STAGE FRIGHT: A TOPICAL GUIDE FOR SINGERS CONCERNING MUSIC PERFORMANCE ANXIETY LITERATURE

A DISSERTATION

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BY

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CONTENTS

LIST OF FIGURES iv
LIST OF ABBREVIATIONS v
DEDICATION vi
ACKNOWLEDGEMENTS vii

Chapter 1: Music Performance Anxiety Before the 1980s 1
  Background Information 1
  Introductory Literature and Coping Strategies 7

Chapter 2: Music Performance Anxiety 1980s Through 2000 11
  Predicting MPA and Its Characteristics 12
  Burgeoning Literature from Major Contributors 15
    Andrew Steptoe: Environmental MPA Effects 15
    Paul Lehrer: The Music Performance Anxiety Questionnaire 18
    Donald Hamann: Drive Theory 23
    Glenn Wilson: Personality Aspects 25
    Warren Brodsky: Reconceptualizing MPA 28
  Cognitive-behavioral Training 37
    Group Music Therapy 40
    Guided Imagery 44
  Alexander Technique 47
  Medications 51
  Beta-blockers 53
LIST OF FIGURES

Figure 1: The relationship between quality performance and anxiety 16
Figure 2: The relationship between tension and five different performance settings 17
Figure 3: Mean scores of four voice types on physical, background, and performance items 27
Figure 4: Mean self-ratings of four voice types on various personality attributes 28
Figure 5: Experimental research technical test data describing beta-blocker usage from pertinent MPA studies 56
Figure 6: Identity status model illustrating and describing four types of personalities 62
Figure 7: Self-coaching and self-appraisal for the performance anxious musician 67
Figure 8: Structured approaches for treating MPA 68
Figure 9: Mean, minimum, and maximum values across subjects regarding agreement with variables indicating worry about others’ opinions, relation to the voice, and depressive tendencies 73
Figure 10: Human information processing, controlled versus automatic, illustrating the differences between a beginner and a professional’s learning process during vocal training/performing 86
Figure 11: Mean heart rates before, during, and after performance 90
**LIST OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>AT</th>
<th>The Alexander Technique</th>
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<tbody>
<tr>
<td>CAM</td>
<td>Complementary and Alternative Medicine</td>
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<td>CBT</td>
<td>Cognitive-behavioral Training</td>
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<td>CK-MPA</td>
<td>Cox and Kenardy MPA Scale</td>
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<td>D-PSS</td>
<td>Dance-Performers’ Stress Syndrome</td>
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<td>FROST-PE</td>
<td>Frost Perfectionism Scale</td>
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<td>HAD</td>
<td>Health Anxiety Disorder</td>
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<td>ICSOM</td>
<td>International Conference of Symphony and Opera Musicians</td>
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<td>K-MPAI</td>
<td>Kenny Music Performance Anxiety Inventory</td>
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<td>MFI</td>
<td>The Music in Flow Inventory</td>
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<td>MPA</td>
<td>Music Performance Anxiety</td>
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<td>MPAQ</td>
<td>Music Performance Anxiety Questionnaire</td>
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<td>MPPA</td>
<td>Medical Problems of Performing Artists</td>
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<td>M-PSS</td>
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<td>NATS</td>
<td>National Association of Teachers of Singing</td>
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<td>NLP</td>
<td>Neuro-Linguistic Programming</td>
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<td>NPI</td>
<td>Narcissistic Personality Inventory</td>
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<td>OSI-R</td>
<td>Occupational Stress Inventory-Revised</td>
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<td>PAI</td>
<td>Performance Anxiety Inventory</td>
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<td>PAMA</td>
<td>The Performing Arts Medicine Association</td>
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<td>PAR</td>
<td>Performance Anxiety Reduction</td>
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<td>Performance Musicality</td>
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<td>Performing Musician Coping Inventory</td>
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<td>POMS Brief</td>
<td>Profile of Mood States Brief</td>
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<td>PRCP</td>
<td>Personal Report of Confidence as a Performer Scale</td>
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<td>PSI</td>
<td>Performance Self-Involvement</td>
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<td>State-Trait Anxiety Scale</td>
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<td>STPI</td>
<td>State-Trait Personality Inventory</td>
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<td>TAS</td>
<td>Trait Anxiety Scale</td>
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<td>T-PSS</td>
<td>Theatre-performers’ Stress Syndrome</td>
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DEDICATION

