for that individual are still higher than for other individuals. The perspective of individual participants is important as a measure of success, and in terms of participants' M-PAS scores and the feedback they provided, it appears that the intervention has had a positive effect on the functioning of most participants. In self-reported outcomes, and informally, many participants reported that they were better able to cope with the demands of performance and, specifically, with MPA following the intervention. Further, it is also possible that whether or not participants' M-PAS scores decreased at follow-up, participants may still receive benefits from their work in the intervention as techniques are practised, and learning is consolidated over time.

Results of the present study suggest that the intervention targeted influential factors of MPA, and assisted participants to modify or manage some aspects of MPA, pertinent to them individually. "The goals of therapy include coping with the situation, altering one's views, and taking action to manage the situation" (Kazdin, 2003a, p. 697). The intervention aimed to assist in that process, and results indicate that this aim was achieved.

METHODOLOGICAL ISSUES AND LIMITATIONS OF STUDY TWO

The intervention offered in Study Two did not have a prior record of success; thus students who took part did so knowing that the intervention was experimental. Further, students may have perceived such a course as potentially ineffectual, as there is widespread belief among musicians that MPA is just part of being a

performer (Piperek, 1981). These factors, together with the time constraints and demands typical of university study, may account for the small sample size in the present study. The analytical power of Study Two was limited by the number of participants who completed the intervention, thus limiting the conclusions that can be drawn.

It is possible that the sample of Study Two may be biased toward participants with higher levels of MPA. However, this is inevitable in a treatment study, and is a characteristic of previous treatment-studies for MPA, where participants are frequently selected according to criteria that identify them as more-anxious performers. By limiting studies of MPA to the more-anxious performers, however, there is little opportunity to learn from, and about, performers who *do* manage performance anxiety effectively. The self-referral of more classical participants than jazz, may reflect the results of Study One, which identified slightly higher levels of MPA in classical than in jazz students.

While results of the present study indicate that the M-PAS measure has the ability to discriminate among different levels of MPA in participants of Studies One and Two, the M-PAS measure does not have recognised psychometric properties. However, the re-evaluation of the M-PAS in Study Two confirmed results of Study One concerning reliability and validity of the measure. Because there is no widely accepted and established scale specifically designed to measure MPA, the combined use of the M-PAS scale and another appropriately modified state-anxiety scale may have been useful for comparison and validation purposes in the present study.

The use of non-parametric statistical analysis in Study Two reduced the power of the analysis, and thus may have obscured significant results. In the light of the small sample size of Study Two, it would be beneficial to replicate the findings.

Despite self-referring for treatment in Study Two, the participants who dropped out tended to be a more-anxious group. Thus, participants who completed the intervention may not necessarily represent the most anxious student-performers, this possibility reducing the generalisability of the intervention results. There was no control group for Study Two, although a comparison of pre-test scores of non-completers, with scores of completers provided a comparative set of data that suggests efficacy of the intervention. The methodology and findings of Study Two

were strengthened by the use of a standardised treatment manual, enabling the intervention to be delivered as consistently as possible over the two deliveries.

It is possible that some kind of exceptionally positive or negative experience associated with performing, or an external event, could have occurred for any participant between the times when measures were taken. In such a case, the event could have potentially exerted an influence over post-test or follow-up measures, resulting in error variance. (There will inevitably be some variation in how individuals perform or how they rate their performance on different occasions. However, it is assumed that such unsystematic errors will have an equal effect on all conditions, so scores will not be affected by a systematic bias: Coolican, 1999). Knowledge of whether any participants had experienced an important positive or negative personal event between the beginning of the course and the time of follow-up may have provided some context for any unexpected intervention-results, or for results that were rather different from those of other participants.

There was a possibility of demand characteristics affecting M-PAS scores and the self-reported data in Study Two. To minimise possible effects of response bias on the M-PAS forms, participants were reassured that any data they provided would be viewed in terms of a code number only, rather than it being individually identifiable data, and that the data would remain confidential to the researcher. To minimise response bias on the course feedback forms following the intervention, participants were asked to provide the information anonymously. However, it would have been useful if written feedback could have been identified according to individual participants: identifiable feedback would have allowed the comments to be individually matched with the quantitative data, thus providing the potential for further insight into individual responses to treatment. It is acknowledged that if feedback were identifiable, however, that comments may have been influenced by demand characteristics or, alternatively, may have lacked frankness.

It may have been useful to have had an arrangement by which to talk with non-completers after the intervention had concluded. Although non-completers who volunteered reasons for not completing the intervention cited time-related issues, talking with non-completers may have provided useful insight into reasons that some of these participants believed the intervention was not a good use of time in their busy schedules.

Suggested modification to Keynotes Programme for Musicians

It was beyond the scope of Study Two to include live performances by participants during therapy. In future deliveries of the intervention, the behavioural component may be improved by the inclusion of some performance-exposure in the group situation. The inclusion of performance and related discussion is likely to be helpful in the creation of realistic appraisals and expectations of the participants, and contribute to building performance-confidence. Repeated performance-exposure and reflection on the experience in a therapeutic environment is likely to assist in supporting the belief that performing will not inevitably result in disastrous outcomes.

IMPLICATIONS OF STUDY TWO

Many intervention studies have small numbers of participants within treatment groups (e.g., 12 in Nagel et al., 1989; 16 in Kendrick et al., 1982), but together these studies contribute to an increased understanding of performance anxiety in musicians. It appears that findings of the present study can contribute to this understanding.

During the intervention, a considerable amount of material was presented to participants, and it is possible that participants experienced an overload of information during the intervention. Management techniques for performance anxiety require practise and implementation over a period of time to become effective, and thus it may be useful for participants to attend a refresher session six months after the completion of such an intervention. Six months would allow time for practice and consolidation of course material following the intervention. A refresher session may be a productive context for participants to reconsider course material, and to exchange views regarding progress in the management of MPA.

There was considerable difficulty concerning the arrangement of regular session-times for participants in the intervention. This could be overcome in future deliveries of the intervention by timetabling the *Keynotes Programme for Musicians* into conservatorium curriculum. This would mean that attendance at all sessions would be facilitated by regular session-times from week to week, and

students would be offered the opportunity to benefit from some effective MPA management strategies, that appear to be required by many music-students.

The *MPA Process Model* (Fig. 4.6) and the *MPA Relationships Model* (Fig. 2.5), developed for the purposes of the present study, were integrated into the intervention. Additional to the intervention-material, much of which is typical of previous CBT studies (e.g., Clark & Agras, 1991; Nagel et al., 1989), the *Keynotes Programme for Musicians* included two extra components: these components addressed the critical roles of (1) preparation (technical and non-technical) and (2) a focus on the process rather than the outcome of the performance. Unlike previous treatment studies, the present study emphasised the importance of preparation in developing performance confidence; the present study also addressed the direct link between preparation and MPA.

A second and critical aspect of the *Keynotes for Musicians Programme* was the attention given to focussing on the process versus the outcome, regarding performance. This entailed performers directing their attention to what they needed to do at a specific moment to perform well. This meant that attention was not directed toward the outcome, or to any aspects of performance that might affect the outcome (e.g., slips, poor performance standard, perceived disapproval from a judge). If attention is directed wholly to the process of performing, there will be no space for, nor any attention given to, for example, negative self-talk, the size of the audience, who the critics might be, or to any other distractions. As stated by Jackson and Csikszentmihalyi (1999), peak performance depends on the ability to disregard external stimuli. Attention to *process versus outcome* is a critical element of high quality performance, and to date this aspect of performance has been included in the approach to elite sports performance, but has been overlooked in the management of MPA.

A considerable effort in sport psychology research concerns the performance of athletes attempting to achieve their highest levels of performance under the highest levels of pressure, where outcomes carry the greatest consequences. There is a large and increasing literature concerning performance anxiety in sport. While there are some unique differences between performance-domains, research in sport performance appears to have considerable relevance for, and application to, music performance. For instance, sport psychology allocates considerable

resources to investigating anxiety-measurement, to controlling attentional focus during performance, to establishing optimal arousal levels, developing confidence, developing performance routines, and to designing cognitive interventions for performance anxiety. Thus, it is imperative that MPA research looks beyond the music literature, and considers approaches in other domains that can broaden and benefit the management of anxiety in music performance.

As the present study has demonstrated, there are aspects of managing MPA that are likely to be relevant for anxiety management in a range of other performance areas. Thus, research in MPA management can make a contribution to managing performance anxiety in other sorts of performance endeavours.

The present study enables an assessment of an until-now untrials approach to MPA management, and this approach may shed some light on the way forward.

SUGGESTIONS FOR FUTURE RESEARCH

1. The replication of Study Two with greater numbers would assist to clarify the intervention findings.
2. It is suggested that future treatment-studies for MPA draw on the vast quantity of literature regarding performance anxiety in elite sport.

SUMMARY, CONCLUSIONS AND EVALUATION

This chapter summarises the findings and conclusions of Studies One and Two in respect of the proposed aims outlined in Chapters Three and Six. The two studies are evaluated in terms of methodological issues, limitations and implications of the study, and suggestions made for future research.

Study One aimed to determine the prevalence and intensity of MPA, to identify the components of MPA, and clarify factors that influence MPA. MPA was compared in males and females, and classical and jazz participants. The M-PAS scale, developed and evaluated in Study One, was used to measure MPA.

Consistent with previous studies of student-musicians, MPA was widely experienced by participants, and manifested in a range of symptoms related to the four components of MPA: physiological, cognitive, affective, and behavioural. Importantly, MPA symptoms were generally maintained at high levels into the performance itself, thus having the potential to disrupt and impair the performance. Overall, females tended to experience higher levels of MPA than did males, and classical participants reported higher levels than jazz participants.

Three broad groups of influential factors were identified: personality, experience, and situational variables. Of the personality variables, trait-anxiety was the most closely associated with MPA, suggesting that high trait-anxiety may predispose performers to high MPA. Overall, technical preparation (i.e., skill mastery) was not associated with MPA. This may be explained by the fact that even where performers have high levels of skill, even the most seasoned performers can still be affected by exactly the same factors that influence MPA in novice performers. The highest levels of MPA, and usually the lowest levels of enjoyment, were generally associated with performance situations with the highest potential for exposure, judgement and evaluation, demonstrating the impact of the *situation* on MPA.

Overall, Study One investigated a wide range of variables emerging from previous MPA studies and from studies in other performance domains (e.g., sports performance, public speaking, acting). Study One also explored the role of

preparation, and locus of attention in relation to performing. These two aspects of the investigation revealed that participants were frequently inappropriately prepared for the demands of public performing, and that attention was often focussed on the outcome, rather than on the *process* of performing. Both of these findings were related to higher levels of MPA.

In summary, the aims of Study One were met. Two key models were developed from the findings, the *MPA Relationships Model*, and the *MPA Process Model*. These models were used, together with related psychological theory, to inform Study Two.

Study Two aimed to develop, trial and evaluate a psychological intervention for MPA. The M-PAS scale was also re-evaluated in Study Two. *The Keynotes Programme for Musicians* was built on the broad investigative base of Study One, where an extensive range of factors associated with MPA was examined. The anxiety literature was examined, and the intervention anchored in established psychological principles.

Although there was some variation among individual results for the intervention, the intervention appeared to be helpful for almost all participants who completed it, and with more analytical power there may have been greater statistical evidence of benefit to participants. Between pre-test and follow-up, there was a significant reduction in MPA, as measured by the M-PAS scale. Reductions in trait-anxiety and neuroticism scores between pre-test and follow-up also suggest efficacy of the intervention, though these benefits were not evident by examining only the M-PAS scores.

The M-PAS scale, although necessarily limited in length, captured some key indicators of MPA. However, apart from factors measured and reflected directly in the reduced M-PAS scores, there were an additional number of factors identified in the self-reported outcomes of Study Two that suggested a reduction in MPA. Such factors included, becoming aware of [unhelpful] thoughts, attending to details of preparation, and learning to focus attention appropriately during the performance. These factors were specifically targeted in the intervention, and their citing by participants as indications that MPA was being better managed following the

intervention, supports the approach taken in the *Keynotes Programme for Musicians* intervention.

Together, reductions in M-PAS, trait-anxiety, and neuroticism measures suggest efficacy of the intervention. Combined with the quantitative results, the self-reported intervention outcomes support the statistical evidence of efficacy.

Participants who did not complete the intervention appeared to be a more anxious group overall, than the completers. While non-completers cited time issues as the reason for not completing, it is also possible that the group therapy situation was unsuitable for some non-completers, who may have experienced increased performance anxiety in the group situation.

Results for the M-PAS scale were consistent between Studies One and Two, and MPA findings were consistent with those reported in previous studies, providing support for the reliability and validity of the M-PAS.

Student performance-musicians are generally working towards establishing themselves in careers as performers, and it is important they receive assistance and support regarding MPA as part of their developmental training. Much of the anxiety associated with performing can be controlled through the application of a range of strategies such as managing thoughts associated with performing, preparing thoroughly, and attending to the process of performing (i.e., remaining in the present), rather than focussing attention on the outcome of the performance.

Particular emphasis in the present intervention, in contrast to previous treatment studies, concerned a focus on *process versus outcome*, and on the critical role of preparation. It appears that these two components made a unique and important contribution to the design of the intervention.

With the exception of Course One being delivered over four instead of six weeks, the aims of Study Two were met. The intervention addressed the four components of MPA, covered a range of influential factors, and included a range of strategies to manage MPA. The significant reduction in MPA scores from pre-test to follow-up suggests that factors associated with, and influencing MPA were appropriately targeted, and that most participants gained some benefit from the intervention. In future deliveries, it may be appropriate to consider an individual therapy option for participants who are very uncomfortable in a group situation.

With increased understanding of the role of anxiety in performance, and with command of some effective management strategies, many of the negative effects, or negative associations with anxiety, can be reduced and controlled. As discussed, anxiety is the manifestation of a range of factors. Anxiety will reduce or come under control only if the performer attends to the underlying influential factors; otherwise, attempts to reduce or manage anxiety are likely to be unsuccessful. Quantitative and self-reported therapy outcomes suggest efficacy of the *Keynotes Programme for Musicians* intervention. Written self-report, and verbal comment by a third-year student, suggested: “*This course should be compulsory for all first years.*”

It is advised that music conservatoriums include in their programmes some training in MPA management. The design of the *Keynotes Programme for Musicians* appears to be an appropriate approach for assisting performers to manage MPA.

Overall, MPA in participants of Studies One and Two was representative of MPA as reported for student-musicians in the literature. The distinguishing and typically high levels of MPA in student-musicians, compared with professionals, has implications for performance outcomes, with excessively high levels of MPA likely to result in impaired performance, and in reduced enjoyment for the performer. Thus, it is critical that student-musicians gain frequent performance-exposure where they can gain experience in a wide range of performance situations.

Concerning Methodological issues and limitations, to increase internal validity, participants in Studies One and Two were all musicians at the Conservatorium of Music at Massey University. A strength of Study One was the inclusion of participants who reported only minimal concern regarding MPA, rather than screening these participants out of the study. The inclusion of participants with high *and* low levels of MPA contributed to an understanding of the correlates of low MPA, as well as the correlates of high MPA. Correlates of MPA established in Study One, were worked on as possible influences of MPA in Study Two.

Apart from the standardised personality questionnaires used in Studies One and Two, two additional questionnaires were developed for the present study, the

PeQM (used in Study 1) and the M-PAS scale (used in Studies 1 and 2). The advantage of the PeQM survey questionnaire was that it targeted information that would provide a context for understanding MPA in the sample of Study One; the M-PAS scale was developed from the PeQM to provide a single measure of MPA for each participant in Studies One and Two. The reliability, validity and internal consistency of the M-PAS were investigated, and appear satisfactory.

The present study includes some elements that have received little attention in most previous MPA treatment studies. For example, the role of attention concerning high levels of performance, the impact of personality on performing, and particular preparation concerns, were important aspects of the present intervention. These performance-elements are often overlooked by performers, particularly by the less experienced. While the role played by the thoughts themselves is critical to performance outcomes, the role of attention is also critical: where attention is not wholly allocated to the task in hand, performance-quality is at risk. The role of attention during performance, and the need for thorough preparation have received little or no attention in the treatment literature to date. In terms of attention, the concept of *process versus outcome*, a term captured from the sport psychology literature, has direct application to managing attention during music performance. Sport psychology is a broad, increasingly well funded, and rapidly advancing field of research, and it is important that treatment for MPA draws on this research, as strategies for peak performance in sport are likely to have relevance for managing MPA.

There have been no studies to date that have specifically targeted performers who report *few* concerns regarding performance anxiety (in a range of domains). This represents a gap in the literature. A study of the *low-anxious* performer may assist in understanding these performers and how they manage performance anxiety, and may ultimately contribute to the adoption, adaptation or development of further effective strategies for the high-anxious performer.

Findings of the present study have implications for music teachers and for curriculum development in music schools. Again, it is important that student-musicians receive assistance in understanding and managing MPA. Kendrick et al. (1982) point out that it “would be easier to teach music teachers what they need to know about [training students to monitor and replace negative self-talk, for

example], than to teach psychologists what they would need to know about music” (p. 361).

The intervention comprised a number of components that were expected to have varying degrees of relevance for different participants. This was an appropriate approach within the group therapy approach adopted in the present study. However, there is also a place for targeting specific aspects of MPA that have personal relevance for particular performers. To achieve this, there is a need for an appropriate diagnostic instrument for MPA.

The group format appeared to be appropriate and beneficial for participants who were able to readily share their MPA experiences. However, some of the participants who dropped out may represent a more-anxious group who perceived the group therapy situation as threatening or uncomfortable. These participants may be attracted to an opportunity for individual therapy.

The *MPA Relationships Model* (Fig. 2.5) and the *MPA Process Model* (Fig. 4.6), developed for the purposes of the present study and integrated into the intervention, were appropriate conceptualisations of MPA as a construct, of how MPA becomes a positive or negative cycle of arousal, of how MPA is influenced by three broad groups of factors, and how gender or music genre may impact on the relationship between MPA and influential factors. The intervention designed specifically for the purpose of the present study, appears to have been an effective approach to the management of MPA in student-musicians. The study is also likely to have relevance for a range of other performance domains.

In addition to suggestions made at the conclusions of Studies One and Two for future research:

1. There is a need to build on the concept of *process versus outcome*, a term captured from sport psychology, and applicable to MPA.
2. Research in MPA is likely to benefit from an investigation of performance anxiety in domains beyond the music literature, particularly sport performance, which shares so many elements of performance common to musicians.

3. There is need for a music performance anxiety diagnostic instrument that identifies (a) the level of MPA, (b) the *type* of influential factors pertinent to the respondent, and (c) the *strength* of particular influential factors for the individual respondent.
4. It may be useful to conduct an investigation of performers who *do* manage MPA effectively, and discover what identifies this particular group. Such a study may provide increased understanding of factors underlying MPA, and may suggest further strategies for MPA management.
5. There is a need for treatment studies with larger numbers of participants.
6. There is a need to investigate MPA in a wider context of personal and environmental factors.

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APPENDICES

Appendix A	Table of prevalence rates from previous MPA studies
Appendix B.1	Measures for Study One
	Trait-anxiety inventory (STAI-Y2)
	Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R Short Scale)
	Performing-experience Questionnaire for Musicians (PeQM)
	Musicians Performance Anxiety Scale (M-PAS)
Appendix B.2	Information sheet: Study One
Appendix C.1	Information sheet and consent form: Study Two
Appendix C.2	Measures for Study Two
	Trait-anxiety inventory (STAI-Y2)
	Neuroticism and extraversion scales from the Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R Short Scale)
	Musicians Performance Anxiety Scale (M-PAS)
Appendix C.3	Instructor's manual and session handout-notes for <i>Keynotes Programme for Musicians</i>
Appendix C.4	Intervention feedback form
Appendix C.5	Copy of author's e-mail to non-completers
Appendix D.1	M-PAS and personality scores for individual participants in Study Two
Appendix D.2	<i>Keynotes Programme for Musicians</i> : Summary of participants' feedback
Appendix D.3	M-PAS Scale: Summary scores for individual items in Study Two.

APPENDIX A

Table of prevalence rates from previous MPA studies

Appendix A: *Table of prevalence rates from previous MPA studies*

Study	MPA definition	Measures (and criteria where appropriate)	Participants	Details of MPA
Kaspersen & Gotestam (2002)	Performance anxiety (PA)	Authors' questionnaire	126 Music Conservatorium students Male: 51 Female: 75 Classical: 107 Jazz: 19 Mean age: 22	Need help for MPA: 36.5%
Marchant-Haycox & Wilson (1992)	PA	PA on Health Survey	Mixed professionals and students: 65 Instrumentalists Male: 53 Female: 12 Mean age: 39	Reported MPA: 47%
			38 Singers Male: 16 Female: 22 Mean age: 29	Reported MPA: 38%
Clark & Agras (1991)	PA	1. Impaired performance or avoidance, and 2. Score of at least 8 on Confidence as s Performer Scale, and 3. Met criteria for social phobia for at least one performance situation.	94 recruited via mass media Prof: 42 Student: 8 Amateur: 44 Male: 40 Female: 54 Mean age: 37.5	Reported MPA: 100% Impaired performance: 97% Avoided performing at times: 77% Stopped performing or left profession: 29%

Wesner, Noyes & Davis (1990)	PA	Authors' questionnaire	Univ Music School: N=302 Students (197) Faculty (55) Male: 137 Female: 157 Not stated; 8 Mean age: 28	Caused distress: Marked: 21% Moderate: 40% Minimal: 39%	Impaired performance: Marked: 16% Moderate: 30% Minimal: 54%												
Fishbein et al. (1988)	Stage fright	Authors' questionnaire	2212 professional orchestral musicians Male: 1416 Female: 794 Unstated: 2 Mean age: 42	"Severe problem": 16% "Problem": 24%													
Nagel (1988)	Stage fright	Author's questionnaire	82 performers, ex-performers, and non-performing musicians. Gender unstated	Reported MPA: 92% Adverse effects on public performances: 62%													
Steptoe & Fidler (1987)	PA	STAI State scale (Spielberger, 1970) Instructions modified by Steptoe & Fidler.	146 orchestral musicians: Students (41) Amateur (40) Prof (65) Female 40-50%	Mean STAI (State) scores, only, stated: <table><thead><tr><th></th><th>$\bar{x}$</th><th>SD</th></tr></thead><tbody><tr><td>Students:</td><td>50</td><td>(11.6)</td></tr><tr><td>Amateurs:</td><td>46</td><td>(10.3)</td></tr><tr><td>Prof:</td><td>42</td><td>(10.8)</td></tr></tbody></table> (Possible range: 20-80)			$\bar{x}$	SD	Students:	50	(11.6)	Amateurs:	46	(10.3)	Prof:	42	(10.8)
	$\bar{x}$	SD															
Students:	50	(11.6)															
Amateurs:	46	(10.3)															
Prof:	42	(10.8)															
Liden & Gottfries (1974) (From letter to editor: full report not published)	Severe catecholamine symptoms	Authors' assessment of catecholamine symptoms	41 orchestral musicians Details of participants not stated	Catecholamine symptoms so severe as to qualify for treatment: 46%													

APPENDIX B.1

Measures for Study One

Trait-anxiety inventory (STAI-Y2)

Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R Short Scale)

Performing-experience Questionnaire for Musicians (PeQM)

Musicians Performance Anxiety Scale (M-PAS)

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

ALMOST NEVER
SOMETIMES
OFTEN
ALMOST ALWAYS

- | | | | | |
|---|---|---|---|---|
| 1. I feel pleasant | 1 | 2 | 3 | 4 |
| 2. I feel nervous and restless..... | 1 | 2 | 3 | 4 |
| 3. I feel satisfied with myself | 1 | 2 | 3 | 4 |
| 4. I wish I could be as happy as others seem to be | 1 | 2 | 3 | 4 |
| 5. I feel like a failure..... | 1 | 2 | 3 | 4 |
| 6. I feel rested..... | 1 | 2 | 3 | 4 |
| 7. I am "calm, cool, and collected" | 1 | 2 | 3 | 4 |
| 8. I feel that difficulties are piling up so that I cannot overcome them | 1 | 2 | 3 | 4 |
| 9. I worry too much over something that really doesn't matter | 1 | 2 | 3 | 4 |
| 10. I am happy..... | 1 | 2 | 3 | 4 |
| 11. I have disturbing thoughts..... | 1 | 2 | 3 | 4 |
| 12. I lack self-confidence | 1 | 2 | 3 | 4 |
| 13. I feel secure | 1 | 2 | 3 | 4 |
| 14. I make decisions easily..... | 1 | 2 | 3 | 4 |
| 15. I feel inadequate | 1 | 2 | 3 | 4 |
| 16. I am content..... | 1 | 2 | 3 | 4 |
| 17. Some unimportant thought runs through my mind and bothers me..... | 1 | 2 | 3 | 4 |
| 18. I take disappointments so keenly that I can't put them out of my mind | 1 | 2 | 3 | 4 |
| 19. I am a steady person | 1 | 2 | 3 | 4 |
| 20. I get in a state of tension or turmoil as I think over my recent concerns and interests | 1 | 2 | 3 | 4 |

--

Age

Sex M / F

P	E	N	L
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INSTRUCTIONS: Please answer each question by putting a circle around the 'YES' or 'NO' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

■ PLEASE REMEMBER TO ANSWER EACH QUESTION

PAGE 1

- | | | | |
|----|---|-----|----|
| 1 | Does your mood often go up and down? | YES | NO |
| 2 | Do you take much notice of what people think? | YES | NO |
| 3 | Are you a talkative person? | YES | NO |
| 4 | If you say you will do something, do you always keep your promise no matter how inconvenient it might be? | YES | NO |
| 5 | Do you ever feel 'just miserable' for no reason? | YES | NO |
| 6 | Would being in debt worry you? | YES | NO |
| 7 | Are you rather lively? | YES | NO |
| 8 | Were you ever greedy by helping yourself to more than your fair share of anything? | YES | NO |
| 9 | Are you an irritable person? | YES | NO |
| 10 | Would you take drugs which may have strange or dangerous effects? | YES | NO |
| 11 | Do you enjoy meeting new people? | YES | NO |
| 12 | Have you ever blamed someone for doing something you knew was really your fault? | YES | NO |
| 13 | Are your feelings easily hurt? | YES | NO |
| 14 | Do you prefer to go your own way rather than act by the rules? | YES | NO |
| 15 | Can you usually let yourself go and enjoy yourself at a lively party? | YES | NO |
| 16 | Are <i>all</i> your habits good and desirable ones? | YES | NO |
| 17 | Do you often feel 'fed-up'? | YES | NO |
| 18 | Do good manners and cleanliness matter much to you? | YES | NO |
| 19 | Do you usually take the initiative in making new friends? | YES | NO |
| 20 | Have you ever taken anything (even a pin or button) that belonged to someone else? | YES | NO |
| 21 | Would you call yourself a nervous person? | YES | NO |
| 22 | Do you think marriage is old-fashioned and should be done away with? | YES | NO |
| 23 | Can you easily get some life into a rather dull party? | YES | NO |
| 24 | Have you ever broken or lost something belonging to someone else? | YES | NO |
| 25 | Are you a worrier? | YES | NO |

PLEASE TURN OVER

26	Do you enjoy cooperating with others?	YES	NO
27	Do you tend to keep in the background on social occasions?	YES	NO
28	Does it worry you if you know there are mistakes in your work?	YES	NO
29	Have you ever said anything bad or nasty about anyone?	YES	NO
30	Would you call yourself tense or 'highly-strung'?	YES	NO
31	Do you think people spend too much time safeguarding their future with savings and insurance?	YES	NO
32	Do you like mixing with people?	YES	NO
33	As a child were you ever cheeky to your parents?	YES	NO
34	Do you worry too long after an embarrassing experience?	YES	NO
35	Do you try not to be rude to people?	YES	NO
36	Do you like plenty of bustle and excitement around you?	YES	NO
37	Have you ever cheated at a game?	YES	NO
38	Do you suffer from 'nerves'?	YES	NO
39	Would you like other people to be afraid of you?	YES	NO
40	Have you ever taken advantage of someone?	YES	NO
41	Are you mostly quiet when you are with other people?	YES	NO
42	Do you often feel lonely?	YES	NO
43	Is it better to follow society's rules than go your own way?	YES	NO
44	Do other people think of you as being very lively?	YES	NO
45	Do you always practise what you preach?	YES	NO
46	Are you often troubled about feelings of guilt?	YES	NO
47	Do you sometimes put off until tomorrow what you ought to do today?	YES	NO
48	Can you get a party going?	YES	NO

 PLEASE CHECK THAT YOU HAVE ANSWERED ALL THE QUESTIONS

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Impression number 13 12 11 10 9 8 7 6

Year 1999 1998 1997 1996

Printed in Great Britain for Hodder & Stoughton Educational, a division of Hodder Headline Plc, 338 Euston Road, London NW1 3BH.

Performing-experience Questionnaire for Musicians (PeQM)

Filling in this questionnaire indicates you give your informed consent to take part in this research. The information you provide will remain confidential to the researcher.

- 1 Are you: Male ☐ Female ☐
- 2 Your ethnicity: NZ European ☐ Maori ☐ Other _____ Please state
- 3 Age: _____
- 4 Year of study at university: Yr 1 ☐ Yr 2 ☐ Yr 3 ☐ Hons ☐
Masters Yr 1 ☐ Masters Yr 2 ☐ Other _____
- 5 At university, are you studying: Jazz ☐ or Classical ☐
- 6 Which instrument you are studying at university: _____
- 7 Has your performing mostly been on the instrument you are studying at university now? Yes ☐ No ☐
- 8 Years you have played this instrument: 2 yrs or less ☐ 3-4 yrs ☐ 5-6 yrs ☐
7-8 years ☐ 9-10 years ☐ 11-12 years ☐ 13-15 years ☐ Over 15 yrs ☐
- 9 Highest practical-level (not theory) you have passed: Nothing ☐
Grade 7 or lower ☐ Grade 8 ☐ ATCL ☐ LTCL ☐ LRSM ☐
Other _____
- 10 Have you ever learned with the Suzuki method? No ☐ Yes ☐
If Yes, for how long? Less than one year ☐ 1-2 yrs ☐ 3-4 yrs ☐ 5 yrs or more ☐
- 11 Overall, about what percentage of your performing (in any circumstances) has been as a soloist? (ie, don't include performing as part of a group) _____ %
- 12 For about *how many years have you performed* in front of other people? (Count a year if you have performed over about 5 times in that year.) None ☐ 1-3 yrs ☐ 4-6 yrs ☐ 7-10 yrs ☐
11-15 years ☐ Over 15 yrs ☐
- 13 Overall, how much do you usually like playing? (Please circle one number in each column - Answer first as a soloist AND then as a group member):
N/A = Not Applicable

	As a <u>SOLOIST</u>							In a <u>GROUP</u>						
	Hate it					Love it	Unsure N/A	Hate it					Love it	Unsure N/A
(a) While practising	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(b) In a lesson with your teacher	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(c) In front of musician-peers	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(d) In front of non-musician friends	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(e) In anything where the performance is NOT formally judged	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(f) During <u>any</u> formally judged (i.e., rated) performance	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A

14 Overall, how anxious do you usually feel when you play? (Please circle one number in each column - Answer first as a soloist and then as a group member):
N/A = Not Applicable

	As a <u>SOLOIST</u>							In a <u>GROUP</u>						
	Not anxious			Extremely anxious		Unsure	N/A	Not anxious			Extremely anxious		Unsure	N/A
(a) While practising	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(b) In a lesson with your teacher	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(c) In front of musician-peers	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(d) In front of non-musician friends	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(e) In anything where the performance is NOT formally judged	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A
(f) During <u>any</u> formally judged (i.e., rated) performance	1	2	3	4	5	?	N/A	1	2	3	4	5	?	N/A

15 Please circle only one word that usually best describes your feelings when you play as a soloist:

(a) While practising	Excited Exhilarated	Tearful (happy) Tearful (unhappy)	Confident Not confident	Nervous Other _____	Frightened
(b) In a lesson with your teacher	Excited Exhilarated	Tearful (happy) Tearful (unhappy)	Confident Not confident	Nervous Other _____	Frightened
(c) In front of musician-peers	Excited Exhilarated	Tearful (happy) Tearful (unhappy)	Confident Not confident	Nervous Other _____	Frightened
(d) In front of non-musician friends	Excited Exhilarated	Tearful (happy) Tearful (unhappy)	Confident Not confident	Nervous Other _____	Frightened
(e) In anything where the performance is NOT formally judged	Excited Exhilarated	Tearful (happy) Tearful (unhappy)	Confident Not confident	Nervous Other _____	Frightened
(f) During <u>any</u> formally judged (i.e., rated) performance	Excited Exhilarated	Tearful (happy) Tearful (unhappy)	Confident Not confident	Nervous Other _____	Frightened

16 Please circle only one number (or the question mark if you're unsure) in each line:

(a) How would you honestly rate your own <u>musical talent</u> ?	Low				High	Unsure
	1	2	3	4	5	?
(b) How do you think your <u>musician-peers</u> rate you?	1	2	3	4	5	?
(c) How do you think <u>music experts</u> rate you?	1	2	3	4	5	?
(d) How <u>important</u> is it for you to excel at your music?	Not very important				Very important	Unsure
	1	2	3	4	5	?
(e) How <u>hard do you work</u> at developing your music skills?	Not very hard				Very hard	Unsure
	1	2	3	4	5	?

17 Apart from practising, what do you do (if anything) to help yourself prepare for important performances?

Or Apart from practicing, I don't do anything really ☐

18 This question asks about your experiences as a SOLOIST. Please circle one number (or Unsure, or N/A) in each line.

N/A = Not applicable

(a) Considering my ability, the <u>standard of most</u> of my <u>previous performances</u> in front of an audience have been:	Not good				Extremely good	Unsure	N/A
	1	2	3	4	5	?	N/A
(b) I believe I perform at my very best when my <u>anxiety</u> level is :	Not at all anxious				Extremely anxious	Unsure	N/A
	1	2	3	4	5	?	N/A
(c) I believe I perform at my very best when the <u>situation</u> is:	Not very important				Extremely important	Unsure	N/A
	1	2	3	4	5	?	N/A

19 For important performances nowadays, to what extent do you experience any of the following?

Please circle one number (or the question mark if you're unsure) in each of the three sections on every line: (Before = Any time within 2 days before your performance, During = During the performance itself, After = Any time in the 2 hours after the performance)

	BEFORE							DURING							AFTER						
	Never	Extreme						Never	Extreme						Never	Extreme					
(a) Sweating	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(b) Shaky hands, voice, legs or diaphragm	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(c) Thumping or racing heart	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(d) Any noticeable changes in breathing	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(e) Tight chest	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(f) Dry mouth or difficulty swallowing	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(g) Feel sick in stomach	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(h) Feel the need to go to the toilet more than usual	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(i) Trouble seeing properly	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(j) Can't sleep	0	1	2	3	4	5	?	N/A							0	1	2	3	4	5	?
(k) Feel tense in muscles (e.g. shoulder or back)	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(l) Take medication or use alcohol to calm your nerves	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(m) Smoke more than usual or N/A	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(n) Get angry or impatient with people	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(o) Have trouble remembering something	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(p) Have trouble concentrating	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(q) Feel panicky	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(r) Feel edgy or grumpy	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(s) Fear making mistakes	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(t) Aware of people evaluating you	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?
(u) Feel detached from yourself or from the present	0	1	2	3	4	5	?	0	1	2	3	4	5	?	0	1	2	3	4	5	?

20 Overall, did your answers to the last question (No. 19) relate mostly to your playing as a soloist, or mostly when you played as part of a group:

Soloist

☐

Group ☒

or

About half as soloist and half in a group ☒

21 When you have played in the past did you also (or ever) experience any of the items listed in Question 19 above?

No ☐ If *no*, go to Question 22.

Yes ☐ If *yes*, answer (b), (c), and (d)

(b) If you answered yes to 21(a) above, about how many items have you experienced over the years? Please tick one box:

Less than 5 items ☐ About 6-10 items ☐ Probably over 10 ☐ Unsure ☐

(c) Overall, about how much would you say these things (in Question 19) have had a <u>negative effect</u> on the quality of your performance in the past? Please circle one number:	Not at all negative			Extremely negative			Unsure
	1	2	3	4	5	?	
(d) Overall, about how much would you say these things (in Question 19) have had a <u>positive effect</u> on the quality of your performance in the past? Please circle one number:	Not at all positive			Extremely positive			Unsure
	1	2	3	4	5	?	

22 How would you rate the <u>amount of preparation</u> you <i>usually</i> (or always) do for most of your <u>important</u> performances? Please circle one number:	Inadequately prepared			Highly prepared			Unsure
	1	2	3	4	5	?	

23 Sometimes people say things to themselves (or to others) about their performing *before, during or after* the performance. For example: "This is going to be a blast;" "I'll be glad when the whole thing is over;" "I'm making a hash of this;" "That section went well;" "It was fantastic fun;" "I played badly."

Could you give two examples of the sorts of things *you* say before, during and after performing.

(a) Before (From one hour before, until beginning to play)

1. _____

2. _____

or Unsure ☐

or Not applicable ☐

(b) During

1. _____

2. _____

or Unsure ☒

or Not applicable ☒

(c) After (From just after, up til 2 days after)

1. _____

2. _____

or Unsure ☒

or Not applicable ☐

24 During <u>important performances</u>, how much difficulty do you have keeping your mind on your music? Please circle one number or <i>Unsure</i>:	<table> <tr> <td>No difficulty at all</td> <td></td> <td></td> <td></td> <td></td> <td>Extreme difficulty</td> <td>Unsure</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td></td> <td>?</td> </tr> </table>	No difficulty at all					Extreme difficulty	Unsure	1	2	3	4	5		?
No difficulty at all					Extreme difficulty	Unsure									
1	2	3	4	5		?									
25 In general: (a) How much do you <u>worry</u> about performing? Please circle <u>one</u> number or <i>Unsure</i>:	<table> <tr> <td>No worry</td> <td></td> <td></td> <td></td> <td></td> <td>Extreme worry</td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td></td> <td>?</td> </tr> </table>	No worry					Extreme worry		1	2	3	4	5		?
No worry					Extreme worry										
1	2	3	4	5		?									
(b)How much do you <u>enjoy socialising</u> with new people? Please circle <u>one</u> number or <i>Unsure</i>:	<table> <tr> <td>Don't enjoy it</td> <td></td> <td></td> <td></td> <td></td> <td>Extremely enjoyable</td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td></td> <td>?</td> </tr> </table>	Don't enjoy it					Extremely enjoyable		1	2	3	4	5		?
Don't enjoy it					Extremely enjoyable										
1	2	3	4	5		?									
(c)How <u>shy</u> do you think you are? Please circle <u>one</u> number or <i>Unsure</i>:	<table> <tr> <td>Not shy</td> <td></td> <td></td> <td></td> <td></td> <td>Extremely shy</td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td></td> <td>?</td> </tr> </table>	Not shy					Extremely shy		1	2	3	4	5		?
Not shy					Extremely shy										
1	2	3	4	5		?									
(d)How <u>self-conscious</u> would you say you are? Please circle <u>one</u> number or <i>Unsure</i>:	<table> <tr> <td>Not self-conscious</td> <td></td> <td></td> <td></td> <td></td> <td>Extremely self-conscious</td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td></td> <td>?</td> </tr> </table>	Not self-conscious					Extremely self-conscious		1	2	3	4	5		?
Not self-conscious					Extremely self-conscious										
1	2	3	4	5		?									

Thank you for completing this questionnaire.

In the space below, please feel free to add any further information you would like to contribute.

M-PAS

Please circle the number that best answers how you feel or react in the situations described below.

- | | A little | A lot |
|---|----------|---------|
| Overall, how anxious do you usually feel while practising in a group? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel in a group-lesson with your teacher? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing in a group in front of your musician-peers? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing in a group in front of non-musician friends? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing in a group in anything where the performance is NOT formally judged? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel in a lesson with only you and your teacher? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing solo in front of your musician-peers? ... | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing solo in front of non-musician friends? .. | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing solo in any situation that is NOT formally judged? | 1 | 2 3 4 5 |
| Overall, how anxious do you usually feel playing any solo that IS formally judged? | 1 | 2 3 4 5 |
| Do you have trouble remembering <i>during</i> the performance? | 1 | 2 3 4 5 |
| Do you have trouble concentrating <i>during</i> the performance? | 1 | 2 3 4 5 |
| Do you feel detached from yourself or from the present <i>during</i> the performance? | 1 | 2 3 4 5 |
| Do you feel panicky <i>during</i> the performance? | 1 | 2 3 4 5 |
| Do you fear making mistakes <i>during</i> the performance? | 1 | 2 3 4 5 |
| Are you aware of people evaluating you <i>during</i> the performance? | 1 | 2 3 4 5 |
| Do you sweat <i>during</i> a performance? | 1 | 2 3 4 5 |
| Do you have shaky hands, voice, legs or diaphragm <i>during</i> a performance? | 1 | 2 3 4 5 |
| Do you have a thumping or racing heart <i>during</i> a performance? | 1 | 2 3 4 5 |
| Do you have any noticeable changes in breathing <i>during</i> a performance? | 1 | 2 3 4 5 |
| Do you feel tight in the chest <i>during</i> a performance? | 1 | 2 3 4 5 |
| Do you get a dry mouth or have difficulty swallowing <i>during</i> the performance? | 1 | 2 3 4 5 |
| Do you feel sick in the stomach <i>before</i> a performance? | 1 | 2 3 4 5 |
| Do you feel the need to go to the toilet more than usual <i>before</i> a performance? | 1 | 2 3 4 5 |
| Do you have trouble sleeping <i>before</i> a performance? | 1 | 2 3 4 5 |
| Do you get tense muscles (e.g. shoulders or back) <i>before</i> a performance? | 1 | 2 3 4 5 |

APPENDIX B.2

Information sheet: Study One



An Investigation of Performance Anxiety in Musicians

Information Sheet

What is this study about?