I would like to dedicate the efforts of my work to three people, without whom I would have been nothing: my parents, Jack and Pat, and my wife, Jessica. Thank you for having the patience to see me through this to the end.
ACKNOWLEDGEMENTS

I would like to acknowledge the assistance and guidance provided by Dr. Murray Steib and Dr. Linda Pohly. I would also like to acknowledge my former voice professor, Joseph Levitt, for his teaching, inspiration, and mentoring during my time at Ball State.
Chapter 1:
Music Performance Anxiety Before the 1980s

Background Information

The topic of this dissertation is performance anxiety as it pertains to classically trained singers and singing teachers. This is an important subject, and although an abundance of research has been presented on the topic of MPA in general, it is often overlooked in the vocal training process, as most voice instructors must spend their time on more technical aspects of building a voice. This leaves a young singer confused and looking for answers as he or she copes with a malady plaguing a significant percentage of amateur and professional singers. Numerous studies have demonstrated the existence of some level of what was originally called stage fright, and what is now universally referred to as music performance anxiety (MPA), in almost every subject. The degree to which each subject suffers from the malady varies, but most of the major studies concerning MPA list moderate to severe sufferers ranging between 25-35 percent of the total number of subjects among both amateur and professional vocalists; this is the target group for this dissertation.

This dissertation will provide a guide to the pertinent singer-specific characteristics, predictors, and coping strategies associated with MPA as researched over roughly six decades by musicians, psychologists, and physicians. It will provide vocalists and teachers with the information necessary to deal with their students’ or even their own anxiety associated with singing and performing. It will also serve as a catalyst to begin an open dialogue with either the student or the self in order to begin to assess one’s level of MPA. It is not meant to be exhaustive, and it is in no way this author’s attempt to advocate for or against any idea,
technique, or medication for MPA discussed herein. In addition, should one subscribe to any idea, technique or medication discussed in the following chapters, one must first seek the consult of a medical professional.

Dianna Kenny, a leader in the MPA field, offers the most accepted definition of MPA: “Music Performance Anxiety is the experience of marked and persistent anxious apprehension related to music performance…which is manifested through combinations of affective, cognitive, somatic, and behavioral symptoms.”1 She also notes that MPA affects musicians their entire lives and is at least partially independent of years of training, practice, and level of music achievement. Music Performance Anxiety affects singers in three different areas: cognitive, psycho-motor, and behavioral. Cognitive examples include negative self-talk prior to a performance. A psycho-motor effect is considered any symptom that manifests in the body from something the mind first thought. For example, the mind perceives a situation of heightened anxiety and responds by opening the bronchial air passages in such a way as to provide more oxygen to the body’s muscles. This is beneficial if one encounters a bear in the woods, but detrimental if one has long phrases to sing and breathlessness is interfering.

Lastly, the cyclical nature of MPA affects a person’s behavior and behavioral patterns. For example, Student A is nervous about his pending jury because he has not prepared the music well enough. This leads to a heightened detrimental amount of anxiety during his performance causing memory slips and an overall poor performance. This in turn may lead to avoiding practicing as his anxiety has led to an unpleasant experience, which was caused by a lack of practicing, thereby demonstrating the cyclical effect of the malady.

This dissertation examines how the fields of voice instruction and clinical psychology came together to investigate the issues of performance anxiety at the professional as well as

collegiate/amateur levels, and how the definitions and the epidemiology of MPA have progressed over roughly fifty years of clinical research. Clinical psychology became a field of study at the turn of the twentieth century through the efforts of psychologists such as Sigmund Freud, B.F. Skinner, and Edward Thorndike. It took more than sixty years for this field to merge with musical studies in an attempt to better understand issues plaguing classical musicians. As time progressed and more clinical studies were conducted, terms such as stage fright or butterflies were replaced by musical performance anxiety and treatment approaches changed from a one-or-the-other type approach, to a melting-pot style where all domains affected were studied and treated.