I'm Ruth Tarrant, a lecturer in the School of Psychology at Massey University. I'm interested in investigating whether or not you experience, or have in the past experienced, anxiety before during or after performing, and how you manage your feelings associated with performing.

Research and anecdotal information suggests that a large number of music performers (as well as, e. g., actors, dancers, public speakers, sports-men and -women) experience various degrees of anxiety associated with their performing. Because some performers have difficulty managing performance anxiety, the information you provide in these questionnaires will be used later to design and test ways of managing various degrees of performance anxiety in musicians.

What would I have to do?

You would be asked to fill in three different questionnaires that ask about your own experience of performing, including how you feel and think about different aspects of performing. Most of the questions ask you to tick a box or circle a letter or word. Time taken to complete the forms would vary with individuals, with most people completing within 20 minutes. You would fill in forms anonymously, and forms would not be seen by any staff from the Conservatorium. In any write-ups from this study, you would not be identifiable because information you provide would be summarised as part of group data.

What can I expect from the researcher?

If you take part in this study, you have the right to:

- withdraw at any time;
- refuse to answer any particular questions;
- ask any questions about the study at any time; and
- provide information on the understanding that it is anonymous and confidential to the researcher. Even though questionnaires are completed anonymously, they will be locked in the researcher's office until destroyed at the completion of the study.

You will have access to a summary of group data through the School of Psychology, Wellington campus, when this part of the study has been completed around the middle of this year.

What is the procedure if I agree to take part?

At next week's Conservatorium meeting, you will be told the date (which will be at least two week's from now), and the time and room where you can complete the forms. It is assumed that your filling in the questionnaires implies consent. In the course of filling in questionnaires, you have the right to:

- withdraw at any time; or
- refuse to answer any particular questions;

All students at the conservatorium are invited to take part in this study.

Whether or not you take part in this study, there will be no effect whatsoever on any papers in which you are enrolled at Massey.

Researcher:

Ruth Tarrant BA(Hons), MA, Dip Tchg, ATCL.
School of Psychology, Massey University, Wellington Campus, Phone: 801 2794 X6754

Research Supervisors:

Prof. Janet Leatham BA(Hons), PhD, MNZCCPsych.
School of Psychology, Massey University, Wellington Campus, Phone: 801 2794 X6768

Ross Flett BSc, PGDipSci, PhD

School of Psychology, Massey University, Turitea Campus, Phone: 801 2794 X2051

Te Kūnenga ki Pūrehuroa



APPENDIX C.1

Information sheet and consent form: Study Two



Music performance anxiety

A trial-course designed to assist with anxiety associated with music performance

Information Sheet

You are invited to take part in a research study that is trialling a new course, designed to assist you with anxiety associated with your music performance. Taking part is voluntary, and everyone who wishes to take part will be included.

The course comprises six sessions that will run for about 1¼ hours each. Each session will be done in groups of about 10 people. Groups of this size generally work well so participants can pick up ideas from other people, and also get individual help from the person running the course. Times for the sessions will be arranged to suit you and fit in with your other classes.

What is this study about?

Not all people experience a lot of anxiety when they perform. Why not? What is different about these people, and how do they do it? During this course, you will examine aspects of your performance to work out what might be contributing to your own, individual experiences of anxiety as a performer. Then we'll help you to develop some techniques, designed to assist you to deal with these aspects of your performance. Earlier this year, we examined some information that students at the Conservatorium gave us about their performing experiences. This course is based on that information, with the addition of some techniques or methods that have been useful for other people to manage anxiety in performance situations.

What would I have to do?

You would be asked to attend the six classes and work through some exercises designed to help you understand and manage performance anxiety. At the end of the classes we hope that you will be better at managing your performance anxiety. During two or three of the classes, you would be asked to fill in a short questionnaire where you answer by circling a number or letter. These forms will be available during the course if you wish to correct any information you have provided. This questionnaire provides information that will help us to find out what works best for you and your peers in the course. Your name will go on the questionnaire only so as your own forms can be made into a set. Then the sets will be given a code number so you cannot be identified. Questionnaire forms will be seen only by the researchers (not by any staff from the Conservatorium). In any write-ups from this study, you will not be identifiable because information you provide will be coded and summarised as part of group data. We do not collect any other information from you on this course. The course really involves you working on aspects of your own performance. You can also do a few "homework" exercises that provide an opportunity to practise some of the things you have learnt on the course.

What happens to the questionnaires we fill in?

We code the information on the sets of questionnaires so you cannot be identified. Questionnaires are then stored with other secure documents in the School of Psychology at Wellington, and are kept for the time required by the University (5 years). Then they are destroyed.

Can I see the results of project findings?

Yes you can. You can receive confidential feedback on your own forms after the last session of the course. A summary of course findings overall will be available from the School of Psychology office (7C 49) one month after the course has finished.

Participants' rights

You have the right to:

- decline to participate;
- decline to answer any particular question;
- withdraw from the study at any time;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded.

What happens if I have any problem to do with this course?

If you have anything that concerns you about, or as a result of, this course at any time, you can arrange with the instructors to discuss these concerns. Phone contacts are provided below.

What is the procedure if I agree to take part?

Next week, straight after the weekly conservatorium meeting, the researchers will meet here with students who would like to take part. We will arrange suitable times and places to meet for course-classes. At this time, you will be asked to sign a consent form.

Whether or not you take part in this study, there will be no effect whatsoever on any papers in which you are enrolled at Massey.

This course is being run by the School of Psychology at Massey University, and comprises the final part of a PhD study investigating performance anxiety in musicians. The people involved with designing and conducting this course, work in the School of Psychology. They all have qualifications in psychology, and the principal researcher has an ATCL in music (see researchers' details below). You may contact Ruth Tarrant or Prof Janet Leathem if you have any questions about this research.

Researcher:

Ruth Tarrant BA(Hons), MA, Dip Tchg, ATCL.

School of Psychology, Massey University, Wellington Campus, Phone: 801 2794 X6754

Research Supervisors:

Prof. Janet Leathem BA(Hons), PhD, MNZCCPsych.

School of Psychology, Massey University, Wellington Campus, Phone: 801 2794 X6768

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This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Protocol No. 03/128. If you have any concerns about the conduct of this research, please contact Mr Jeremy Hubbard, Acting Chair, Massey University Campus Human Ethics Committee: Wellington, telephone 04 801 2794 x 6358, email J.J.Hubbard@massey.ac.nz

Further information about taking part in this course.

If you would like to take part in this course, you can also phone the following number to let us know: 801 2794 Ext 6754 (from inside the university, just ring ext 6754).

This phone is Ruth Tarrant's office (7C 61), and she will arrange a course-time with you that fits in with other participants and with your own timetable. The time when you are most likely to get Ruth is between 12.00 and 2.00 pm. If the phone is not attended when you ring, please leave your number with the best time to call you, and Ruth will phone you back. There is a 24-hour answer phone.



School of Psychology

Music Performance Anxiety

A trial-course developed to assist with anxiety associated with music performance

CONSENT FORM

THE CONSENT FORM WILL BE HELD FOR A PERIOD OF FIVE (5) YEARS

I have read the Information Sheet and have had the details of the study explained to me.

My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature _____

Date _____

Full Name – printed _____

APPENDIX C.2

Measures for Study Two

Trait-anxiety inventory (STAI-Y2)

Neuroticism and extraversion scales from the Eysenck Personality Questionnaire-
Revised Short Scale (EPQ-R Short Scale)

Musicians Performance Anxiety Scale (M-PAS)

Some statements that people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you **GENERALLY** feel. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer that seems to describe you how **GENERALLY** feel.

	ALMOST SOMETIMES NEVER	ALMOST OFTEN	ALWAYS
I feel pleasant	1	2	3 4
I feel nervous and restless	1	2	3 4
I feel satisfied with myself	1	2	3 4
I wish I could be as happy as others seem to be	1	2	3 4
I feel like a failure	1	2	3 4
I feel rested	1	2	3 4
I am "calm, cool, and collected"	1	2	3 4
I feel that difficulties are piling up so that I cannot overcome them	1	2	3 4
I worry too much over something that really doesn't matter	1	2	3 4
I am happy	1	2	3 4
I have disturbing thoughts	1	2	3 4
I lack self-confidence	1	2	3 4
I feel secure	1	2	3 4
I make decisions easily	1	2	3 4
I feel inadequate	1	2	3 4
I am content	1	2	3 4
Some unimportant thought runs through my mind and bothers me	1	2	3 4
I take disappointments so keenly that I can't put them out of my mind	1	2	3 4
I am a steady person	1	2	3 4
I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3 4

Keynotes Programme for Musicians

Code _____

NAME _____

Choose the *best* answer.

Please circle your answer

- | | | |
|---|-----|----|
| Does your mood often go up and down? | Yes | No |
| Are you a talkative person? | Yes | No |
| Do you ever feel 'just miserable' for no reason? | Yes | No |
| Are you rather lively? | Yes | No |
| Are you an irritable person? | Yes | No |
| Do you enjoy meeting new people? | Yes | No |
| Are your feelings easily hurt? | Yes | No |
| Can you usually let yourself go and enjoy yourself at a lively party? | Yes | No |
| Do you often feel 'fed up'? | Yes | No |
| Do you usually take the initiative in making new friends? | Yes | No |
| Would you call yourself a nervous person? | Yes | No |
| Can you easily get some life into a rather dull party? | Yes | No |
| Are you a worrier? | Yes | No |
| Do you tend to keep in the background on social occasions? | Yes | No |
| Would you call yourself tense or 'highly strung'? | Yes | No |
| Do you like mixing with people? | Yes | No |
| Do you worry too long after an embarrassing experience? | Yes | No |
| Do you like plenty of bustle and excitement around you? | Yes | No |
| Do you suffer from 'nerves'? | Yes | No |
| Are you mostly quiet when you are with other people? | Yes | No |
| Do you often feel lonely? | Yes | No |
| Do other people think of you as being very lively? | Yes | No |
| Are you often troubled about feelings of guilt? | Yes | No |
| Can you get a party going? | Yes | No |

M-PAS

Please circle the number that best answers how you feel or react in the situations described below.

- | | A little | A lot |
|---|-----------|-------|
| Overall, how anxious do you usually feel while practising in a group? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel in a group-lesson with your teacher? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing in a group in front of your musician-peers? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing in a group in front of non-musician friends? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing in a group in anything where the performance is NOT formally judged? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel in a lesson with only you and your teacher? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing solo in front of your musician-peers? ... | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing solo in front of non-musician friends? .. | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing solo in any situation that is NOT formally judged? | 1 2 3 4 5 | |
| Overall, how anxious do you usually feel playing any solo that IS formally judged? | 1 2 3 4 5 | |
| Do you have trouble remembering <i>during</i> the performance? | 1 2 3 4 5 | |
| Do you have trouble concentrating <i>during</i> the performance? | 1 2 3 4 5 | |
| Do you feel detached from yourself or from the present <i>during</i> the performance? | 1 2 3 4 5 | |
| Do you feel panicky <i>during</i> the performance? | 1 2 3 4 5 | |
| Do you fear making mistakes <i>during</i> the performance? | 1 2 3 4 5 | |
| Are you aware of people evaluating you <i>during</i> the performance? | 1 2 3 4 5 | |
| Do you sweat <i>during</i> a performance? | 1 2 3 4 5 | |
| Do you have shaky hands, voice, legs or diaphragm <i>during</i> a performance? | 1 2 3 4 5 | |
| Do you have a thumping or racing heart <i>during</i> a performance? | 1 2 3 4 5 | |
| Do you have any noticeable changes in breathing <i>during</i> a performance? | 1 2 3 4 5 | |
| Do you feel tight in the chest <i>during</i> a performance? | 1 2 3 4 5 | |
| Do you get a dry mouth or have difficulty swallowing <i>during</i> the performance? | 1 2 3 4 5 | |
| Do you feel sick in the stomach <i>before</i> a performance? | 1 2 3 4 5 | |
| Do you feel the need to go to the toilet more than usual <i>before</i> a performance? | 1 2 3 4 5 | |
| Do you have trouble sleeping <i>before</i> a performance? | 1 2 3 4 5 | |
| Do you get tense muscles (e.g. shoulders or back) <i>before</i> a performance? | 1 2 3 4 5 | |

APPENDIX C.3

Instructor's manual for *Keynotes Programme for Musicians*



Massey University

School of Psychology
Wellington campus

Keynotes Programme for Musicians

**A course to assist musicians to
manage music performance anxiety**

Instructor's Manual

Contents

	page
Session 1	1
Session 2	5
Session 3	9
Session 4	13
Session 5	17
Session 6	23
Bibliography	27
Session handouts	28

SESSION 1

UNDERSTANDING ANXIETY

Running time

1. Introduction to course 20-25 minutes

1.1 Acknowledge common concerns of the group

Thank participants for coming to the course and acknowledge that in responding to the invitation to take part in this course, they have in common, concerns about understanding something more about performance anxiety and a desire to learn some techniques for managing anxiety associated with performing.

1.2 Take time for introductions to one another and to the instructors

1.3 Explain the *purpose* of this course to participants, and tell them how the six sessions will be *structured*

A folder with 'start-up' material, including the purpose and structure of the course, is provided for each participant. Ask participants to keep handouts in their folder, session by session, and to bring their folder back to each session. Point out the need for, and value of, the personal application exercises (homework).

Also, refer participants to the section of the handout where it provides contact numbers for use if they have any problems associated with this course.

1.4 Fill in questionnaires

It is important to get questionnaire-data at the start of the course before beginning any treatment. Ask participants to complete the questionnaire *before* the session starts. Participants are asked to circle either Yes or No, or to circle a number. Completing the questionnaires takes about 6 minutes.

Explain that the questionnaires are necessary so we can assess how participants have responded to the course. Tell participants that:

- the questionnaire asks some questions about performing, and a few questions refer to some aspects of personality;
- the questions on aspects of personality have been used reliably for many years;

Running time

- in Session 3, we will give participants some confidential feedback on their personality-questions: this information is likely to be useful to participants as they develop some performance-strategies during the course; and
- completed questionnaires for each participant will be made into individual sets, and their names will be replaced with a code number for confidentiality and anonymity. Explain that data will be coded, and that individuals will not be able to be identified in any write-ups from this course.

Please ensure that participants put their name on the forms.

An envelope is provided for completed questionnaires.

1.5 Connect course content to students themselves and to strategies that work for other performers

Remind participants that last year we gathered some information about performing experiences and anxiety from Conservatorium students, and tell participants that we used this information when we designed this course. Tell participants that we have also included some material in the course that other performers have found helpful when managing anxiety in performance situations.

1.6 Point out the supportive and confidential nature of this group

1.7 Allow participants to develop ground rules for sessions

Make a record of the ground rules for the participants.

25 minutes

2. Provide a broad outline of today's session:

0 minutes

2.1 Understanding anxiety

2.2 A case study: Roxie's recital blues

2.3 A personal-application/homework exercise

25 minutes

3. Activity 1: Understanding anxiety (Refer to Handout H1.1)

- 3.1. Explain what anxiety is in terms of its four parts, and point out the purpose or role of anxiety to prepare the body for fight or flight.**
5 minutes

Running time
30 minutes

3.2 Discussion from participants about their own experience of anxiety.

Check that the discussion covers all four aspect of their anxiety-experience, including thoughts and avoidance behaviours, and perhaps use of medications.

15 minutes

45 minutes

4. Activity 2: A case study (Roxie's recital blues, H1.2)
20 minutes

4.1 Give handout (H1.2) to group and read the case study with participants.

4.2 Discuss Activity 2 with participants.

Participants can choose to write in answers to questions, or not, during discussion. How do Roxie's various thoughts, emotions, behaviours, and physical symptoms influence one another as she tries to prepare for her recital? What is happening to her emotions as a result of her thinking? Eventually elicit from participants that:

- Symptoms interact, and that
- A change from negative thoughts to positive, can positively influence feelings and behaviour.

1 hour 5 minutes

5. Summary of session

Ask participants to say what they found most important or helpful for them in today's session. This may also raise some questions to address in future sessions. Summarise any other main points from session.

5 minutes

1 hour 10 minutes

6. Personal application (Homework)

Talk about *Personal application* exercise for Session 1: *Am I like Roxie?* Remind participants about the value of homework compliance, and briefly discuss any barriers to completion, and strategies to overcome these.

Confirm date, time and place for next session

End Session 1: 1 hour 15 minutes

Handouts: Session 1:

- Pre-test questionnaires
- *Keynotes Programme for Musicians: Introduction* (H1.Intro)
- Structure of sessions (H1.Struc)
- Understanding anxiety (H1.1)
- A case study: Roxie's recital blues (H1.2)
- Personal application exercise:

Session 1. Am I like Roxie? (HW.1)

SESSION 2

PERFORMANCE HISTORY

Running time

1. **Provide broad outline of today's session:**
5 minutes

Review personal application exercise from Session 1
Performance history (H2.1)
Looking back exercise (H2.2)
What have you been thinking exercise (H2.3)
Relaxation exercise (HR.1)
Set personal application (homework) exercises (HR.1 & HW.2)

5 minutes

2. **Review personal application exercise:**
10 minutes

Objectives:

1. To raise participants' awareness of their own performance anxiety (PA) symptoms and how they interact, and
2. Identify the impact these symptoms can have on their performance.

15 minutes

3. **Performance history** (Handout H2.1)
5 minutes

20 minutes

4. ***Looking back* exercise** (H2.2)
15 minutes

- 4.1 Explain how to complete the positive and negative performing experiences-tables. Participants need fill in only one positive and one negative. (Faster workers can do two of each.)
- 4.2 Discuss questions 1–4, assisting participants to identify which performance factors from the exercise are most salient for them individually.

35 minutes

5. *What have you been thinking* exercise (H2.3)
15 minutes

5.1 Ask participants to identify thinking errors (Refer to H2.1) in the examples of self-statements provided in Session 1.

5.2 Discuss handout: *Composing balancing or alternative thoughts* (McKay, Davis, & Fanning, 1997, pp. 38-41).
50 minutes

6. Introduce relaxation exercises (HR.1)
10 minutes

Explain the purpose and value of relaxation exercises.
Teach *Use of imagery*

60 minutes

7. Set personal application exercise

Imagery exercise
Creating balanced statements (Refer to HW.2)
5 minutes

Confirm time for next session

End Session 2: 1 hour 5 minutes

Handouts: Session 2:

- Performance history (H2.1)
- Looking back exercise (H2.2)
- What have you been thinking? (H2.3)
- Composing balancing or alternative thoughts (McKay, Davis, & Fanning, 1997, pp. 38-41).
- Relaxation (HR.1)
- Use of imagery (HR.1)
- Personal application exercise:

Session 2. Imagery exercise (HR.1)
 Turning the unhelpful into helpful (HW.2)

SESSION 3

EXAMINING WHO YOU ARE

Running time

1. **Provide broad outline of today's session:**

Review personal application exercise from Session 2

Examining who you are (H3.1)

A closer look at relationships between thoughts and feelings

(Refer to form HW.3a): This is a whiteboard exercise.

What sort of thoughts and emotions do you bring to your music? (H3.2)

Relaxation exercise: *Controlled breathing* (HR.2)

Set personal application (homework) exercise (HW.3a and HW.3b)

2. **Review homework exercise:**

10 minutes

Objectives: To replace negative, unhelpful self-statements with positive, realistic, helpful statements.

10 minutes

3. **Examining who you are (H3.1)**

20 minutes

3.1 At the start of this section, emphasise that knowing something about their own trait-anxiety and extraversion levels, can be helpful for musicians to develop strategies that can assist with their performing.

3.2 Discuss trait-anxiety.

3.3 Before giving trait-anxiety feedback to participants:

Explain that their score has been compared with university students overall, *and* with university music students. From our earlier study of Conservatorium students, we found that music students tended to have slightly higher levels of trait-anxiety than university students overall. (We don't know why. Perhaps more anxious people tend to set higher goals that make higher demands on the individual.)

3.4 Give participants their individual feedback slips.

(Note: Trait anxiety scores are normed for gender, and USA college students, but not age.)

- 3.5 Discuss state anxiety, and explain the link with trait-anxiety.
 - 3.6 Discuss extraversion.
 - 3.7 Give participants confidential feedback on their own score-band relative to other students of their gender and age. (Feedback will be given in terms of: 'a little below average; about average; a little above average.') Music students at the Conservatorium were about the same as the norms – so there is only one extraversion score on the feedback slips.
 - 3.8 Discuss extraversion and its potential role in performance.
- 30 minutes**

5. A closer look at relationships between thoughts and feelings

(Refer to form HW.3)

15 minutes

This exercise builds on the thinking-errors exercise and personal application exercise from Session 2, to make links between thoughts and emotions.

Draw up the headings for the homework exercise, and work through, say, three examples on the whiteboard (a low anxiety, a moderate, and a high anxiety situation/thought). The purpose of this exercise is to:

1. Identify and explain hot thoughts;
2. Demonstrate the relationship between thoughts and feelings;
3. Demonstrate how a change in thoughts can result in a change in feelings; and
4. Ensure that participants understand how to go about completing the homework exercise.

45 minutes

6. Relaxation exercise: *Controlled breathing* (HR.2)

10 minutes

55 minutes

7. Set personal application exercise (HW.3) *Thought record* and *Being an extreme extravert. Controlled breathing exercise.*

5 minutes

Confirm time for next session

End Session 3: 1 hour

Handouts outs for Session 3

- Examining who you are (H3.1)
- What sorts of thoughts and emotions do you bring to your music? (H3.2)
- Relaxation: Controlled breathing (HR.2)
- Personal application exercise:

Session 3. Thought record form, and
Play like an extreme extravert (HW.3)

SESSION 4

PREPARATION

Running time

1. **Provide broad outline of today's session:**
0 minutes

Review personal application exercise from Session 3
Preparation (H4.1)

Two discussion exercises:

- The role of routines and rituals to build confidence
- Identifying elements of particular types of performance outcomes

Relaxation exercise: *Distraction* (HR.3)

Set personal application (homework) exercise (HW.3)

2. **Review personal application exercise:**
10 minutes

Objective: To use the *thought record* to understand the impact of thinking on emotions.

10 minutes

3. **Preparation (H4.1)**
45 minutes

- 3.1 Talk about *preparation*, through to the end of the *routines and rituals* section (p. 2).
- 3.2 Ask participants to discuss their own experiences of *routines and rituals* and how these can contribute to their confidence as they lead into a performance.
- 3.3 Talk about *preparation* from the *Building performance-experience* section (p. 2) until the end of this section (top p. 3).
- 3.4 Ask participants to discuss how different elements of their *past preparation and performances* might have contributed to particular performance outcomes.
- 3.5 Talk about *avoiding playing* and *systematic desensitisation*. Finally, cover preparation for *lifting performance levels* (p. 4), and *planning ahead* (p. 6). The planning ahead section should introduce the concept of attention, and the need to focus on the process.

3.6 Discuss the relationship between planning ahead and focussing on the process.

55 minutes

4. **Relaxation exercise: Distraction (HR.3)**
5 minutes

60 minutes

5. **Set personal application exercise**
Distraction exercise
Preparation for positive performances (HW.4)
0 minutes

Confirm time for next session.

End Session 4: 1 hour

Handouts: Session 4

- Preparation (H4.1)
- Relaxation: Distraction (HR.3)
- Personal application exercise:

Session 4. Preparation for positive performances: Things that work for me (HW.4)

SESSION 5

WHO IS EVALUATING WHOM, AND WHAT ARE YOU THINKING?

Running time

1. **Provide broad outline of today's session:**
0 minutes

Review personal application exercise from Session 4
Who is evaluating whom, and what are you thinking? (H5.1)
Pie-graph exercise (H5.2) and discussion
Attention exercise (H5.3) and discussion
Process versus outcome (H5.1)
Relaxation exercise: *Progressive muscle relaxation* (HR.4)
Set personal application exercise (HW.5)

2. **Review personal application exercise:**
10 minutes

Objective: To raise awareness of individually important aspects of
preparation for positive performances

10 minutes

3. **Who is evaluating whom, and what are you thinking? (H5.1)**
40 minutes

- 3.1 Talk about *evaluation awareness* and introduce section on *attention* (p. 2).
- 3.2 *Pie-graph* exercise (H5.2).
- 3.3 Discuss the sorts of things participants attend to while they are playing.
- 3.4 *Divided attention* exercise (H5.3). The objective of this exercise is to demonstrate that *divided attention* usually results in a reduction in quality of performance. See attached instructions, story, and answer sheet (pp. 17-19).
- 3.5 Discuss *Process versus outcome* (pp. 2-4)
- 3.6 Ask participants to create a few phrases or sayings that will help them focus on the process. Do this only for as long as it takes for participants to understand the type of 'saying' that can be helpful to them. (To be completed as personal application exercise.)

Running time

50 minutes

4. **Relaxation exercise: Progressive muscle relaxation (HR.4)**
10 minutes

60 minutes

5. **Set personal application exercise**
Progressive muscle relaxation
Keeping my mind on the process (HW.5)
0 minutes

Confirm time for next session.

End Session 5: 1 hour

What happens to the quality of performance when attention is divided?

Time allowed to listen to the story and do the maths: one minute

Participants are asked to listen to a story (attached). *While they are listening*, they are asked to complete the five simple maths tasks (attached) and write in the answers.

At the end of the story, participants stop doing the maths, whether they have finished or not. (One minute would have been long enough to have completed the maths under normal conditions.)

Participants are then asked to write the answers to five questions, based on the story. Scores for this exercise are for each participant's information only, and participants will not be asked to provide their score to the group or to the instructors. Individual results are expected to demonstrate the potential reduction in performance when attention is divided.

Expected outcomes and discussion points:

1. Some wrong answers in the story-questions and/or wrong answers in the maths.
2. Difficulty listening to the story and doing the maths at the same time. It is likely that some participants did not finish the maths in the time allowed, because their attention moved between the story and the maths.
3. Whatever the results are for the story and maths questions, it is probable that most, if not all, participants would have found that this divided attention exercise raised their anxiety a little because of dual demands, and that answers were compromised for the story-questions and for the maths (or at least, participants would have had some doubt about the quality of their answers).

Holmes and Watson

Sherlock Holmes and Dr. Watson went on a camping trip.

The first day they fished and tramped along the edge of the stream. By dusk they were tired, and lit a camp fire.

After a leisurely meal and a bottle of wine they lay down for the night.

Some hours later, Holmes awoke and nudged his faithful friend.

"Watson, look up at the sky and tell me what you see."

Watson replied, "I see millions and millions of stars."

"What does that tell you?"

Watson pondered for a minute.

"Astronomically, it tells me that there are millions of galaxies and potentially billions of planets. Astrologically, I observe that Saturn is in Leo.

Horologically, I deduce that the time is approximately a quarter past three.

Theologically, I can see that God is all powerful and that we are small and insignificant. Meteorologically, I suspect that we'll have a beautiful day tomorrow.

What does it tell you?"

Holmes was silent for 30 seconds before he spoke.

"Watson, you idiot. Some thief has stolen our tent."

Questions

1. As soon as Holmes awoke, what did he do to his friend?
2. What sort of meal did they have?
3. Horologically, what did Watson deduce?
4. How long did Watson ponder for, before saying what seeing the stars told him?
5. Astrologically, what did Watson observe?

Divided attention exercise

Answers

Maths

1. 10 702
2. 4764
3. 9985
4. 981
5. 2094

Story: Holmes and Watson

1. As soon as Holmes awoke, what did he do to his friend? (He nudged him)
2. What sort of meal did they have? (A leisurely meal)
3. Horologically, what did Watson deduce? (The *time* was approximately a *quarter past three*)
4. How long did Watson ponder for, before saying what seeing the stars told him? (aAminute)
5. Astrologically, what did Watson observe? (That Saturn is in Leo)

Handouts: Session 5

- Who is evaluating whom, and what are you thinking? (H5.1)
- Where is your attention while you are performing? (Pie-graph attention exercise) (H5.2)
- Divided attention exercise (H5.3)
- Relaxation: Progressive muscle relaxation (HR.4)
- Personal application exercise:

Session 5. Getting my mind on the process: Sayings or slogans
that work for me (HW.5)

SESSION 6

THOUGHTS, FEELINGS AND PERFORMANCE

Running time

1. Provide broad outline of today's session:
0 minutes

Review personal application exercise from Session 5.
Talk about *Thoughts, feelings and performance* (H6.1), to the bottom of the first page.
Discussion about performers thoughts just before they go on.
What happens to anxiety and the body when attention becomes focussed on the process of playing? (H6.2)
Summarise some main points from the course (H6.1, pp. 7-8).
Complete the same questionnaires as completed in Session 1 (-10 minutes).
Course feedback

2. Review homework exercise:
10 minutes

Objective: To create sayings or slogans that help the performer to focus back on the process when feeling anxious

10 minutes

3. Thoughts, feelings and performance (H6.1)
45 minutes

- 3.1 Talk about *Thoughts, feelings and performance*, through to the bottom of page 1. Emphasis is on thoughts just before going on.
- 3.2 Discussion about *thoughts and feelings* just before going on.
- 3.3 Talk about *attention* at the start of the performance (to end of page 2).
- 3.4 Explain the handout, *Your body reports what you are thinking and feeling* (H6.2), and discuss brain wave and heartrate patterns under conditions of high cognitive load.
- 3.5 Discuss the *Performance Summary* (H6.1, pp. 3-4) and encourage participants to note any further points that are important for them individually.

55 minutes

4. Questionnaires
10 minutes

Ask participants to again complete the same questionnaire they completed in Session 1. Explain that this is done so we can compare results for the group across the course.

If participants would like a summary of course results, they can collect a copy from the Psychology office (7C 49) after 30 September, 2004.

1 hour 5 minutes

5. Course feedback
5 minutes

Course 1

Provide an opportunity for participants to comment on the course if they wish. Explain the purpose of requesting (anonymous) written feedback (see top of feedback form, CF). Give participants a course feedback form. Invite participants to complete the form over the next week, put it in the envelope provided, and leave it with the secretary of the Music Conservatorium for collection.

Course 2

Modified procedure in Course 2 for course feedback:

Provide an opportunity for participants to comment on the course if they wish. Explain the purpose of requesting (anonymous) written feedback (see top of feedback form, CF). Give participants a course feedback form and invite them to complete the form and put it in the envelope provided before they leave the session.

End Session 6: 1 hour 10 minutes

Handouts: Session 6

- Thoughts, feelings and performance (H6.1)
- Your body reports what you are thinking and feeling (H6.2)
- Post-test questionnaires
- Course feedback forms (CF) and envelopes

Keynotes Programme for Musicians

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Keynotes Programme for Musicians

Session handouts

Session 1

Handouts: Session 1:

- Pre-test questionnaires
- *Keynotes Programme for Musicians*: Introduction (H1.Intro)
- Structure of sessions (H1.Struc)
- Understanding anxiety (H1.1)
- A case study: Roxie's recital blues (H1.2)
- Personal application exercise:

Session 1. Am I like Roxie? (HW.1)

Keynotes Programme for Musicians

Introduction

Purpose of this course

The aim of this course is to assist you to manage some aspects of anxiety that might have a negative effect on you or your playing.

It is expected that you will be able to apply skills and insights gained from this course to your efforts as a performer, from the preparation-stages through to the performance itself. It is also likely that you will find benefits in managing anxiety in everyday situations as well.

Structure of this course

This course comprises six sessions, designed to assist you to systematically examine aspects of your own performance that are typically associated with performance anxiety. Each of the six sessions will run for 1hour-1 ¼ hours. The course is designed to do three things:

- To help you work out and understand any problems you might have with performance-anxiety
- To help you make some constructive changes that can help you to manage various aspects of performance anxiety
- To help you maximise aspects of anxiety that already work for you and/or other people.

Sessions will consist of:

- A broad outline of the session for that day
- A review of the personal application or "homework" exercise
- Learning something new about understanding and managing anxiety
- Discussion and guided exercises where you apply information to yourself
- Setting a personal-application exercise (homework)

This course moves quickly. It gives you some information related to performance, and then provides you with the opportunity for reflection, discussion, and application to yourself. Personal-application or "homework" exercises are included in this course, and are necessary so you can explore your ideas, and practise some of the techniques we look at. It is well documented that

doing this type of exercise helps participants to gain long term benefits from this sort of course.

Your group will have created some ground rules to observe for this course. If you have anything that concerns you about, or as a result of, this course at any time, you can arrange with the instructors to discuss these concerns. Phone contacts are provided below.

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Note:

Clinical intern instructors:

Course 1: Frances Hamilton

Course 2: Katy Luxon

Structure of sessions

Each of the six sessions will have a specific topic or focus. The six topics are:

Session 1: Understanding anxiety

Understanding anxiety, and the relationship between thinking and feeling.

Session 2: Looking at your previous performing

Examine your performance history, and use this information to understand and enhance what is happening now.

Session 3: Examining who you are

Examine how personality factors can be used to enhance performance.

Session 4: Preparation

There's more to preparing than just practising.

Session 5: Evaluation issues and thinking

What am I thinking that other people are thinking?
Process versus outcome

Session 6: Thoughts, feelings and performance

A closer look at relationships between thoughts and feelings, and how they can impact on performance.

At the end of the six sessions, there will be time provided if you would like to discuss any other aspects of performance anxiety.

We'd also like to return in 4 months to ask you to indicate how you're feeling about performing at that time. These 'return visits' would involve only filling in a questionnaire by circling a word or number. This would involve about 10 minutes of your time.

SESSION 1

UNDERSTANDING ANXIETY

Understanding anxiety is the first step to control. How we understand anxiety will affect how we manage it.

In this course, we'll look at anxiety in terms of its four parts: physical, mental, emotional, and behavioural, and we'll examine how each of these parts can explain the way we experience anxiety. We'll also look at how changes in any one of the four parts can influence any of the other parts of anxiety. We'll examine the way we cope, and see how different ways of coping can affect the four factors of anxiety.

First, what is anxiety?

Anxiety is a sense of apprehension. It can be mild or severe, and can be understood in terms of four parts or components.

What comprises the four parts of anxiety?

1. Physical

Physical symptoms of anxiety are those we typically associate with fear. Symptoms might include, for example, increased heart-rate, difficulty breathing, shaking, sweating, or feeling dizzy (see below).

2. Mental

Mental aspects of anxiety involve your mind - or your thinking. For instance, you could be making negative comments to yourself about yourself, or about what you're doing (e. g., My playing is bad; I'm shaking so much I'll make lots of mistakes; I can't take the stress). Other mental aspects of anxiety could include such things as not paying attention to what you're doing, having difficulty concentrating, forgetting something, or wondering what the audience is thinking about you.

3. Emotional

Emotional aspects of anxiety are the feelings you have that are associated with your anxiety. For example, you may feel so tense leading up to, and/or during, a test or audition that you feel upset and just want to get it over with. This kind of repeated experience could result, for example, in you disliking performing, or feeling worried or scared about performing.

4. Behavioural

Behavioural aspects of anxiety could include, for example, avoiding opportunities to perform, not settling to practise, making mistakes while playing, or using medications to "calm your nerves." Behavioural aspects of anxiety are really the things you do that are associated with your anxiety.

Anxiety's got a bad name. So, what purpose can it serve?

When you experience the *physical* symptoms of anxiety, you are actually aware of chemical or hormonal changes that are happening within your body. These changes can result in, for example, increased heart-rate, feeling sick, sweating, etc. Sometimes, our awareness of the actual symptoms can be frightening in itself, resulting in the release of even further chemicals/hormones - such as adrenaline, and a consequent further increase in symptoms. This can become quite a vicious cycle. These physical changes are preparing you for "fight, flight, or less commonly, "freeze." We'll return to "fight, flight or freeze" in a moment.

Feeling anxious is the emotional part of responding to fear. Fear requires some sort of mental appraisal, and if we conclude that we might be exposed to danger, our body prepares us for the heightened sensitivity and strength we need to act in a way that enables us to survive. Imagine hearing or sensing something in a dark street where you're walking alone at midnight. Your first response would probably be to try and identify that sound or 'thing.' If you identify a sound as a cat for instance, you would probably feel safe and continue on your way. If the sound were a vicious, snarling dog, however, you might take some action to keep yourself safe. If you glimpse someone stalking you, you may well start running. This "running away" is the "flight" part of the response to anxiety symptoms. In the case of potential or actual danger, you also have other options, however. You may confront the threat or danger, choosing or needing to physically fight off an attacker for your own survival. This is the "fight" part of anxiety symptoms. There is a third, less common choice - to stop and stand still, hoping the "attacker" won't see you. This is the "freeze" part of anxiety symptoms. However, fight or flight are generally the most common responses to fear.

Exactly how do the symptoms of anxiety prepare us for fight or flight?

Physical symptoms of anxiety

A few examples:

Increased heartrate

The heart beats faster to pump more oxygen to the muscles.

Breathing changes

Breathing becomes faster and shallower to supply the muscles with oxygen.

Shaking

Muscles can begin to shake as they tense up, ready for action.

Dizziness

The brain sends a message to the pituitary gland, resulting in a hormone triggering the release of adrenaline from the adrenal gland.

Feeling sick

The stomach shuts down its digestive process to conserve this energy, making the body's energy available for fight or flight.

Indigestion

The liver releases stored sugar to provide a rapid energy supply.

Sweating

Sweat on the skin has a cooling effect. This cooling system activates as the body prepares for fight or flight.

Frequent urination/diarrhoea

Bladder and anal muscles relax to allow for elimination of waste materials, thus lightening the body for fight or flight.

Dilated pupils

Although we may not be aware that our pupils have dilated, this occurs so the eyes let in more light to broaden and sharpen vision.

Sometimes the changes within your body can be so strong that symptoms of anxiety may become distracting, uncomfortable or even intolerable. We'll investigate "too much" anxiety later on in the course, and develop some strategies to control or manage it.

Mental symptoms of anxiety

The mental symptoms of anxiety concern our *beliefs* and *thoughts*, and what we pay *attention* to.

Beliefs

People's thoughts are associated with their *beliefs* about themselves, about other people, and about their environment. Some of these beliefs are enduring, and central to how the person experiences the world around them. These core beliefs are regarded by the person as being absolutely true. For instance, Musician M. who is having trouble developing the required technique to perform a particular section of a piece, may have a core belief that s/he lacks musical ability. Every time Musician M has difficulty with a piece, this core belief is activated. Thus, when technical difficulties are encountered, the person interprets them on the basis that s/he lacks ability. This belief is likely to persist even when there are rational explanations for the problem. Further, people tend to focus on information that confirms their beliefs, rather than on information that disconfirms them. This means that inaccurate and dysfunctional beliefs often persist over many years, and influence how we perceive and react to all sorts of situations.

Thoughts

What the performer is saying to him/herself, or to others, about their performing or themselves, is based on underlying beliefs. Often, or perhaps *usually*, the anxious performer is not very aware of how often he/she is thinking certain kinds of negative thoughts, and is not aware of possible errors in their thinking. Such errors could be, for instance, that some thoughts are not logical or realistic, nor totally true. Later in the course, we examine some common types of thinking-errors. Sometimes performers tell themselves negative things about their own performing that can actually undermine their confidence to perform.

In any situation, people make their own interpretations of what is going on, and they have their own thoughts. Some of these thoughts are conscious thoughts - such as thinking about how much time will be required to prepare a particular piece. Other, rapid, thoughts just seem to occur *automatically*. These automatic thoughts could be, for instance: "An hour left." "Huge audience." The meaning these automatic thoughts have for you as they occur, is likely to be associated with the way you feel *after* these automatic thoughts.

Attention

At times performers let their attention wander away from the piece they are performing. This inattention can result in a reduced quality of performance because attention is divided between the requirements for playing the piece and attention given to distractions (e.g., thinking about how the audience is reacting; thinking about a slip that has just occurred, etc).

What performers are paying attention to, and what they are thinking to themselves, will be associated with how they feel.

Emotional symptoms of anxiety

The way people feel about a situation is associated with their perception of that situation – that is, their feelings will be based on how they interpret the situation or how they think about it. For example, a person may consciously work out that it will take 30 minutes to get to the audition. But s/he may also have other some rapid thoughts to do with the audition that just seem to occur automatically, for example: "The examiner mightn't like my performance." These rapid, automatic thoughts are often evaluative, and they can come and go so fast that we are barely aware of them. However, we can be very aware of the emotion that follows them.

Emotions associated with anxiety are based on fear or mental judgments of potential danger and, particularly in terms of this course, on your level of fear associated with music performance. The more negatively we see our anxiety, the more likely it is to make us feel worse. However, if we can see anxiety as a

normal response to situations that are important or challenging for us, it is likely that we'll be able to accept some anxiety as a normal occurrence. Accepting that anxiety is potentially *helpful*, is likely to evoke *positive* emotional responses to performing. You will be aware that most people find their anxiety reduces just before or when they begin to play. This generally occurs because their attention is directed toward the requirements of playing - rather than to anything else. Reminding yourself of this reduction in anxiety can be helpful as you prepare your performances.

Most people who are feeling anxious, attribute their anxiety to the stimulus itself (e.g., to performing for an audience), rather than to their *thoughts* about performing for an audience. So, it is useful to understand the link between thinking and emotions. Generally, emotions occur as a result of what and how we're thinking. A change in thinking, can cause a change in emotions.

Behavioural symptoms of anxiety

Behavioural symptoms of anxiety are the things we *do*. When we're thinking about performance situations that we feel are threatening, we generally have the choice of either avoiding or escaping them, or facing up to them. Avoiding or escaping is likely to increase our anxiety in similar situations in the future. In facing up to situations in which we feel anxious, we may seek some reassurance by repeatedly reassessing the level of "danger," or we may use particular strategies to cope with or manage the situation. To reduce performance anxiety, we usually need to learn to manage it in a similar, but non- or low-threat performance-situation first. Then gradually we learn to manage anxiety in increasingly more difficult or challenging contexts. As this process continues, performers often repeatedly use self-instructions that have been effective in the past, and gradually, they benefit from their new and broader insights into their experience and management of anxiety. They build confidence, based on previous, frequent exposure to positive performance experiences in real life. Generally, performance anxiety tends to reduce with repeated exposure to performing for others.