The 1980s and 1990s saw a surge of empirical research on MPA, and was the golden age of research into this topic. However, there were few singer-specific studies. Usually singers were part of a larger demographic, but because they house their instruments within their bodies, a differentiation was needed. Concerning Kenny’s study on MPA and opera choristers, Maria Sandgren notes that, “the intrinsic nature of the voice, it being housed inside the body, can have greater psychological effects with increased anxiety as opposed to instrumentalists.”\(^2\) In addition to the psychological demands, singers must also rely on external feedback, because they cannot hear themselves when singing. The next twenty years saw an evolution in MPA’s epidemiology as the field became inundated with studies, surveys, and empirical research presenting a need for a more succinct guide to identifying, treating, and coping with music performance anxiety.

The literature on this subject is extensive. Most articles on the topic mention this fact, and note that a comprehensive, exhaustive study or review of the literature was extraneous if not impossible. Therefore, I will review only the most important literature. This was determined by

the relevance and prominence of the most frequently cited authors/researchers and their work in a historical context, and by literature that contains information on MPA as it affects singers specifically.

Donald Hamann, a pioneer in the field of MPA research, whose work is discussed later in this dissertation, noted, “Results of research on anxiety assessment have appeared in psychiatric and psychological literatures since 1894.” This was during the time that modern psychology research came to the forefront as in the work of Freud. It was only a short time later that this research was employed in the field of music. As Dawson notes:

Early references on performance anxiety appeared as early as 1938. Out of a total of ten publications (at the time), three discussed etiology and risk factors for what was commonly known as stage fright or performance anxiety. Five focused on treatment modalities, but only the most recent paper of this group mentioned treatment with beta-adrenergic blocking drugs, a therapeutic modality that would engender numerous publications in later years.

A large section of this dissertation will be dedicated to the debate surrounding the treatment of MPA using medications.

In addition to Hamann, many researchers, both early and late, reference the work of Charles D. Spielberger and his state-trait anxiety index (STAI), that measures a subject’s normal, existing level of anxiety (trait: 20 items) compared to his situational anxiety (state: 20 items). This inventory was originally designed to assess anxiety during test taking, but was utilized in many subsequent MPA studies. This test is considered a valid, reliable, albeit general, determinant for a performer’s natural tendency to suffer from MPA. Variables accounted for include age and gender.

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5 See appendix 1 for the complete STAI self-assessment questionnaire.
Later in his career, Spielberger conducted and documented an early MPA study. In this study, forty-three upper-class music conservatory students in London were examined. The STAI was administered in conjunction with the students’ midterm singing examinations. The trait portion was administered two weeks prior to the performance/examination and the state portion was administered ten minutes prior to going on stage. The state portion was then administered for a second time immediately following the performances. Then, a final questionnaire pertaining to the students’ descriptive feelings regarding the influence of their perceived anxiety on their performances was administered. This questionnaire also asked whether the vocalists consciously used any coping strategies throughout the study. Sixty-five percent of the students felt anxiety kept them from doing their best, while fifteen students reported experiencing no MPA effects. Of these fifteen students, twelve mentioned having had some sort of plan in place to cope with their anxiety, taking a proactive approach to MPA that included positive thinking and breathing exercises. Trait anxiety scores were in agreement with the researchers’ previous findings. The mean score for both men and women was forty-three out of a possible eighty points. Women averaged slightly higher on the trait index but scored similar to men on the state index, including pre-, during, and post-performance times.

Although this was one of the most viable early examples of the relationship between trait and state anxiety among singers, and is a practical place to start a self-assessment, there are obvious reliability and validity limitations. This study is not singer-specific. It contains a lot of subjective, descriptive information gathered via questionnaires. The male sample was small, with the author noting little to no difference between males and females during performance on the state index. This went against the current theories concerning males and females and MPA. Also,

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7 Ibid.
none of the participants fell into the highly trait-anxious category. In addition, the difference between males’ and females’ ability to openly disclose their feelings also led to reliability issues according to Spielberger. Moreover, he noted that the mere act of being questioned about their pre-performance anxiety could lead to lower scores.\(^8\) Lastly, Spielberger commented on the intrinsic nature of the human voice as it pertained to the overall low to medium anxiety scores in this study. He noted that singers’ extroversion, generally more socially adjusted personality, and their overall greater sense of independence helped facilitate audience-interaction, which helped them to manage their anxiety better than other musicians. Spielberger suggested that, “It may be the case, therefore, that because of the direct interaction with the audience, the vocal performers in our sample, particularly the more advanced ones, have managed to be in control of potential high levels of anxiety by adjusting their demeanor to a more socially accepted pattern of behavior.”\(^9\)