Summary of the four parts of anxiety

How anxious you feel, and how you manage that feeling of anxiety is likely to impact on your music performance. You might experience this anxiety leading up to, and during a performance (as well as afterwards). A positive change in any one of the four parts is likely to result in improvements in the other three parts, and consequently an improvement in managing music performance anxiety overall. Changes in how you *think* can be particularly powerful in their influence over the other three aspects of anxiety.

You can see that anxiety actually serves a purpose: in extreme cases, it could even save your life. So, what has fighting off an attacker got to do with music

performance? Recall that the reason we may feel anxious is that we've appraised our fear, and believe we're in some sort of danger. Likewise, music *performance anxiety* is a type of fear. An appraisal of that fear or danger may result in you thinking that you'll fail your exam, forget your piece, or that the audience won't like your playing. To deal with that fear and sense of danger, your body prepares you once again for "fight or flight," and once again you have a choice: you can "run away" and avoid performing (flight), or you can confront or "attack" your fear or anxiety and go out there and perform (fight).

It is now possible to understand physical symptoms of anxiety in positive terms: your body is in a state of heightened arousal that is necessary to provide you with the increased sensitivity, strength and focus to perform well.

A case study: Roxie's recital blues

Here is an example of a performer who is feeling uncomfortably anxious about a performance. On reading this, how are the four factors of anxiety interacting?

Roxie has a recital coming up in two weeks. This event is weighing heavily on Roxie's mind while she tries to prepare her pieces. No matter how much she practises, she feels that her pieces aren't getting any better, and she's beginning to think they are probably too hard for her anyway. She's starting to feel despondent about her ability to cope with the technical demands and anxiety of yet another big performance, wondering if studying music-performance had been the right choice for her. She believes that other students are coping well with the various demands of studying music, so she's beginning to think she probably has less ability than everyone else. Often now, Roxie puts off practising until tomorrow, and when she does sit down to practise, she often just 'fiddles about' for a while, decides she can't concentrate, and then goes off and watches TV. Roxie is beginning to feel worried, irritable, and anxious by the stress of the whole thing. As she recalls the intense anxiety she has felt in these situations in the past, Roxie concludes that she hates recitals in any case. Meanwhile the day of her recital is fast approaching. Sometimes she gets heart palpitations or feels her chest getting tight. Occasionally she feels dizzy for no reason. She wonders if this could mean she has something wrong with her. She begins to cut herself off from her friends and other students as she battles her tiredness, doubts her ability to cope with the recital, and now tries to make frantic progress with her pieces.

Roxie’s recital blues

Identify Roxie’s:

1. Physical symptoms

2. Mental symptoms

3. Emotional symptoms

4. Behavioural symptoms

Session 1: Personal application exercise: Am I like Roxie?

Please complete this exercise and bring it to Session 2

Recall the case-study of *Roxie's recital blues*. Now, think about *your own* thoughts, emotions, physical responses, and behaviours associated with important performances – leading up to the performance, and/or during the performance?

Under the four headings below, write down some responses that could be typical for you as you lead up to an important performance or when you're actually performing.

1. Physical symptoms of anxiety

2. Thoughts

3. Emotions – feelings

4. Behaviours leading right up to performing

Continued over the page

Based on what you have written above about your own anxiety, *how might your performing be affected* in this instance by your:

1. Physical symptoms of anxiety

2. Thoughts

3. Emotions - feelings

4. Behaviours leading right up to performing

Session 2

Handouts: Session 2:

- Performance history (H2.1)
- Looking back exercise (H2.2)
- What have you been thinking? (H2.3)
- Composing balancing or alternative thoughts (McKay, Davis, & Fanning, 1997, pp. 38-41).
- Relaxation (HR.1)
- Use of imagery (HR.1)
- Personal application exercise:

Session 2. Imagery exercise (HR.1)
 Turning the unhelpful into helpful (HW.2)

SESSION 2

PERFORMANCE HISTORY

There is a great deal to be learnt from examining our past successes and failures. With that knowledge, we can take action to exert some control over the future.

Some people who have had unpleasant performing experiences in the past, may feel more anxious, threatened and vulnerable in similar performance-situations in the future. Thus, performance anxiety may be a *consequence* of negative performing experiences, rather than a cause. For instance, a performer who has received negative feedback or felt negative about a performing experience, is likely to feel less confident and more anxious about performing, than if s/he had received *positive* feedback or felt positive after their last performance.

Critical appraisal of past performances

Anxiety is all about the future – it's about what you think *might* happen. You cannot do anything about performances from the past - they have gone, and you do not have any control over them now. However, you *can* do something about performances in the future. To *do* something positive though, it is productive to critically appraise your past performances to understand why things happened as they did (whether positive or negative). For instance, if you got your rhythm wrong, or missed notes in a particular passage, it may be that that section was, say, inadequately prepared or technically too difficult for you at that time. Where you have done particularly well in a performance, you may attribute that outcome to, for instance, a good understanding of how the piece was structured, or to a steady focus on the music during the performance.

Saying that the piece was 'awful,' is not critical appraisal. Critical appraisal involves examining which specific parts or aspects of the performance were disappointing, and working out the reason for this. It is important to understand what was contributing to, or causing, a specific problem, so you can develop a specific approach to dealing with that problem. If a performance was 'great,' likewise it can be helpful to critically examine what it was that made it so 'great'. By identifying what specifically contributed to, or caused, a particular outcome, whether it be positive or negative, you can focus your efforts to work on areas that need developing, and consolidate and build on your strengths.

The link between preparation and confidence

If an important performance has been pleasing, it is likely to have been because your preparation was appropriate and adequate. If an important performance has been disappointing, it is likely that preparation was inappropriate or inadequate. Sometimes, however, we may *think* we have prepared well, but not have realised that some aspect of preparation has been overlooked, or that it

was in fact inadequate. For instance, one aspect of preparation is to feel comfortable about playing in a particular situation. Being accustomed to playing in a particular type of situation can contribute to your confidence when it comes to the occasion itself. Can you think of an important performance where you felt uncomfortably anxious, or where you had a negative or disappointing performance? And, in this instance, how much previous experience had you had performing in similar situations or circumstances, or under similar pressures?

Have you gone into a performance knowing that the last time you played a particular piece, you had had great difficulty, for instance, with a particular section? Compare how much more confident and assured you would be likely to feel before an important performance, if the very last time you played the piece, you played it well, and had not had any trouble at all with technically difficult or demanding sections.

Examining past performances, and understanding reasons for what happened can be helpful when developing strategies to manage or control future performances. Just take a moment right now to reflect on a performance for which you knew you were badly prepared – how did that affect your confidence for that performance? And, how did it affect the outcome?

Realistic expectations

How realistic have your expectations been in respect of anticipated performance outcomes in the past? Have your expectations been linked to your *own* (or someone else's) technical skill and level of preparation? In this respect, how well do you actually know your own level of performance? Have you ever downplayed your ability, or overestimated it? This rating is likely to be associated with or influence your expectations and, probably, the outcome. Expectations concern not only the outcome of the performance itself, however. They concern, for instance, the venue, audience, judge, or level of anxiety you might experience. In new types of situations, a performer may not be sure quite what to expect, and this in itself can contribute to anxiety.

Satisfaction

Musicians are necessarily critical of their own performing as they strive to raise their level of performance. However if a performer is *continually* dissatisfied with their performance, it is likely they are setting up an inappropriate environment for their development. It is important to be able to say: 'That performance was good for me – it was up to my best.' There will generally be some aspect of a performance that can be perceived positively. However, in a disappointing performance, people tend to develop a pattern of overlooking the good, and focussing only on the 'bad.' Continually beating yourself up is unlikely to be productive for you. To assess your satisfaction levels, it is useful to develop a set of criteria against which to objectively rate your performance. This is likely to

help you relate your performance level to realistic standards and expectations for you at that time.

What have you been thinking?

Over time, most people have developed some sort of pattern of self-talk, and it can be helpful to examine what you have been thinking about yourself and your performing. Many negative thoughts are linked to strong negative emotions. The negative thoughts often occur so quickly that the person is not aware of them, but s/he is aware of the negative emotion that follows. These negative thoughts and feelings can have the effect of the performer *undermining their own confidence* to perform. Likewise, some images and memories can evoke strong thoughts and emotions.

Sometimes, the things people tell themselves are wrong. These rapid automatic thoughts can contain errors that go unchallenged. So, when you become aware of strong negative feelings, it is helpful to think about what went through your mind just before you experienced those feelings. By doing this, you can start to identify what you are telling yourself, and challenge those thoughts for evidence and accuracy. You can then replace unhelpful, negative thoughts with helpful, positive and realistic thoughts. These alternative positive thoughts are likely to be followed by positive feelings.

SESSION 2

LOOKING BACK

1. Recall one or two of your most *positive* performing experiences, and one or two of your most *negative* performing experiences.
2. For each one, briefly identify the type of performance-situation (e. g., played background music in a group at a function; Grade 7 practical exam, etc).
3. Then complete the columns by circling one number in each column.

The forms are over the page, but you may need to refer to the key below before you fill in your scores for each column:

Key for filling in the columns in all 4 situations:

1. Overall, was the piece or the pieces you played, appropriate for you *at that time*?
2. How would you rate your level of technical preparation for that piece(s)?
3. How much experience had you had in that kind of performance-situation?
4. How important was it to you, what a particular person or other people thought of your playing on that occasion?
5. How much of your attention was on the music itself? (Estimate this as best you can.)
6. Overall, would you rate your emotions or feelings before this performance as *positive* or *negative*?
Before = at the point in the 2 hours before playing when your feelings were the strongest
7. Overall, would you rate your emotions or feelings during this performance as *positive* or *negative*?
During = at the point during your performance when your feelings were the strongest

Score: Add up the numbers you circled for each situation.

POSITIVE performing experiences

POSITIVE performing experience number 1: Situation

1 Appropriate piece(s)?	2 Technical preparation	3 Performance- experience in that type of situation	4 People's opinion	5 Attention on the music	6 Emotions/ Feelings BEFORE	7 Emotions/ Feelings DURING	Score
No Yes	Low High	Little Lots	Impt Not impt	Little Lots	Neg Pos	Neg Pos	
1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	

Note: Was there anything important or unusual happening in your life at this particular time, or on that day, that might explain how you responded to this performance-situation? If so, jot a note about it here:

POSITIVE performing experience number 2: Situation

1 Appropriate piece(s)?	2 Technical preparation	3 Performance- experience in that type of situation	4 People's opinion	5 Attention on the music	6 Emotions/ Feelings BEFORE	7 Emotions/ Feelings DURING	Score
No Yes	Low High	Little Lots	Impt Not	Little Lots	Neg Pos	Neg Pos	
1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	

Note: Was there anything important or unusual happening in your life at this particular time, or on that day, that might explain how you responded to this performance-situation? If so, jot a note about it here:

NEGATIVE performing experiences

NEGATIVE performing experience number 1: Situation _____

1 Appropriate pieces?						2 Technical preparation						3 Performance- experience in that type of situation						4 People's opinion						5 Attention on the music						6 Emotions/ Feelings/ BEFORE						7 Emotions/ Feelings/ DURING						Score
No			Yes			Low			High			Little			Lots			Impt			Not			Little			Lots			Neg			Pos			Neg			Pos			
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6							

Note: Was there anything important or unusual happening in your life at this particular time, or on that day, that might explain how you responded to this performance-situation? If so, jot a note about it here:

NEGATIVE performing experience number 2: Situation _____

1						2						3						4						5						6						7						Score
Appropriate pieces?						Technical preparation						Performance-experience in that type of situation						People's opinion						Attention on the music						Emotions/ Feelings BEFORE						Emotions/ Feelings DURING						
No			Yes			Low			High			Little			Lots			Impt			Not			Little			Lots			Neg			Pos			Neg			Pos			
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6							

Note: Was there anything important or unusual happening in your life at this particular time, or on that day, that might explain how you responded to this performance-situation? If so, jot a note about it here:

Looking back

It can be hard to remember back to some particular performances and recall exactly what happened back then, and how you felt. Perhaps most of your performances have felt much the same for you. However, it can be useful to think about different sorts of performance-situations you've experienced, and look at some of the factors that might have had an effect on how you responded at that time, in those particular circumstances.

You can start by comparing your scores in this *looking back* exercise. You may be able to detect a tendency for scores to be higher or lower in one type of situation or the other (i.e., in the positive experience, or in the negative experience situations).

Compare your scores on the positive and negative performing experiences:

1. Which *column-headings* tended to have circles around the higher numbers for your positive experiences?

2. Which *column-headings* tended to have circles around the lower numbers for your negative experiences?

3. Importance of people's opinions (column 4): How did you respond?

Positive experience: The importance of people's opinions energised my performance OR distracted my attention from my playing/singing.

Negative experience: The importance of people's opinions energised my performance OR distracted my attention from my playing/singing.

If the importance of people’s opinions had another effect for you, write it here:

4. What else do you think contributed to your *positive* experiences, and why?

WHAT

WHY

5. What else do you think contributed to your *negative* experiences, and why?

WHAT

WHY

Checklist for the *looking back* exercise

Comparing elements associated with the positive and negative experiences

For the positive and negative experiences in the looking back exercise, rate whether you would be towards the low or high end of the 1–10 scale (1= low; 10 = high) for the items below.

You might find it easier to go down the positive column first, and then do the negative column.

		Experience			
		Positive		Negative	
1.	Technical preparation?	Low	High	Low	High
2.	Confidence in the two hours <u>before</u> your performance started?	Low	High	Low	High
3.	Confidence <u>as you started</u> your performance?	Low	High	Low	High
4.	Comfort-level in that sort of performance-environment?	Low	High	Low	High
5.	Experience had you had in that type of performance-environment?	Low	High	Low	High
6.	Experience you had had with that type of audience?	Low	High	Low	High
Section B					
7.	Extent of negative thinking about yourself or your playing as you <u>prepared</u> for this performance?	Low	High	Low	High
8.	Extent of negative thnking about yourself or your playing <u>while you were performing</u> ?	Low	High	Low	High
9.	Importance of this performance to you?	Low	High	Low	High
10.	Extent to which you were thinking or wondering about what a particular person,or other people might be thinking about you or your playing?	Low	High	Low	High

What have you been thinking?

Below, are some examples of the sorts of statements you've been making to yourselves before you perform. What are some thinking errors embedded in some of these?

1. I'm useless.
2. Just too much stress.
3. Am I good enough?
4. Can't find my shoes – so, I just know it's going to all go wrong today.
5. It's getting close and I'm not ready.
6. I'll never be ready.
7. I've only got 4 weeks to learn it.
8. It went really well last time so what did I do? – I'll do it that way again.
9. I need to wash my hair (to feel right).
10. Everything's got to be right or I don't want to do it today. It could be anything – if it's raining I don't want to do it.
11. Ohhh – it's going to happen in a few hours.
12. What is everyone going to think of me?
13. They'll all think I'm crap.

14. I'm thinking I just want to remember the words.
15. I'm crap.
16. God, I don't know this and I'm nearly ready to go on.
17. I want to get it over with.
18. I'm just hoping it's going to be all right.
19. I should be better by now.
20. I know this will be bad.
21. Sometimes I just have a mental blank.
22. I mucked up a bit in this last time.
23. Any little thing that's not right is going to put me off.
24. People said I was really good, but I'm thinking, no - I was crap.
25. I was really good today, but people said, - no, you weren't so good today.

Thinking errors

Below are descriptions of a few different types of thinking errors:

- *Catastrophising*: Predicting the worst outcome without considering other possibilities (e.g., 'It's going to be absolutely terrible').
- *Overgeneralising*: A sweeping negative conclusion that goes far beyond the present situation. Assuming that if it happened once, it will happen again (e.g., 'I failed last time; I know I'll fail again').
- *Selective abstraction*: Focussing on only certain aspects of a situation (usually the negative) (e.g., 'I messed up the Bach' - when in fact you only 'messed up' the trill on page 3).
- *All or nothing (Polarized thinking)* : Seeing things as all-or-nothing situations - black or white. Viewing things in only two categories, rather than on a continuum (e.g., 'I missed notes in the very first bar; the whole thing was a disaster').
- *Magnification/minimisation*: Distorting the *importance* of certain events or certain parts of events (e.g., 'A light bulb blew just before I went on. I knew right then that it was going to be a bad performance').
- *Exaggerating (Magnifying)*: Giving negative things more importance than they merit, and positive things less merit (e.g., 'The mistake in the adagio section was unforgivable. I suppose the presto wasn't exactly terrible').
- *Discounting the positive (Filtering)*: Devaluing the importance or merit of something positive (e.g. 'They said it was good, but they're just saying that').
- *Mind reading*: Assuming you know what other people are thinking (e.g., 'They won't like me').
- *Shoulds*: Stating general rules that are inflexible ('I should be able to play this better').
- *Taking things personally*: Inability to separate yourself from the situation (e.g., 'They think I'm no good'. In fact the constructive criticism had not been about the person himself; it had been about the music).

Composing Balancing or Alternative Thoughts

Listed below are alternative responses to the eight limited thinking patterns. It isn't necessary to read through the list from beginning to end. Use it as a reference when you are having problems with a particular pattern.

1. Filtering

Pattern Summary

- Focusing on the negative
- Filtering out the positive

Key Balancing Statement

- Shift focus

You have been stuck in a mental groove, focusing on things from your environment that typically frighten, sadden, or anger you. In order to conquer filtering you will have to deliberately shift focus. You can shift focus in two ways: First, place your attention on coping strategies for dealing with the problem rather than obsessing about the problem itself. Second, focus on the opposite of your primary mental theme. For example, if you tend to focus on the theme of loss, instead focus on what you still have that is of value. If your theme is danger, focus instead on things in your environment that represent comfort and safety. If your theme is injustice or stupidity or incompetence, shift focus to what people do that *does* meet with your approval.

2. Polarized thinking

Pattern Summary

- Seeing everything as awful or great, with no middle ground

Key Balancing Statements

- No black-or-white judgments
- Think in percentages

The key to overcoming polarized thinking is to stop making black-or-white judgments. People are not either happy or sad, loving or rejecting, brave or cowardly, smart or stupid. They fall somewhere along a continuum. They are a little bit of each. Human beings are just too complex to be reduced to either/or judgments.

If you have to make these kinds of ratings, think in terms of percentages: "About 30 percent of me is scared to death, and 70 percent is holding on and coping," "About 60 percent of the time he seems terribly preoccupied with himself, but there's the 40 percent when he can be really generous," "Five percent of the time I'm an ignoramus; the rest of the time I do all right."

3. Overgeneralization

Pattern Summary

- Making sweeping statements based on scanty evidence

Key Balancing Statements

- Quantify
- What's the evidence?
- There are no absolutes
- No negative labels

Overgeneralization is exaggeration—the tendency to take a button and sew a vest on it. Fight it by *quantifying* instead of using words like *huge*, *awful*, *massive*, *minuscule*, and so on. For example, if you catch yourself thinking, "We're buried under massive debt," rephrase with a quantity: "We owe \$27,000."

Another way to avoid overgeneralization is to examine how much evidence you really have for your conclusion. If the conclusion is based on one or two cases, a single mistake, or one small symptom, then throw it out until you have more convincing proof. This is such a powerful technique that most of the next chapter is devoted to amassing evidence for and against your hot thoughts.

Stop thinking in absolutes by avoiding words such as *every*, *all*, *always*, *none*, *never*, *everybody*, and *nobody*. Statements that include these words ignore the exceptions and shades of gray. Replace absolutes with words such as *may*, *sometimes*, and *often*. Be particularly sensitive to absolute predictions about the future such as "No one will ever love me." They are extremely dangerous because they can become self-fulfilling prophecies.

Pay close attention to the words you use to describe yourself and others. Replace frequently used negative labels with more neutral terms. For example, if you call your habitual caution *cowardice*, replace it with *care*. Think of your excitable mother as *vivacious* instead of *ditz*. Instead of blaming yourself for being *lazy*, call yourself *laid-back*.

4. Mind Reading

Pattern Summary

- Assuming you know what others are thinking and feeling

Key Balancing Statements

- Check it out
- Evidence for conclusions?
- Alternative interpretations?

In the long run, you are probably better off making no inferences about people at all. Either believe what they tell you or hold no belief at all until some conclusive evidence comes your way. Treat all of your notions about people as hypotheses to be tested and checked out by asking them.

Sometimes you can't check out your interpretations. For instance, you may not be ready to ask your daughter if her withdrawal from family life means she's pregnant or taking drugs. But you can allay your anxiety by generating alternative interpretations of her behavior. Perhaps she's in love. Or premenstrual. Or studying hard. Or depressed about something. Or deeply engrossed in a project. Or worrying about her future. By generating a string of possibilities, you may find a more neutral interpretation that's as likely to be true as your direst suspicions. This process also underlines the fact that you really can't know accurately what others are thinking and feeling unless they tell you.

5. Catastrophizing

Pattern Summary

- Assuming the worst will happen

Key Balancing Statement

- What are the odds?

Catastrophizing is the royal road to anxiety. As soon as you catch yourself catastrophizing, ask yourself, "What are the odds?" Make an honest assessment of the situation in terms of odds or percent of probability. Are the chances of disaster one in 100,000 (.001 percent)? One in a thousand (.1 percent)? One in twenty (5 percent)? Looking at the odds helps you realistically evaluate whatever is frightening you.

6. Magnifying

Pattern Summary

- Enlarging difficulties
- Minimizing the positive

Key Balancing Statements

- Get things in proportion
- No need to magnify

To combat magnifying, stop using words like *terrible*, *awful*, *disgusting*, *horrendous*, etc. In particular, banish phrases like: "I can't stand it," "It's impossible," "It's unbearable." You can stand it, because history shows that human beings can survive almost any psychological blow and can endure incredible physical pain. You can get used to and cope with almost anything. Try saying to yourself phrases such as "I can cope" and "I can survive this."

7. Personalization

Pattern Summary

- Assuming the reactions of others always relate to you
- Comparing yourself to others

Key Balancing Statements

- Check it out
- We all have strong and weak points
- Comparison is meaningless

When you catch yourself comparing yourself to others, remind yourself that everyone has strong and weak points. By matching your weak points to others with corresponding strong points, you are just looking for ways to demoralize yourself.

The fact is, human beings are too complex for casual comparisons to have any meaning. It would take you months to catalog and compare all the thousands of traits and abilities of two people.

If you assume that the reactions of others are often about you, force yourself to check it out. Maybe the reason the boss is frowning *isn't* that you're late. Make no conclusion unless you are satisfied that you have reasonable evidence and proof.

8. Shoulds

Pattern Summary

- Holding arbitrary rules for behavior of self and others

Key Balancing Statements

- Flexible rules
- Values are personal

Reexamine and question any personal rules or expectations that include the words *should*, *ought*, or *must*. Flexible rules and expectations don't use these words because there are always exceptions and special circumstances. Think of at least three exceptions to your rule, and then imagine all the exceptions there must be that you can't think of.

You may get irritated when people don't act according to your values. But your personal values are just that—personal. They may work for you, but, as missionaries have discovered all over the world, they don't always work for others. People aren't all the same.

The key is to focus on each person's uniqueness—his or her particular needs, limitations, fears, and pleasures. Because it is impossible to know all of these complex interrelations, even with intimates, you can't be certain whether your values apply to another. You are entitled to an opinion, but allow for the possibility of being wrong. Also, allow for other people to find different things important.

RELAXATION

Why include relaxation in this course?

- You cannot feel relaxed and anxious at the same time.
- By being able to relax physically before or during a stressful situation, you can reduce the amount of anxiety you are feeling.
- Relaxation slows the body down. This means the symptoms of anxiety that speed up when you are anxious, slow down too (e.g., increased heartrate, muscle tension, frequent urination, shaking).
- Anxiety and stress can cause muscles to become tense and fatigued, and even painful.
- This physical discomfort of anxiety can, in turn, cause further anxiety and worry about coping.
- Too much muscle tension or soreness interferes with technique.
- Muscle tension and discomfort can distract the performer from attending to the requirements of playing the music.
- If we can relax physically, mental relaxation will occur, and vice versa.

What can I do to relax physically?

We include four different techniques in this course. Some techniques work better for some people than for others.

- | | | |
|----|-------------------------------|-------------|
| 1. | Use of imagery | (Session 2) |
| 2. | Controlled breathing | (Session 3) |
| 3. | Distraction | (Session 4) |
| 4. | Progressive muscle relaxation | (Session 5) |

Relaxation tips:

Choose a place where you will not be disturbed.

Breathe slowly during the exercise – in through your nose, and out through your mouth.

Do not worry if you lose concentration or feel that the exercise has not been helpful at first. You need to practise, so try again.

1. Use of imagery

This technique involves you using as many senses as possible to create an imaginary scene where you would be able to feel peaceful and relaxed.

What do I do to create an appropriate image?

Example 1

Think of a peaceful place that you have been to, or imagine a peaceful place. Now imagine that you are there by yourself, and you are becoming aware of your peaceful, pleasant surroundings. Imagine all of your senses responding to the surroundings. What can you *feel*? What can you *hear*? What can you *see*? What can you *smell*? What can you *taste*?

For instance, you might be walking along the water's edge at the beach. You can feel the warmth of the sun on your skin, and the soft sand under your feet. You can hear and feel the waves lapping at your feet, and you hear the occasional cry of a seagull somewhere above. You see the curve of the beach in the distance, you smell the sea, and taste the salt on your lips.

Example 2

Imagine you are walking down some steps to an attractive, peaceful place below (for example, a little bay with calm blue water and warm, white sand). Be aware of each step as you go down, and with each step you take, breathe out and imagine you are becoming more and more relaxed. When you reach the sand at the bottom, you can lie down and feel the warmth of the sun on your body.

Session 2: Personal application: Turning the unhelpful into helpful

You have already told us that these are typical of the sorts of statements you make to yourselves, particularly before you perform. Most are negative and contain thinking errors.

Challenge each of these statements as if *you* have said them leading up to an important performance. Underneath each of these unhelpful statements, write an alternative statement that is *realistic and helpful*. For instance, "I don't want to go on" could be replaced by: "I'm well prepared for this, so I know I'll go out there and do it well."

A guidance sheet is attached to help you compose alternative, balanced thoughts.

1. I'm useless.
2. Just too much stress.
3. Am I good enough?
4. Can't find my shoes – so, I just know it's going to all go wrong today.
5. It's getting close and I'm not ready.
6. I'll never be ready.
7. I've only got 4 weeks to learn it.
8. It went really well last time so what did I do? – I'll do it that way again.
9. I need to wash my hair (to feel right).
10. Everything's got to be right or I don't want to do it today. It could be anything – if it's raining I don't want to do it.
11. Ohhh – it's going to happen in a few hours.

12. What is everyone going to think of me?
13. They'll all think I'm crap.
14. I'm thinking I just want to remember the words (or the music).
15. I'm crap.
16. God, I don't know this and I'm nearly ready to go on.
17. I want to get it over with.
18. I'm just hoping it's going to be all right.
19. I should be better by now.
20. I know this will be bad.
21. Sometimes I just have a mental blank.
22. I mucked up a bit in this last time.
23. Any little thing that's not right is going to put me off.
24. People said I was really good, but I'm thinking, no - I was crap.
25. I was really good today, but people said, - no, you weren't so good today. Now I'm starting to doubt my judgement.

Session 3

Handouts outs for Session 3

- Examining who you are (H3.1)
- What sorts of thoughts and emotions do you bring to your music? (H3.2)
- Relaxation: Controlled breathing (HR.2)
- Personal application exercise:

Session 3. Thought record form, and
Play like an extreme extravert (HW.3)

EXAMINING WHO YOU ARE

Who are you and what do you bring to your music?

Personality

Most of us observe aspects of other people that we regard as typical of those people. That is, we perceive certain things about different people that lead us to expect or to predict certain types of behaviours from them. These reasonably consistent aspects of people are connected to what we refer to as their *personality*. However, we know a great deal more about *ourselves* than we do about other people. For instance, we know if we like to seek out the company of other people or whether we prefer to spend more time on our own; we know if we tend to worry about things or whether we are reasonably relaxed about most things; and we know how anxious we have been in the past about an important exam or performance.

Depending on how well we know ourselves now, we can be equipped to deal with certain circumstances that may arise in the future. For instance, if you know you will probably be uncomfortably hot on the beach in 35 degrees, you might either avoid the beach, or take your swimming togs and an umbrella with you. Similarly, if you are reasonably relaxed about performing in certain types of situations, you may seek out those sorts of performance-opportunities, but if you become uncomfortably anxious in those situations, you may avoid taking up those opportunities to perform. Avoidance-behaviours get in the way of you building up the experience and confidence that can develop from performing frequently. In this session, we briefly consider two aspects of personality: trait-anxiety and extraversion.

1. Trait-anxiety

On any regular sort of day where there are not any special stresses, different people still tend to experience different degrees of anxiety. This type of anxiety is called *trait-anxiety*. Trait-anxiety levels are generally fairly stable over the years, and simply describe whether you tend to be a little anxious about all sorts of things, whether you're more laid back, or whether you're somewhere in the middle. You might think of this as rather like a person's anxiety-thermostat. Some people's anxiety-thermostat seems to be set a little higher than others'. Generally, the higher your trait-anxiety thermostat is set, the more anxiety you may experience when under stress. This variation among people is normal. We don't fully understand the reason for different individuals' trait-anxiety levels being high or low, but it is possible to turn your basic trait-anxiety thermostat down.

Where do I fit on the trait-anxiety continuum?

Trait-anxiety scores can vary widely. The most useful information for you is to know what your score-band is, relative to other university students of your gender. Your instructor will give you this confidential information.

In relation to other students of my gender, I tend to experience the following level of anxiety: _____

Why can it be helpful to know something about my own trait-anxiety?

Trait-anxiety levels can often predict anxiety-experience in a particular situation that requires some sort of performance. For instance, people whose trait-anxiety thermostat is set slightly higher, may become a little more anxious in a performance situation (e.g., a musical performance, when giving a speech, or when sitting a written exam), than some other people. However, the anxiety that people experience in a particular situation, or *state*, can vary greatly, depending on a number of factors. Of course, we know that a lot of things we worry and feel anxious about never actually happen the way we might have imagined. But, if you know it has been normal for you to feel anxious about performing, there are some strategies you can develop to manage that anxiety, and there are some factors that you can give special attention to. Some of these factors will be important for everyone, for instance, the amount of preparation, confidence level, and the amount of experience in this type of situation before. However, you will know what is particularly important for *you* to focus on. For instance, you may benefit from examining your expectations: you may decide to reset your expectations from unrealistic to realistic; if you are continually dissatisfied with your performing, you might remind yourself that even international performers cannot do a personal best every time, or that one mistake does not make a 'bad' performance.

The information you have been given by your instructor can give you some idea concerning how you may feel in situations you find stressful, compared with other students of your gender. Remember: a certain level of anxiety is necessary to prepare your body to perform. If you tend to feel less anxious than most people, you may need to create some excitement around yourself to lift your arousal level a little, ready to perform: otherwise your performance could be dull and lifeless. If your state-anxiety is about normal for other people too, or if it is a little more than some other people's, it can be reassuring to know that other people are feeling the same as you. However, feeling anxious at times does not have to mean, for example, that you have any less ability, or that you are any less prepared for a performance (although a lack of preparation can make most people feel anxious). Rather, the anxiety level is generally associated with what is going through your mind. If you can change what you are thinking, you can expect to experience a change in the anxiety you feel. After you have prepared thoroughly, changing your thinking is likely to be the most helpful strategy you can use to reduce and control anxiety.

2. Extraversion

Another aspect of people's personalities is how extraverted they tend to be. When we talk about extraversion, we are generally referring to a desire in people to be sociable and outgoing. These people are generally cheerful, optimistic, and easy-going, and they make lots of friends, and enjoy change. They can also be aggressive and they can lose their temper quickly. They tend not to guard expression of their feelings, are often impulsive and they can be unreliable. Extraverts generally enjoy the attention they receive from other people - including the attention they receive in performance situations.

Introverts, however, are less sociable than extraverts. Introverts are described as introspective, quiet and reserved people who tend to prefer their own company or that of only a few close friends. They often prefer books and activities where they work alone, rather than interacting with other people. They tend to be more serious than extraverts, and are generally less aggressive toward others. They are generally not impulsive, and they keep close control of their feelings. Introverts are generally less interested in attracting attention to themselves than extraverts are.

You will realise straight away that most people do not fit exactly into these descriptions. Rather, the descriptions above represent the extreme ends of a continuum.

Where do I fit on the extraversion continuum?

Extraversion scores can also vary widely. Again, the most useful information for you is to know what your score-band is, relative to other university students of your gender and your age. (Extraversion scores tend to vary a little with age.) Overall, scores for music students appear similar to other university students. Your instructor will give you this confidential information.

In relation to other students of my gender and age, my extraversion level is

The information you have been given by your instructor can give you some idea of how you might react to receiving attention from other people (as performers must), and how you might feel about performing and relating to your audience. However, it is also important to understand that other factors are also influential. For instance, how you feel and how you relate to your audience will also be moderated by factors such as how much successful experience you have had, how confident you are feeling, how you relate to the music you are playing, etc. You will also be able to think of many other factors that can influence your performances. In performance situations, some extraverted people may find they can more readily express themselves than some more introverted people. Elton John, for instance, is a self-confessed extravert, and you can see how he reaches out, becomes involved with, and expresses himself to his audience. If *you* tend to be more extraverted than most people, you can build on your tendency to be outgoing and expressive, and enjoy the attention that comes with

performing. However, an extreme extravert may also need to take care not to become over-confident. If you are less extraverted than other people, it can be possible to 'act' in a more extraverted manner in instances where it is likely to enhance your ability to perform. For instance, for workshops where you are required to introduce your piece before you play, you can rehearse a few different styles of introduction. When you first practise introducing your piece, it can be helpful to overact, because this can raise your awareness of the contrast between a more expressive style and a flatter style of introduction. With practice, performers can then discover a style they are comfortable with, that is appropriate for the piece, and that works for the audience. This means you will have rehearsed this part of being on stage too, and you will go on with the knowledge that you will introduce your piece effectively. Managing this aspect of performance can help to build your confidence on stage.

What sorts of thoughts and emotions do you bring to your music?

By examining your own thoughts and emotions in different sorts of performance situations, you can become more aware of what you bring to your music.

Below are a few questions you might ask yourself in relation to your music. These questions concern thoughts, interpretations and emotions, and they are likely to trigger other questions, thoughts, feelings and perspectives for you. Different questions are likely to be more pertinent for some people than for others. However, the answers you give yourself to these questions may give you further insight into aspects of how you approach your own performing:

- Where 'are you' when you are playing?

Are you involved with the music and focussed on playing, or are you, for instance, anticipating mistakes, or focussed on what people are thinking of your playing?

How can you become involved with your music? What does this question have to do with where your attention is?

Do you keep guard of your feelings?

- What sorts of pieces do you relate to best?

Are these the sorts of pieces you choose when the choice is yours?

- For important performances, do you typically go on well prepared, or hoping for the best?

- So, how confident do you usually feel when you go on for important performances?

Does thorough preparation build confidence?

What does 'hoping for the best' do to confidence?

- Do you use up energy on things you cannot control? (For instance, worrying that the performance is being officially judged?)

- Do you often divert your attention away from the music towards concerns about a slip here and there?

Where is your focus – your mind - immediately after a slip?

Do you believe that everyone makes slips at times?

Should you be any different?

Do people expect you to be any different?

cont.

- What sorts of expectations do you have about your performing at the moment?
 Are your expectations realistic for you at this time?
 Is it reasonable to expect a personal best every time?
 Do international performers (musicians, athletes, actors) do a personal best every time?
- When you have a lot of work to do, do you tend to feel overwhelmed, or do you use the *salami technique* (i.e., divide the task up and do it slice by slice until you reach the end)?
- How often do you critically reflect on past performances and analyse *specifically* what went well and what did not?
- How often do you *invite* critical appraisal on past performances and ask for *specific* feedback about *specific* aspects of your performance?
- How effective do you believe critical appraisal is to figure out the reasons for differences between pleasing and disappointing performances?
- How often do you act on specific critical appraisal?
- How confident are you in your ability to make your needs and concerns known to your teacher?
 Do you believe that teachers will have heard it all before and will have the experience to help you?
- Do you doubt yourself at times?
 Every artist has self-doubt at some time (i.e., self-doubt is normal at times). So, are you any different?
- When you're feeling anxious, specifically what are you frightened of?
- How often do you tell yourself that you're well prepared, you've done it before, and you can go out there and perform well?
- Where does your motivation come from?
 Why are you playing music?
 What keeps you going?

Relaxation

2. Controlled breathing

When we are anxious or tense, we often take shallow breaths or breathe quickly, resulting in an imbalance in the body between oxygen and carbon dioxide. This imbalance can cause some physical symptoms of anxiety, for example, headaches or dizziness. Sometimes, however, we don't even know that our breathing has quickened or become shallow. If we can control our breathing, it is likely to help us control anxiety.

What do I do to control my breathing?

Breathe in gently, but deeply, to a slow count of 4, and then breathe out to a slow count of 4. If you put your hand on your stomach while breathing, you should feel it move out when you take a breath, and in when you breathe out. Repeat this controlled slow, but gentle breathing for at least 4 minutes. It is important to practise this technique for at least 4 minutes at a time, because it takes that long to restore the balance between oxygen and carbon dioxide in the body.

Session 3: Personal application exercise

1 Keep a *thought record* (attached)

Aim to record one thought per day, and complete the columns for that thought. (This is the same form that we used on the whiteboard.)

2 Play like an extreme extravert

You have probably done this sort of exercise before. However, the objective this time is to demonstrate how the style and quality of your performance can be influenced by simple shifts in thinking. It is not intended to be an exercise of flippancy, nor an attempt to sabotage your previous work or the work of your music teacher!

Extraverts are often flamboyant and they enjoy the attention they get. Elton John, for instance, is a self-confessed extravert, whose involvement and enjoyment during his performances are generally observable. Everyone (probably) has a great time at his concerts.

Experiment with a few pieces you already play (or perhaps try out new ones). Imagine a specific, great performer playing/singing these pieces. The more flamboyant your performer, the more fun you can have and the more useful this exercise is likely to be. Imagine how the great performer might think about the pieces and imagine what s/he might look and feel like playing/singing them. Decide how s/he might play/sing the pieces. Imagine you are that performer and then play your pieces *as if you are that performer*. After a couple of trial runs, play again, being even more like your performer than s/he is him/herself!

Observe the difference in how you felt about the pieces, and in how the playing/singing sounded, and note whether there was a difference in how much people liked listening to you, and watching you. These new effects, whatever they might be, will all have resulted just from this quick shift in your thinking.

Session 3: Personal application exercise

A closer look at relationships between thoughts and feelings

Thought record

1 Situation	2 Feelings Include intensity-rating Eg: Irritable 30%	3 Automatic thoughts	4 Evidence supporting the automatic thoughts	5 Evidence NOT supporting the automatic thoughts	6 Alternative, balanced thoughts (to replace automatic thoughts in Column 3)	7 Feelings Re-rate feelings now, based on balanced thoughts in Column 6

Session 4

Handouts: Session 4

- Preparation (H4.1)
- Relaxation: Distraction (HR.3)
- Personal application exercise:

Session 4. Preparation for positive performances: Things that work for me (HW.4)

SESSION 4

PREPARATION

Years of preparation for a few minutes of performance

Your musical performances are determined by who you are personally, and what you have done to date. What exactly does this mean? It really means: What sort of person are you, and how *prepared* are you to do this particular performance? You have already briefly considered something about what sort of person you are. Now you can consider some aspects of preparation.

Preparation can be considered in terms of technical preparation and non-technical preparation. Technical preparation concerns the requirements for making the 'sounds.' Non-technical preparation concerns matters such as: Is this the 'right' piece for you to be playing at this stage? Are you physically healthy and do you have sufficient physical stamina for the demands of this particular performance? How accustomed are you to playing in this sort of situation? How confident are you to perform this piece in this situation, etc?

Going into a major performance without appropriate technical preparation can be a recipe for a fairly miserable time. However, there are other sorts of preparation that are just as critical, but often receive less attention. For instance, think about your first audition or your first assessment. How important was it to you? Exactly what did you expect on that occasion? Exactly whom did you expect to be listening to you, and in what sort of room/auditorium? Were you going to have to answer any questions about the piece(s) you played? Had you had a few trial runs in similar circumstances, or was there some part of the assessment that you would not know about until you arrived?

What to play

An early part of preparation is the selection of appropriate pieces. Selection of pieces will be determined by factors such as your level of technical skill, by what you are required to play, and by the circumstances in which the music will be played. You will think of other factors too that are important for you individually (e.g., 'Can I bring this piece to life?' 'Do I relate emotionally to this piece at this time?') There are also likely to be some restrictions on what you select, and those restrictions may be imposed on you from the outside, or you may impose your own restrictions. It can be helpful for you to reflect on the sorts of pieces you play 'well' and enjoy playing. For instance, what is it about certain pieces that allow you to demonstrate, say, flair or passion?

Routines, or rituals

Routines, or rituals, play an important role as you prepare for and approach a performance. These routines provide a familiar pathway leading into the performance. The routines provide the performer with reassurance and confidence that this is a familiar situation – something with which they have some experience, and something for which they have some strategies and skills. Think for a moment about some of the rugby players you have seen on TV who have little rituals they perform before they kick for goal. For instance, you may have seen a player shake his hands at his side, or walk around the placed ball in the same particular way before he starts to pace it out. These sorts of rituals provide the player with a familiarity and confidence that says: *I've been here before and I know what to do*. In an orchestra or smaller group, the players tune up together before they begin. This is a kind of 'ritual', and is the start of players feeling that the performance is about to begin. It helps them to focus on what they need to do, and the familiarity of this routine contributes to their sense of control and confidence to perform. Likewise, you can develop your own sorts of performance routines that can contribute to *your* readiness and confidence to perform. These routines can begin hours or even days before a performance.