In addition to reliability/validity issues of this study, as well as a majority of others pertaining to MPA and singers, the intrinsic nature of the voice was not examined as an independent variable. Despite the amount of readily available subjects, an exhaustive, quintessential study pertaining to MPA and singers specifically has not yet been conducted. Singers, classically trained and otherwise, have offered their thoughts on MPA and the difference between themselves and other types of musicians, including instrumentalists and conductors. One of the most successful, classically-trained sopranos of the twenty-first century, Renée Fleming, noted:

> There is nothing to hold on to. There is nothing between you and the audience. And the other thing is that we’re actually looking at the audience and most musicians are more involved with their instruments. Or the conductor, he is looking at the ensemble he’s conducting. Singing is definitely such a lot more personal…you know, we can’t exchange

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\(^8\) Ibid.

our instrument for a new one. It is us, because our voices are in our bodies, so each one is unique, just as we are.10

My goal is to review the epidemiologic evolution of MPA research and extract the pertinent, singer-specific concepts, studies, and coping strategies. In doing so, this dissertation will serve as a helpful guide for singers suffering from mild to severe MPA, and will also aid voice instructors until an exhaustive, long-term study is completed. Additionally, this guide will offer singers a better understanding of aspects of MPA and the research-based coping methods discovered over the course of the past fifty years by providing access to pertinent literature, concepts, and strategies.

Introductory Literature and Coping Strategies

In order to understand the origins of MPA and how it has evolved over the years, it is important to study the precursors from the research of previous decades. The term MPA did not always exist. Stage fright was originally the term used to define the sometimes indescribable symptoms associated with anxiety and the performing arts. As the term MPA became more common, researchers began to use the two terms interchangeably. However, some argue that the terms have different meanings. While stage fright refers to a normal amount of anxiety associated with performance, MPA refers to a pathological disorder requiring treatment. In addition, one researcher suggested that the term stage fright had slowly moved out of fashion because it lacked the anticipatory component that may start days or weeks prior to stepping foot on the stage.11 The difference in nomenclatures among the early stages of MPA research stemmed from a lack of research on the behavioral aspects leading up to a performance.

Additional terms such as *music performance stress* and *music performance stress syndrome* can also be included in the all-encompassing term, music performance anxiety.

One of the earliest examples in the field of MPA research came from a 1960 National Association of Teachers of Singing (NATS) workshop. As the fields of psychology and music became aware of their mutual ties, strengths, and limitations, researchers gave more thought to the role the brain played in the manifestation of the physical symptoms associated with MPA. Clinical psychologist Anna Martin described the relationship between the brain and the body as “concomitants.” According to the author, psychological symptoms can manifest themselves into physiological symptoms. Martin categorized stage fright as a psychosomatic condition similar to ulcers, asthma attacks, colitis, migraines, other headaches, and other pains. The relationship between the brain and the body was the crux of this early article, one based in clinical psychology. The importance of this idea when trying to better understand MPA’s origins, cannot be understated. Physical symptoms associated with MPA include tension, shortness of breath, sweaty palms, trembling, dry mouth, and nausea. These physical symptoms, manifested first in the brain and then physically exteriorized, can be detrimental to a singer for obvious reasons.

The solution would seem to be a simple case of *mind over matter*. However, the body does not discriminate when it comes to anxiety and the fight-or-flight response that originates in the central nervous system. The physical symptoms manifest themselves in the same manner whether encountering a bear in the woods or singing “Caro mio ben” for the first time in studio class. In the MPA sufferer’s mind, the two situations are similar, but obviously discernable from one another. However, the body and the central nervous system do not differentiate between the

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two, thereby making *mind over matter* a difficult endeavor. Martin questioned what performers really feared. “First, I would say that some hard-driving, painstaking, perfectionist, self-conscious, egocentric individual has been thinking himself into a state of tension and anxiety over a small matter that is a frustrating situation to him. The total situation is a frustrating one. People who have learned to handle frustrations rarely have tensions.”13

It seems simple; control the negative psychological aspects and the body will follow suit. However, this demonstrates the cyclical nature of MPA, as her early article took into account trait anxiety. Martin noted, “some people just live in a state of tension because they live dangerously…almost all cases of stage fright have other personality patterns that go along with stage fright.”14 Therefore tension leads to anxiety, which in turn leads to tension, *ad infinitum.* Among individuals whose day-to-day activities involve heightened anxiety responses, the problem is exacerbated.