It is likely that you will have developed some routines and rituals over time. Some of these will be deliberate and methodical behaviours, and others will have developed without you having been particularly aware of them. Sometimes it can be easier to recognise some of these rituals in other people, than it is to recognise them in yourself. For instance, you may recognise particular 'habits' or sequences of movement that various other performers you are familiar with go through as they prepare to perform. What routines and rituals do *you* go through to prepare yourself to perform? What sort of *meaning* do these rituals have for you?

Building performance-experience

To be a successful performer, it is important that over the years the musician has numerous positive performance-experiences at appropriate levels and in appropriate circumstances. Many performers build up performance-experience without really thinking about it or even realising it. However, some musicians have not had the benefit of a great deal of performance-experience, even when they have developed considerable technical skill. At times, they may find themselves performing in situations where they have had only a little previous experience, and these unfamiliar situations can, in themselves, contribute to anxiety. However, anxiety about performing can start to reduce as performers gain experience in a range of performance-situations. A history of frequent, successful performances helps to build confidence as a performer.

Regardless of how much experience you have had, it is still likely to be confidence-building and beneficial for most student-musicians to seize or create frequent opportunities to perform. For maximum benefit, it is important that this

experience is gained playing pieces that are appropriate for the musician's stage of development, and that the music is performed in appropriate situations or circumstances.

How have your own different types of performing experiences contributed to your confidence as a performer? It can be beneficial to reflect on and understand which elements of your past performances have contributed to particular performance outcomes for you.

Dealing with the desire to avoid playing

Avoiding a stressful situation can bring temporary relief from anxiety, but the anxiety is likely to return when the stressful situation occurs again. In fact, the anxiety may be worse the next time because it has become associated with a situation that the person feels they are unable to deal with. To be able to cope with anxiety, we need to approach a perceived stressful situation with a particular strategy or strategies that we believe will help us to manage the anxiety. Being able to deal with the situation and the associated anxiety is then likely to contribute to the development of increasing confidence to manage that situation, or a similar situation, again in the future.

If you find yourself wanting to avoid playing for other people, it is important to make and take opportunities to build up your experience. Playing in non-threatening and enjoyable situations and circumstances can be helpful to make performing start to feel more normal for you.

Systematic desensitisation

Systematic desensitisation is a procedure where a person who is afraid or feels anxious in a particular situation is progressively helped to deal with that type of situation. There is a progression from less demanding, through to more demanding situations while, at the same time, the person is assisted to remain reasonably relaxed as the demands on him/her increase. The reason that this approach can be effective in managing anxiety is because confidence to cope is built up gradually in a context of low-anxiety. Relaxation and anxiety are incompatible – they cannot occur together.

Systematic desensitisation is used in everyday-life for all sorts of situations that can cause considerable fear, and that interfere with how the person deals with what would otherwise be a normal situation. For instance, a person may have had a frightening experience in a swimming pool, and is now afraid to swim in a pool. To assist this person to overcome their fear, and enjoy swimming in a pool again, systematic desensitisation could be used to help him/her to deal with their fear and function normally again. In this instance, systematic desensitisation could be used in the following way: The person first learns one or two ways to relax - for example, controlled breathing. Accompanied by an instructor, the

person starts off towards the pool, using controlled breathing to help reduce anxiety levels. When the pool comes into sight, the instructor may remind the person to concentrate on the controlled breathing, remaining calm. They may then turn and walk away from the pool. Perhaps the next day the same routine is followed. Next time, perhaps they go and sit by the pool. The following time, they may take swimming gear (but do not intend to swim), and they sit at the pool's edge. Always using controlled breathing, these sorts of activities continue, becoming slightly more demanding each time, until the person can cope with getting into the water and finally enjoying swimming as he/she used to.

Likewise, for anxious performers, it can be helpful for them to put themselves into frequent performing situations where they *do not* feel uncomfortably anxious. Such confidence-building situations could include, for instance, playing as part of a large group in informal situations. During this time, the performer becomes accustomed to being on stage and playing in front of an audience, and accustomed to playing while possible distractions occur from the audience, etc. After a while, going on stage to perform starts to feel normal. Over time, anxious performers can accept or make opportunities to perform in, say smaller groups, in less formal situations, and in not-so-important solo situations, through to more demanding solo situations. This kind of performance-development usually occurs over many years, starting from when we first start to learn to play or sing.

What can I do to make use of systematic desensitisation?

At times, it can be helpful for anxious performers to go back a little and focus on rebuilding their performance experience from less demanding, through to more demanding situations as described earlier. This means you do a lot of performing in supportive situations where you feel most comfortable, taking every opportunity you can get to build up your positive experiences as a performer. However, it is well recognised that it can also be confidence-building to perform successfully in rather demanding situations where you have had *little* previous experience. Having performed well in such a situation can provide a considerable increase, or boost, in confidence.

Lifting performance levels

If you wait until you think your performance is going to be 'perfect' before you go out and perform, you will be restricting the number of performance-opportunities and consequently the *experience* you can gain as a performer. To lift performance levels, it is necessary to get out and perform. It is also important to be aware of making and taking opportunities to perform in situations where you are required to lift the level of your performance above any previous level. These increasingly demanding performance opportunities are still undertaken within realistic boundaries of the performer's development at that time. There will be times when a performer takes part in an event, and their results may be described as mediocre, or as not one of their better performances. Having taken

part, however, can contribute to confidence-building. For instance, sports men and women frequently compete in tournaments and games where they do not win (and often do not expect to win). However, they are building experience in performing at different types of events - often major events. Over time, the occasion itself becomes less overwhelming and, instead, is perceived as 'just another event' (perhaps, another 'big' event, but something to which they have become accustomed). When such events lose their ability to overwhelm, the performer can more readily divert their attention to the requirements of performing.

In summary, before you perform in major or important situations, it is generally helpful to have had the opportunity to do many minor, less important performances first, perhaps as part of a group, or in informal solo situations. By doing numerous performances of this type in supportive environments, you can start building confidence as a performer. Over time, you can create and seize performance-opportunities so you come to see performing as something reasonably normal, and as something less threatening than it might once have been for you. On very important occasions you can probably still expect to experience some anxiety, but you understand that a certain amount of arousal is necessary for your body and brain to be prepared for peak performance.

Planning ahead

1. Know that you will focus on the process

You cannot do more than focus on the process. The outcome will be determined by how effectively you do this. By the time you go on, your technical preparation is done, and no level of anxiety is going to increase your skill. However, in a competitive situation for instance, relative performance standards can vary according to how effectively various performers focus their attention on the content and requirements of the music. A less skilled performer who focuses on the process throughout a performance, may achieve a higher performance standard than a more skilled performer who becomes outcome-focussed during the performance. Knowing you have the ability to remain focussed on the process, can help build confidence in competitive or demanding performance situations.

2. Know that if a mistake occurs, you will accept it and remain focussed on the process

It is possible that you may hit a few wrong notes – may make the odd mistake in a performance. International performers do it! So, know that if you make a mistake that you will remain focussed on the process; you will not reflect on your mistake while you are still performing, because that would distract your attention from the process.

3. Know that if something unexpected occurs, you will focus on the process and deal with other matters *after* you have performed

If something unexpected happens before your performance, it is important to put it in the context of your performance. If it is going to impact on your performance, what do you need to do to be ready to go on? If it is unrelated to your performance, know you will deal with it *after* your performance.

Relaxation

3. Distraction

When we're anxious, we not only become aware of the physical feelings and thoughts associated with our anxiety, but we actually tend to focus on them as well. Distraction can be an effective method to reduce anxiety, because if we shift our focus away from anxiety symptoms and associated thoughts, then we do not have any cognitive space (i.e., mental or thinking space) left to allocate to anxiety symptoms or thoughts. In times of high stress it can be helpful to distract ourselves from the situation and focus our attention on something completely different.

What do I do to distract myself?

Example: Perhaps, as you walk home at night, you are thinking and feeling anxious about a performance coming up in a week or so. Thinking and feeling anxious about this is unlikely to be productive, and may in fact result in you feeling even more anxious. To distract yourself you may, for instance, look around and observe your environment more closely than usual. You might learn some extra street names, or you might look for red things or blue things as you walk along. Actually, anything will do if it requires your attention!

Personal application exercise: Preparation for positive performances

A list of things that work for me

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Session 5

Handouts: Session 5

- Who is evaluating whom, and what are you thinking? (H5.1)
- Where is your attention while you are performing? (Pie-graph attention exercise) (H5.2)
- Divided attention exercise (H5.3)
- Relaxation: Progressive muscle relaxation (HR.4)
- Personal application exercise:

Session 5. Getting my mind on the process: Sayings or slogans
that work for me (HW.5)

WHO IS EVALUATING WHOM, AND WHAT ARE YOU THINKING?

Being aware that others were evaluating them, was one of the most marked causes of anxiety, both *before* performing and *while* performing, as reported by students at the Massey Conservatorium in a recent survey. This has also been reported in numerous research studies that demonstrate how evaluation-stress can cause increases in the physical symptoms of anxiety.

Other people's opinions

In an article in Hargreaves and North's book, *The social psychology of music*, Wilson says that music performance anxiety represents a "fear of negative evaluation by other people." Our greatest concerns about what others think about us are experienced in situations where we feel the most exposed to their criticism. However, the occasions when performers want to produce their very best performances are the very occasions when they are most likely to feel anxious and, in turn, to have their attention distracted from the very thing they need to focus on, that is, playing.

If your attention is directed to what others might be thinking about you (i. e., the outcome) instead of your attention being directed towards playing the music itself (i. e., the process), the quality of the performance is likely to be compromised. For example, many performers report higher levels of anxiety in solo performances than they do in group situations. Further, the more important the performance is, the more likely it may be that a performer will feel critically evaluated.

Overall, it appears that high levels of anxiety are more likely to occur in people who are sensitive to social evaluation, particularly those who are less experienced as performers. Sometimes we can be so busy wondering what others are thinking about us before or during the performance, that our attention is taken away from what we are supposed to be doing. In a formally assessed performance, *the performer* cannot be the judge; the performer's task is to focus on the process of playing.

There are two main things we can do to help us deal with our thoughts about other people evaluating us. The first way is to direct our attention away from evaluation concerns, and get it back onto the content and requirements of performing. The second way is to become aware of our thoughts about people's opinions, and then examine them for accuracy, relevance, and consequences.

Is your *thinking* prepared for the demands of performing?

How effectively do you control your thoughts, and where is your *attention* in the time leading up to, and during, a performance? Are your thoughts about the process of playing/singing, or are they about the outcome, that is, the result? The *process* is the part you have to *do*; the outcome is the *result*. If you can focus effectively on the process, the outcome will take care of itself. How effectively do you focus on the *process*? To answer *this* question, it is first necessary to think about *attention*.

What has *attention* got to do with anxiety?

To perform well, we need to direct all of our attention at that particular time to the requirements of playing - to what we have to *do*. This is the *process*. If we're wondering about what the audience might be thinking of us, or if we're thinking that the bit we usually get wrong is coming up, or if we're wondering whether our heartbeat will ever slow down, then the attention we are giving to those thoughts is not available to allocate to the requirements of playing the piece. That is, we have now *reduced our mental capacity* that would otherwise have been available for the requirements of performing. Given this then, where is *your* attention throughout your performance?

It is critical, throughout the performance, for attention to remain focussed on the requirements of playing. For instance, it's not going to help your playing if you reflect on a mistake you've just made. You *will* make slips: it's part of being human, and it's always going to be part of live performances. At great performances, we remember the 'greatness' – not the performer's odd slip (if we noticed it at all). Great performers make mistakes too, but great performers have developed the skill to quickly focus back on the process and to carry on to complete a satisfying or great performance.

What do we mean by process versus outcome?

If we allocate our attention while we are playing, to what the *outcome* of a performance might be, (e. g., pass/fail; the audience loves me/the audience hates me; good/bad review; successful/unsuccessful audition) then that attention is not available for us to use on the *process*. For instance, if we've made a slip, the slip is now history. However, if we think about the slip while we are playing, then some attention is being taken away from the music we are still trying to play. This serves to reduce the quality of performance, and can increase the likelihood of further slips, possibly setting up a cycle of increasing slips and anxiety. It follows, therefore, that higher levels of self-monitoring during performance will result in higher levels of disruption to the performance. Likewise, if we are thinking about the audience, or about the adjudicator, or anything else other than playing the music, then again the amount of attention that would have otherwise been available is reduced and is not available to give to the process of playing. Recall the slip that was mentioned above. We cannot change that slip. However,

we *can* do something about what happens *after* the slip. We do this by focusing straight back onto the *process* of playing. This is achieved by attending fully to what we have to do to perform well. We do not need to think about anything else. How well we focus on the process will determine the outcome.

How do I focus on the process? How do I put the outcome out of my mind?

If your mind (your mental capacity) is filled up with the process, there is no room for thinking about the outcome.

How can you fill your mind with the process?

1. First, ask yourself what you want to achieve (e.g., I want this performance to get me into the finals.)
2. Decide what you have to *do* to achieve that outcome (result).
3. Then, stay in the present: think only about what you have to do to perform the task.

When you are focussing on the process, you no longer think about the outcome. Nor do you *need* to think about the outcome, because 100% of your attention is focussed on the process that will in turn determine the outcome. If you find yourself thinking about anything but what you have to *do* at that moment, immediately replace the thought with what you have to do at that moment.

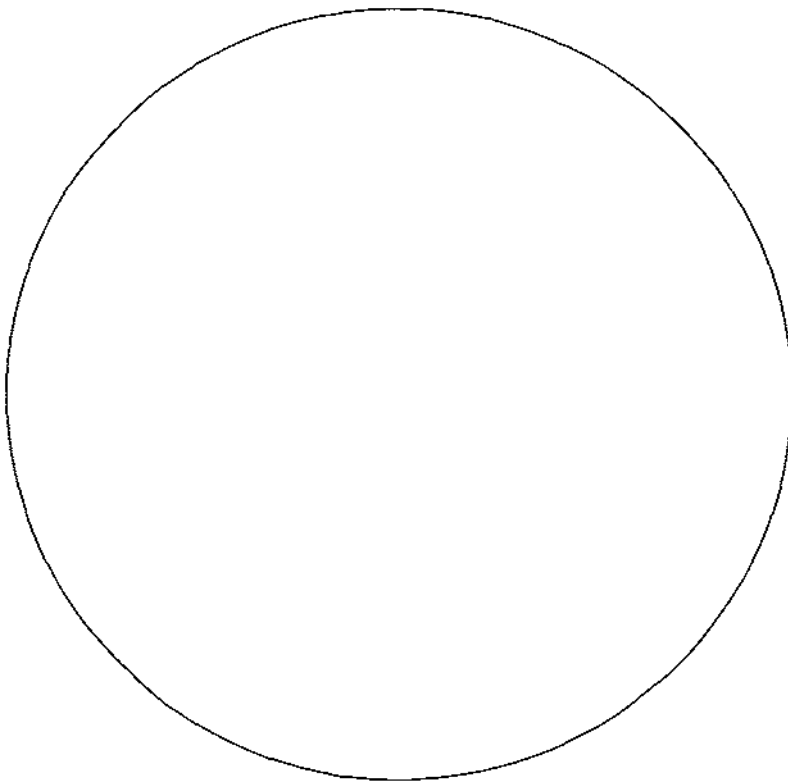
To focus 100% on the process is a discipline that requires practice. It can be too easy at times to think about the outcome. For instance, outcome thoughts may take the form of thinking about how important this occasion is, or wondering whether the adjudicator will like your performance. These sorts of outcome-thoughts do not help you to focus on the process.

Most people benefit from having something they can say to themselves that will help them to focus back on the process when their mind starts to think about the outcome. These phrases or sayings are created by the performer; they have meaning for the performer, and they are immediately available to the performer to help them get back on track. Different people will think of different phrases or sayings that are helpful for them personally to focus back on the process. For instance, a cello player who finds s/he is thinking about something other than the process, might say to him/herself, for example: *Keep your head on the chair*. This saying, however quirky, can help the cellist to stop thinking about the audience or adjudicator, and get their mind back on what they are supposed to be doing. If the cellist's mind wanders off the process again, then once again: *Keep your head on the chair*, or *Head on the chair* can help the performer to focus back on what s/he has to do. The saying will help the cellist to stay in the present. Staying in the present assists concentration and memory, and increases the likelihood of a personally satisfying performance.

Where is your attention while you are performing?

This exercise asks you to examine where your attention is *while you are performing*.

Divide this pie graph up into sections that indicate where your attention is during one of your typical important performances. (i. e., What sorts of things are you thinking about while you're playing?)



How much mental capacity is left over to allocate to the demands of performing?

Attention exercise

$$\begin{array}{r} (1) \quad 6534 \\ + 4168 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 794 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 4768 \\ 3284 \\ \hline 1933 \end{array}$$

$$\begin{array}{r} (4) \quad 4265 \\ - 3284 \\ \hline \end{array}$$

$$(5) \quad 4 \overline{)8376}$$

Answer the questions *according to the story*. If you do not know an answer, please do not guess. Just leave that question blank.

1. _____

2. _____

3. _____

4. _____

5. _____

Relaxation

4. Progressive muscle relaxation

Progressive muscle relaxation is a technique that involves alternatively tensing and relaxing major muscles. We work progressively from head to toe, or toe to head. Different people tend to tense up in different parts of their bodies. In which part of your body do you feel the most tension? Learning to relax physically is a skill and, like performing, it is important to practise this. With practice, you can expect to be able to relax more deeply. With this greater level of physical relaxation, you can expect to experience a reduction in anxiety.

What do I do to relax my muscles?

(a) Under the guidance of your course instructor, you can learn to tense up muscles for about 5 seconds, and then to relax them, several times for each muscle. Starting from the head you work down from the forehead to the eyes, to the jaw, the neck, the shoulders, upper back, upper arms, forearms, hands, chest, abdomen, groin, buttocks, thighs, calves, and feet.

(b) You can also try a technique of slowly 'thinking down your body' from head to feet, as described in (a) above, trying to relax every part of your body as you go.

Summary of relaxation strategies

We have looked at four behavioural strategies that can help to reduce anxiety:

1. Use of imagery
2. Controlled breathing
3. Distraction
4. Progressive muscle relaxation

Some of these relaxation techniques may be more effective than others for you.

You will find out what works best for you, only if you practise these different techniques. You can do this by rating your anxiety each time you start an exercise, and then rating it again for comparison at the end of the exercise (perhaps choose a 1-100 scale, with 100 being extremely anxious).

Keeping my mind on the *process*: My own sayings or slogans

Most people benefit from having something they can say to themselves during a performance that will help them to focus back on the *process* when their mind starts to think about the outcome. These phrases or sayings are created by the performer; they have meaning for the performer; and they are immediately available to the performer to help them get back on track. We talked about some examples during the session. Can you think of something that has particular relevance for you? You may have several sayings – different ones for different types of performance situation.

Your sayings or slogans should be short, punchy, and tightly focussed on what you need to think about to help you focus on the *process*.

Session 6

Handouts: Session 6

- Thoughts, feelings and performance (H6.1)
- Your body reports what you are thinking and feeling (H6.2)
- Post-test questionnaires
- Course feedback forms (CF) and envelopes

SESSION 6

THOUGHTS, FEELINGS AND PERFORMANCE

The way we think about things affects the way we feel about things and ultimately, the way we perform. So, to perform well, we need thoughts that are helpful and productive. To recap on an earlier part of this course, we can examine how our thinking might be contributing to a disappointing performance, and work out some ways to think about the situation so a new way of thinking can have a positive effect on performing. For example, a performer who is saying to him/herself: *I can't go on*, may find they feel more confident to go on if they can replace that thought with something like: *I'm actually well prepared, and I can go on and play well*.

If I'm feeling uncomfortably anxious before I go on, how do I deal with that?

Thinking about how you are feeling, is likely to be associated with thinking about outcome issues. If you can stay in the present, you can think about what you have to *do* at that time. As you wait to go on, you might, for instance, visualise yourself walking onto the stage and preparing to play. An important point in respect of waiting to start, is to pace yourself carefully in the lead-up stage so you are occupied with focussed preparation until it is time to go on. For instance, you will allow sufficient time to arrive at the venue without being rushed, and you will allow sufficient time to familiarise yourself with the venue if for some reason it has not been possible for you to do this prior to performing. You will allow sufficient time to unpack your instrument and warm up etc. These are all aspects of performance that you are familiar with, but how you time them can help or hinder you. It is not necessarily helpful to have a long period of spare time to 'fill in' before you go on.

It is confidence-building to make a positive start to the performance itself. The way you start can set the tone for your performance. How much attention and practice do you give to the very beginning of how you will play or sing? At times, however, a performer may have a 'shaky' start. The difference between recovering the performance or allowing it to deteriorate is likely to be reflected by how effectively the performer focuses back on what they have to do.