Regarding solutions, Martin believed that one could simply choose to not have MPA by making a mental statement against its effects. “If we think a thing out, and come to a decision as to how we would proceed in such and such a case, we most likely will carry through.”15 Unfortunately, the statement “most likely will carry through” does not resonate well with performing artists. In a field where perfectionism is prevalent, one cracked or out-of-tune note can ruin an entire performance.

This approach to coping with MPA, limited at best and somewhat faulty, was supplemented with many new emerging strategies. The act of preparation was one of the most agreed upon and successful solutions to MPA. As Martin noted, “the best backlog of

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13 Ibid.
14 Martin, ”The Physiological and Psychological Concomitants,” 105-106.
15 Ibid., 107.
insurance…against stage fright is good preparation.”\textsuperscript{16} The idea of being prepared instead of being unprepared is not only listed in early studies such as Martin’s, but is echoed throughout the literature that followed. Clichés such as “proper preparation prevents poor performance” and “practice makes perfect” or “perfect practice makes perfect” serve as beneficial mantras for an MPA sufferer and, in accordance with Martin and other subsequent researchers, can serve as a starting point in battling the often debilitating and cyclical effects of MPA. This article, while soundly rooted in psychology, offers a somewhat singular approach to coping with MPA—mind over matter.

Sigmund Freud and psychoanalysis revolutionized the field of psychology, but insights into how the mind controls the body have been explored since the days of Socrates, Plato, and Aristotle. Their ideas served as the basis of the work of behaviorists John B. Watson, B.F. Skinner, and Ivan Pavlov, as multiple approaches and treatments to conceptualizing mental functioning would emerge. Their techniques in psychoanalysis and behavioral learning were implemented in the study of MPA. As more and more strategies emerged in the following decades, a singular approach was replaced, as it became obvious through more in-depth research that a multifaceted approach was necessary. This approach and related theories will be discussed in the following chapters.

\textsuperscript{16} Ibid.
Chapter 2:

Music Performance Anxiety in the 1980s Through 2000

While the 1970s marked the beginning of the investigation into MPA, the 1980s saw a burgeoning number of articles about measuring, predicting, and treating MPA. A majority of the articles focused on the characteristics of MPA, as opposed to treatment approaches, as the science was relatively new. The following chapter will explore the theories and techniques presented in these articles by extracting the singer-specific information. Singers will gain a better idea of why and how certain MPA reduction strategies used today were either previously employed or disregarded. Techniques such as systematic desensitization, cognitive-behavioral training (CBT), relaxation techniques, imagery techniques, attention-focusing techniques, biofeedback, hypnotherapy, and The Alexander Technique were tested. Other studies examined the effects of medications on performance anxiety.

One such study, the largest of its kind pertaining to MPA, was presented in 1987 at the International Conference of Symphony and Opera Musicians (ICSOM), in Sydney, Australia. Researchers surveyed more than 2,000 musicians and revealed that roughly twenty-five percent suffered from MPA to the point of taking anxiety medication. Moreover, it was found that nearly seventy percent of those seeking medications did so without the consent of a doctor. This study is referenced in much of the subsequent literature because of its sample size, and served as a valid starting point for researchers to determine just how large of a factor MPA was in the classical music world. Because singers were underrepresented compared to instrumentalists, this study is of limited usefulness for this dissertation.
The first known medical conferences in the U.S. devoted strictly to issues facing musicians appeared during this time as well. Performing Arts Medicine was also established as a specialty during the mid-1980s, leading to The Performing Arts Medicine Association (PAMA) and Medical Problems of Performing Artists (MPPA), a publication responsible for the majority of scholarly writings pertaining to MPA.

**Predicting MPA and Its Characteristics**

During 1980s and 1990s, MPA research began to shift from literature focusing on the characteristics and predictors of MPA to studies focusing more on emerging coping strategies. However, researchers gained more knowledge on the predictors/characteristics of MPA as well. Aspects such as age, gender, personal experiences, level of achievement, and career stage surfaced as related variables. In addition, behavioral factors including personality and one’s level of trait anxiety were items found to contribute to predicting MPA. The following sections will examine the pertinent predictor/characteristic aspects in general and as specifically addressed by the major contributors at the time.

Understanding the predictive factors that might cause a usually calm individual to suffer from MPA is an important early step. First, MPA can be considered a learned behavior; as Mark Ely noted in his 1991 article, “Since our perceptions of various situations are largely shaped by our experiences, it seems likely that our tendency to experience anxiety when performing in public is learned.”¹ Children sing and dance in front of others without fear. It is not until adolescence that this lack of fear morphs into self-consciousness and anxiety. All children share the desire to be accepted by their peers and possess an underlying need to win the pride and affection of their parents. Psychiatrist Glen Gabbard explored the universal nature of

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performance anxiety as he theorized that, “in the autonomy created by the assertive act of performing, the performer risks losing the ‘audience-mother’s’ love and admiration.”

A boy soprano going through the vocal maturation process for example, has much to negotiate. In one instance, the often cruel nature of children to tease and ridicule can lead to debilitating psychological problems. These can lead to avoidance behavior or stopping music performance all together in an attempt to eliminate the negative feelings associated with being teased.

One of the most important predicting characteristics of MPA pertains to environment and the effect the audience has on performance and performer. Many early researchers, including Andrew Steptoe and Donald Hamann, focused on this particular MPA theory. In addition, Albert LeBlanc, an often-cited and published author and researcher in the field of music education, developed a theory that states, “The presence and behavior of audience, authorities, educators, family, media, and peer group are important elements of the performing environment and are variables that can influence music performance anxiety.”

In all studies conducted, including Hamann’s 1982 study and Steptoe’s unpublished study on singers, high-pressure environments such as an audition or a jury led to more measurable physiological symptoms and reported psychological distress. This supports LeBlanc’s research as he adds, “The review of literature discloses a very consistent effect of audience, in which the presence of an audience is usually associated with significant increases in physiological arousal and self-reported anxiety in music performers.”

In addition to the composition of the audience, its proximity to the singer can also affect his or her level of anxiety. From personal experiences, it is less nerve racking to perform at a

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4 Ibid., 483.
wedding from high above in the choir loft than directly in front of the audience because the perceived threat is not as close. But what about performing in front of a television camera for millions of people, none of whom are close? Although it is different for all singers, the level of perceived threat is the common denominator as a predicting characteristic of MPA. Renowned vocal instructor and pedagogue Richard Miller added, “subtle and even more debilitating psychological draining comes to the performer who uses his critical powers as ammunition against the competition. The more generous a performer can be when listening to other fine performances, the greater the ease reflected in his own performances.”

Arneson elaborates, stating, “If a singer is inwardly joyful when another singer performs poorly, that same singer will find himself nervous in his own performing, because he will perceive the ‘audience as enemy’.”

As most of his research was based on high school students, LeBlanc’s study raises questions about the relationship between perceived threat levels and age, maturity, and musical achievement. Empirical research supports his theory of the direct relationship between the performer’s perceptions of his or her audience and heightened symptoms of anxiety and is important to note. Whether it is a small group of friends or an audition panel, an MPA sufferer will feel varying anxiety levels based upon the perceived threat associated with past experiences. Unfortunately, high school students lack certain requisite experiences that are relatable to the target audience of this dissertation, implicating a need for future research.

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Burgeoning Literature from Major Contributors

In general, the vast amount of literature on MPA can be grouped into two categories: research attempting to identify its characteristics of MPA as well as factors that predict it, and research addressing the various treatments and coping strategies used for reducing its symptoms. Some of the main contributors in the field include Steptoe, Paul Lehrer, Hamann, Glenn Wilson, and Warren Brodsky. In addition to the efforts of these authors and others, the 1980s and 1990s served as the main period of exploratory research on MPA. The efforts of these authors helped subsequent researchers to better understand the causes of MPA. Aspects such as the time period leading up to a performance and that following the performance, behavioral symptoms such as avoiding anxiety-inducing activities, and personality variances based on trait anxiety information were explored. As more was learned concerning the characteristics that cause MPA, more experimental research developed concerning how to treat it.