What happens to anxiety when all of the performer's attention is focussed on the process?

Most people find that once they have started their performance, the physical symptoms of anxiety (e.g., increased heart-rate, shaking, feeling sick) start to reduce. With increased performing-experience, many performers experience a marked fall-off in anxiety just *prior* to beginning the performance. WHY does anxiety generally reduce when you play? ANSWER = Attention is *distracted from*

the symptoms and feelings, and becomes *focussed on playing*. Once the performance begins, the performer does not have as much attention available to direct towards physical symptoms and irrelevant thoughts and feelings. Instead, attention is directed towards playing the piece(s). If you can focus your attention on the content and requirements of the music, then you are less likely – in fact, less able - to think about your physical symptoms, feelings, or anything else, and anxiety is likely to reduce. The handout titled *Your body reports what you are thinking and feeling* (H6.2) demonstrates how focussed attention can reduce heartrate, for instance.

When Princess Diana died, Elton John sang *Candle in the wind* at her funeral. As a dedication to the princess, Bernie Taupin wrote new words for part of this familiar song. When Elton John sang at the funeral, he insisted that the new words for *Candle in the wind* were projected onto a screen for him (off camera) while he performed.

Elton John has performed the original version of this song on stage, probably hundreds of times before. For the funeral, he recognised that he had not had time to learn the new words thoroughly, and that he was not accustomed to performing in the physical and emotional environment of that occasion. One of the greatest performers alive today put strategies in place to ensure that his performance would not be compromised by limited preparation-time, nor by unique and unfamiliar circumstances. To do a best performance on an occasion when it mattered so much to him and to others, Elton John prepared, he planned ahead, and then he focussed on the process.

Performance summary

Performers are likely to increase their confidence and performance levels when they:

- **Focus on the process.**
- Prepare thoroughly - technically and non-technically.
- Test their preparation under pressure, before their actual performance.
- Acknowledge to themselves that they *are* well prepared.
- Understand that anxiety is a symptom of the body preparing for fight or flight.
- Understand relationships between physical, mental, emotional, and behavioural aspects of anxiety.
- Understand that the body requires an increased level of arousal to prepare for the heightened sensitivity and strength required to perform well.
- Select pieces that are appropriate for their stage of development.
- Select pieces to which they can relate emotionally at that time.
- Understand the link between preparation and confidence.
- Recognise errors in their thinking, and replace them with balanced, helpful, and realistic statements.
- Recognise relationships between thoughts and feelings.
- Set realistic performance-expectations for their stage of musical development.
- Acknowledge satisfaction of their own 'good' performances.
- Accept that every performance will not be a 'personal best.'
- Know that the world's greatest performers still make mistakes.
- Understand how the perceived importance of other people's opinions can distract the performer's attention.

- Reflect on 'good' *and* 'bad' performances, and analyse elements that contributed to the different outcomes.
- Accept that all performers experience periods of self-doubt at times.
- Develop strategies to use if something unexpected happens (e.g., if they should forget words or music during a performance).
- Accept the odd slip, and focus straight back on the process.
- Avoid using attention and energy on things they cannot control.
- Invite critical appraisal from people whose opinions they respect.
- Make their needs and concerns known to people who can act on these.
- Talk with people who can help them.
- Understand that different people tend to react differently in pressure-situations, and in evaluation-situations.
- Develop individual strategies to apply in pressure-situations, and in evaluation-situations.
- Understand the role of routines and rituals to increase confidence in performance-preparation.
- Understand what particular meaning is invested in their own particular routines or rituals.
- Take every possible opportunity to gain performance-experience in a range of performance-situations, so as performing becomes 'normal'.
- Lift performance expectations over time within their own realistic boundaries.
- Plan ahead. Know what they will deal with before the performance, and what they will deal with after it.
- Reduce anxiety by practising relaxation exercises that work for them.
- Know what contributes to their own, individual, positive performances.
- **Focus on the process.**

Performance summary: More important points for me

This image shows a full page of blank, lined paper. It features approximately 28 horizontal blue or grey lines spaced evenly apart, typical of standard notebook paper. The lines extend across the entire width of the page, leaving small margins at the top and bottom. There are no vertical lines, text, or other markings on the page.

Your body reports what you are thinking and feeling

The figure below shows brain wave activity and heart rate of an orchestral horn player about 5 seconds before and after a solo passage begins. The small, fast brain waves (beta activity) indicate focussed mental activity. The slower patterns are generally associated with mental activity that is less focussed, with anticipatory stress, motor readiness (i.e., preparing for a physical activity), and with activities where physical and sensory activity are integrated.

The two lines in the figure represent (a) brain activity (an electroencephalogram: EEG) and (b) heart rate (an electrocardiogram: ECG).

The encephalogram (EEG)

The first third or so of the encephalogram (EEG) represents the horn player's attention as s/he plays with the orchestra.. The middle section of the EEG shows a shift in brain activity that is typical when the brain is preparing for some kind of task performance – the EEG pattern represents an expectancy and gathering of resources to undertake a skilled behaviour. This section is also likely to be the time that the horn player lifts the horn and positions it ready to play. Attention at that point is divided among listening to the orchestra, adjusting the embouchure, and anticipating the first breath and notes. The last section of the EEG, the solo section, represents a high level of alertness and mental involvement as the soloist's attention is focussed on playing the solo.

Heart rate (ECG)

The heart rate slows when the solo part begins, and attention is diverted away from, the self (including any anxiety) and the environment, and is focussed on the requirements of playing the solo. Also, at the point the solo begins, breathing is likely to be more consciously controlled, thus also possibly contributing to the reduction in heartrate.



Adapted from: Haider, M. & Groll-Knapp, E. (1983). In M. Piparek (Ed.). *Stress and Music*. Braumuller: Vienna.

Keynotes Programme for Musicians

Course feedback

It would be useful to have your answers to the following questions to help us know how you felt about the course, to evaluate the course overall, and to improve the course before we offer it to students again.

1. Personal application (homework) exercises

(a) Did you do the personal application (homework) exercises between sessions?
Please circle your answer.

Session 1	Are you like Roxie?	Yes	/	No
Session 2	Turning unhelpful statements into helpful statements with alternative, balanced thoughts	Yes	/	No
Session 3	Keep a thought record	Yes	/	No
	Performing like an extreme extravert	Yes	/	No
Session 4	A list of things that help prepare me for positive performances	Yes	/	No
Session 5	Keeping my mind on the process: My own sayings or slogans	Yes	/	No

(b) Which of these exercises were the most helpful to you?

2. Relaxation exercises

(a) In total, *approximately how many times* have you practised these relaxation exercises during the course? Please circle your answer:

	Times you practised this exercise				
	Never	1-2	3-5	6-10	10+
Use of imagery					
Controlled breathing					
Distraction					
Muscle relaxation					

Please turn over

(b) How helpful were the relaxation exercises? Please circle your answer.

	Not done	Not helpful	A little helpful	Moderately helpful	Very helpful	Extremely helpful
Use of imagery	1	2	3	4	5	6
Controlled breathing	1	2	3	4	5	6
Distraction	1	2	3	4	5	6
Muscle relaxation	1	2	3	4	5	6

3. What did you find the most helpful in this course?
4. Was there anything that had a negative effect on you, or that you did not like? If so, please comment.
5. Did we miss anything out that you would have liked to cover in this course? If so, please comment.
6. Please write any other comments you would like to make about the course.

*Thank you for taking part in this course. We have enjoyed working with you.
Ruth and Katy*

APPENDIX C.4

Intervention feedback form

Keynotes Programme for Musicians

Course feedback

It would be useful to have your answers to the following questions to help us know how you felt about the course, to evaluate the course overall, and to improve the course before we offer it to students again.

1. Personal application (homework) exercises

(a) Did you do the personal application (homework) exercises between sessions?
Please circle your answer.

Session 1	Are you like Roxie?	Yes	/	No
Session 2	Turning unhelpful statements into helpful statements with alternative, balanced thoughts	Yes	/	No
Session 3	Keep a thought record	Yes	/	No
	Performing like an extreme extravert	Yes	/	No
Session 4	A list of things that help prepare me for positive performances	Yes	/	No
Session 5	Keeping my mind on the process: My own sayings or slogans	Yes	/	No

(b) Which of these exercises were the most helpful to you?

2. Relaxation exercises

(a) In total, *approximately how many times* have you practised these relaxation exercises during the course? Please circle your answer:

Times you practised this exercise					
Use of imagery	Never	1-2	3-5	6-10	10+
Controlled breathing	Never	1-2	3-5	6-10	10+
Distraction	Never	1-2	3-5	6-10	10+
Muscle relaxation	Never	1-2	3-5	6-10	10+

Please turn over

(b) How helpful were the relaxation exercises? Please circle your answer.

	Not done	Not helpful	A little helpful	Moderately helpful	Very helpful	Extremely helpful
Use of imagery	1	2	3	4	5	6
Controlled breathing	1	2	3	4	5	6
Distraction	1	2	3	4	5	6
Muscle relaxation	1	2	3	4	5	6

3. What did you find the most helpful in this course?
4. Was there anything that had a negative effect on you, or that you did not like? If so, please comment.
5. Did we miss anything out that you would have liked to cover in this course? If so, please comment.
6. Please write any other comments you would like to make about the course.

***Thank you for taking part in this course. We have enjoyed working with you.
Ruth and Katy***

APPENDIX C-5

Copy of author's e-mail to non-completers

From: Tarrant, Ruth
Sent: Wednesday, 21 July 2004 13:12
To:
Subject: can i contact you by phone?

Hi E

At the end of last year you started, but didn't finish, the music performance anxiety course called Keynotes Programme for Musicians. Lots of people start courses, and for a variety of reasons choose not to finish them. If we can talk to some of the people who didn't finish a course, we can often learn something that will help us to modify the course, or change the way its offered etc, in the future.

I'd like to contact you by phone and ask you a few questions if you have a couple of minutes some time to answer them. We have the same 10 questions that we ask all the people we contact: The first 5 questions just require Yes or No answers. Most of the other 5 questions require only a phrase or a sentence, to give your answer. You wouldn't have to answer all the questions if you didn't want to, but the answers you give will just be added to a pool of information, and you won't be identified personally in any way at all. The information students give us is essentially used to tell us what we need to fix up about the course, or what we need to focus on in the course when its offered elsewhere in the future.

If you're happy for me to contact you by phone, would you please email me your phone number (cell phone is OK), and suggest a good time to ring you. Or, you can phone me on 801 2794 ext 6754 if it suits you.

Thanks E
Ruth Tarrant

APPENDIX D.1

M-PAS and personality scores for individual participants in Study Two

Appendix D.1: *M-PAS and personality scores for individual participants in Study Two*

ID	Age	MF	Yr	M-PAS			Trait-Anxiety			Neuroticism			Extraversion			Change in M-PAS score		
				Pre	Post	Foll	Pre	Post	Foll	Pre	Post	Foll	Pre	Post	Foll	Pre-post	Post-Foll	Pre-Foll
COURSE 1																		
1	26	M	2	72	38	44	45	28	30	6	0	0	1	0	1	-34.00	+6.00	-28.00
2	21	M	3	103	67	59	50	42	41	9	8	9	10	12	10	-36.00	-8.00	-44.00
3	20	M	3	83	68	59	47	39	47	3	1	5	9	8	5	-15.00	-9.00	-24.00
4	19	F	2	63	74	83	51	45	54	7	4	10	12	12	12	+11.00	+9.00	+20.00
5	19	F	1	70	77	77	37	38	47	7	5	7	9	9	9	+7.00	0.00	+7.00
6	19	F	2	100	94	58	62	58	45	10	10	7	5	4	11	-6.00	-36.00	-42.00
7	19	M	2	87	94	72	49	50	48	6	9	8	6	7	5	+7.00	-22.00	-15.00
8	19	M	2	65	59	53	34	.	36	4	.	3	9	.	10	-6.00	-6.00	-12.00
9	18	F	1	83	.	.	55	.	.	8	.	.	5	.	.	.	.	.
10	24	F	2	111	.	.	70	.	.	12	.	.	3	.	.	.	.	.
11	25	F	1	73	.	.	46	.	.	9	.	.	7	.	.	.	.	.
12	21	F	1	78	.	.	52	.	.	6	.	.	8	.	.	.	.	.
13	18	M	1	74	.	.	39	.	.	4	.	.	8	.	.	.	.	.
14	18	M	1	69	.	.	44	.	.	6	.	.	6	.	.	.	.	.
15	26	M	2	79	.	.	54	.	.	7	.	.	3	.	.	.	.	.
16	20	M	1	82	.	.	47	.	.	9	.	.	9	.	.	.	.	.
COURSE 2																		
17	22	M	4	44	36	40	41	38	44	5	4	4	5	2	4	-8.00	+4.00	-4.00
18	18	F	1	60	52	58	34	25	28	2	2	1	12	11	10	-8.00	+6.00	-2.00
19	32	F	1	67	70	72	48	51	58	12	12	12	5	6	4	+3.00	+2.00	+5.00
20	18	M	1	85	70	66	28	30	27	2	4	4	11	12	12	-15.00	-4.00	-19.00
21	44	M	1	90	79	88	29	37	37	7	7	8	6	3	2	-11.00	+9.00	-2.00
22	18	F	1	96	93	72	47	43	35	7	8	4	9	10	10	-3.00	-21.00	-24.00
23	18	F	1	119			58			7			4	0				
24		M	1	92			44			6			3	0				
25	19	M	1	70			52			9			11	0				
Mean				80.60	69.36	64.36												
SD				16.90	19.03	13.92												

Notes

1. Range of possible scores for M-PAS: 26-130
2. Range of scores for Trait-anxiety: 20-80
3. Range of possible scores for Neuroticism: 0-12
4. Range of possible scores for Extraversion: 0-12
5. Mean and SD scores are not provided for personality variables because they are age and gender normed

APPENDIX D.2

Keynotes Programme for Musicians: Summary of written feedback

Appendix D.2: “Keynotes Programme for Musicians”: Summary of participants’ written feedback following intervention. Question-numbers apply to the feedback form (see Appendix C-4)

	Q1 (a)	Q1 (b)	Q2 (a)	Q2 (b)	Q3	Q4	Q5	Q6
ID	Home-work tasks done?	Which homework was most helpful?	Relaxation exercises done? Times practised	Relaxation exercises most helpful (How helpful?)	Most helpful part of course	Anything negative about the course?	Did we miss anything you would have liked included?	Any other comments?
1	1/6	Balanced statements	Imagery 3-5 Breathing 3-5 Muscle relax 1-2	Imagery (moderately)	Skills & techniques I can work on	No	No	“Very helpful indeed. Thank you”
2	4/6	Perform like extreme extravert	Imagery 1-2 Breathing 3-5 Muscle relax 1-2					
3	5/6	Thought record	Muscle relax 10+	Muscle relaxation (extremely)	Noticing what I was thinking - and not being on auto pilot	* “Being told the reframing exercise could not be transferred to other applications”	No	
4	2/6	Thought record. Balancing thoughts Performing like an extreme extravert.	Imagery 1-2 Breathing 3-5 Distraction 1-2	Breathing (moderately)	Importance of thorough preparation	No	Pretty thorough	“Thank you for offering this course. It’s a good analysis of what goes in to successful performing.”

5	3/6	Thoughts	Imagery 1-2 Breathing 1-2 Muscle relax 3-5	Imagery (moderately) Muscle relaxation (moderately)	Importance of focussing during performance		
6	5/6		Imagery 1-2 Breathing 10+ Muscle relax 10+	Breathing (extremely) Muscle relaxation (extremely)	All things Mostly being aware that most people experience same things with PA	No	No
7	0/6	Not done	Imagery 1-2 Breathing 1-2	Imagery (moderately) Breathing (very)	Examining causes and ways to counter them.	No	Perhaps something on visualising to check what you know
8	5/6	Thought record	Imagery 6-10 Breathing 3-5 Distraction 3-5	Imagery (very) Breathing (very) Distraction (very)	Relaxation exercises		Thank you - pleasant - flexible. Pity so rushed.
9	5/6	List of things to help me prepare for positive performance	Imagery 1-2 Breathing 3-5 Muscle relax 6-10	Imagery (moderately) Breathing - (moderately) Muscle relaxation - (very)	"Taking time to notice how to approach a concert. Thinking more about what I do in preparation and what helps and what doesn't."	"Hard to realise any negative as my performing and preparation has only become better from the course."	Maybe perform at the beginning and end and somehow measure difference as we try new techniques.

*Note: Not the case.

APPENDIX D.3

M-PAS Scale: Summary scores for individual items in Study Two

Appendix D.3: M-PAS Scale: Summary scores for individual items in Study Two at pre-test, post-test, and follow-up

Qu.		Pre=test (N=25)		Post-test (n=13) ¹		Follow-up (n=14)	
		Mean ²	SD	Mean ²	SD	Mean ²	SD
1.	Overall, how anxious do you usually feel while practising in a group?	2.32	(1.03)	2.23	(1.01)	2.14	(0.86)
2.	Overall, how anxious do you usually feel in a group-lesson with your teacher?	2.16	(0.89)	2.46	(0.77)	2.36	(0.74)
3.	Overall, how anxious do you usually feel in a group in front of your musician-peers?	3.36	(0.86)	3.08	(0.64)	2.79	(0.80)
4.	Overall, how anxious do you usually feel playing in a group in front of <i>non-musician</i> friends?	2.56	(1.12)	2.15	(0.68)	2.21	(0.80)
5.	Overall, how anxious do you usually feel playing in a group in anything where the performance is NOT formally judged?	2.52	(0.87)	2.31	(0.85)	2.36	(1.08)
6.	Overall, how anxious do you usually feel in a lesson with only you and your teacher?	2.68	(1.21)	2.69	(0.85)	2.64	(0.84)
7.	Overall, how anxious do you usually feel playing solo in front of your musician-peers?	4.00	(0.76)	3.46	(0.77)	3.57	(0.85)
8.	Overall, how anxious do you usually feel playing solo in front of non-musician friends?	3.24	(1.01)	2.69	(0.85)	2.43	(0.85)
9.	Overall, how anxious do you usually feel playing solo in any situation that is NOT formally judged?	3.36	(1.07)	2.77	(1.10)	3.00	(0.78)
10.	Overall, how anxious do you usually feel playing any solo that IS formally judged?	4.56	(0.50)	4.08	(0.64)	4.21	(0.80)
11.	Do you have trouble remembering <i>during</i> the performance?	2.88	(1.23)	2.77	(1.36)	2.07	(1.07)
12.	Do you have trouble concentrating <i>during</i> the performance?	3.16	(1.21)	3.23	(1.53)	2.36	(1.08)
13.	Do you feel detached from yourself or from the present <i>during</i> the performance?	3.16	(1.17)	3.23	(1.53)	2.71	(0.99)
14.	Do you feel panicky <i>during</i> the performance?	2.88	(1.26)	2.46	(1.39)	2.29	(0.82)
15.	Do you fear making mistakes <i>during</i> the performance?	3.84	(1.17)	2.92	(1.25)	2.79	(1.25)
16.	Are you aware of people evaluating you <i>during</i> the performance?	3.72	(1.33)	3.15	(1.57)	2.43	(1.08)
17.	Do you sweat <i>during</i> a performance?	3.40	(1.29)	2.62	(1.60)	2.50	(0.94)
18.	Do you have shaky hands, voice, legs or diaphragm <i>during</i> a performance?	3.44	(1.00)	2.85	(1.14)	2.07	(0.91)

19.	Do you have a thumping or racing heart <i>during</i> a performance?	3.20	(1.00)	2.54	(0.96)	2.43	(0.93)
20.	Do you have any noticeable changes in breathing <i>during</i> a performance?	3.00	(1.15)	2.15	(0.68)	2.21	(1.05)
21.	Do you feel tight in the chest <i>during</i> a performance?	2.36	(1.22)	1.54	(0.77)	1.43	(0.64)
22.	Do you get a dry mouth or have difficulty swallowing <i>during</i> the performance?	2.60	(1.44)	1.92	(1.25)	1.57	(0.75)
23.	Do you feel sick in the stomach <i>before</i> a performance?	2.72	(1.51)	2.08	(1.25)	1.86	(1.16)
24.	Do you feel the need to go to the toilet more than usual <i>before</i> a performance?	3.20	(1.55)	3.08	(1.25)	2.79	(1.31)
25.	Do you have trouble sleeping <i>before</i> a performance?	3.16	(1.49)	2.62	(1.26)	2.43	(1.15)
26.	Do you get tense muscles (e.g. shoulders or back) <i>before</i> a performance?	3.12	(1.66)	3.08	(1.49)	2.79	(1.05)
TOTAL MEAN SCORE		80.60	(16.89)	70.16	(18.52)	64.44	(13.92)

Notes:

1. Data were obtained for only 13 participants at post-test. The 14th participant completed sessions 1 to 5 in Course 1, and returned in Course 2 to complete the 6th session. Thus scores for pre-test and follow-up data only were available for this participant. A post-test total score was estimated for this participant, but individual item scores have not been estimated. See Chapter 6, p. 175 (footnote).
2. Possible range of scores for each item: 1(low) – 5 (high)