Andrew Steptoe: Environmental MPA Effects

Andrew Steptoe is one of the leading authorities and pioneers in the MPA field. He outlined the advances in our understanding of MPA in 1982, noting how, “the topic has attracted the attention of clinical psychologists and others concerned with the management of anxiety and stress-related disorders.” Steptoe acknowledged the similarities between MPA and other focal anxieties such as the fear of spiders or heights, noting in each case, “the individual responds both physically and mentally to the presence of the feared situation. However, there is an additional element in performance anxiety, since it affects not only cognitions and physiology but behavior.”

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8 Ibid.
In addition to behavioral aspects, the association between an MPA sufferer and his or her career choice also sets MPA apart from other anxiety disorders. A musician’s livelihood and well-being can be affected when MPA is left unmanaged. However, not all symptoms of MPA are undesirable. Steptoe’s article was one of the first to adapt the universally accepted Yerkes-Dodson Law (see figure 1) as a model when describing MPA arousal levels compared with performance, and states, “The quality of skilled performance varies in a systematic fashion with arousal, following a curvilinear or inverted U-shaped pattern. Thus performance improves with the increasing arousal up to an intermediate level but deteriorates as arousal rises beyond the optimum.”

![Figure 1: the relationship between quality performance and anxiety. From Andrew Steptoe, “Performance Anxiety,” The Musical Times 123, no. 1674 (August 1982): 537.](image)

Taking this idea to the next level, Steptoe conducted a survey of young classical and operatic singers in which they were asked to rank the quality of their performances against varying anxiety-inducing settings that consisted of a lesson, dress rehearsal, public performance, audition, and practice in private. Considering the Yerkes-Dodson Law, the results were as

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9 Steptoe, “Performance Anxiety,” 537-538.
predicted (see figure 2).\textsuperscript{10} Steptoe notes, “the best performance occurs at an intermediate tension level; when arousal is too high or too low, singing is less satisfactory. Interestingly, the peak in quality generally coincides with public performance [heightened anxiety situation] in this sample.”\textsuperscript{11} Although the survey results were not published, and the sample size was minute, this article is important because it contains one of the few early MPA studies involving only singers. The findings are general and based on arbitrary reports from a subject pool consisting of a small, unknown number of participants. It does not account for variables such as trait anxiety, gender, level of music achievement, and age. However, it serves as a reference for the positive and negative aspects of situational or environmental MPA in accordance with the Yerkes-Dodson Law.

![Figure 2: the relationship between tension and five different performance settings; lesson (l), private practice (pr), performance (perf), dress rehearsal (dr), and audition (aud.) From Andrew Steptoe, “Performance Anxiety,” The Musical Times 123, no. 1674 (August 1982): 538.](image)

\textsuperscript{10} Unpublished research by Steptoe; a preliminary account was presented at the International Conference on Tension in Performance, Kingston Polytechnic, September, 1981.

\textsuperscript{11} Steptoe, “Performance Anxiety,” 538.
Interesting to note is Steptoe’s interchangeable use of the word *tension* with *anxiety*. The word *tension* appears in this article twice as much as the word *anxiety*. This is an example of the mindset during this time in a study focused more on the physical aspects of MPA—those aspects that cannot be managed easily by a singer because of the intrinsic nature of the vocal instrument—as opposed to the mental components.

**Paul Lehrer: The Music Performance Anxiety Questionnaire**

Paul Lehrer, a clinical psychologist, was another early contributor in the field of MPA. In addition to professionals from the fields of music performance, music education, psychology, physiology, and medicine, Lehrer was an important figure involved with the growing number of conferences held on MPA in the 1980s. His article, “A Review of the Approaches to the Management of Tension and Stage Fright in Music Performance” is important to note because of the use of the word “tension” in the title. Similar to Steptoe’s findings, the science was somewhat unclear because of the blurred distinction between roles the body and the mind play in an individual suffering from MPA. This article represents an early example of a general listing of MPA characteristics and predictors as well as a general report of current or budding coping strategies.

Within this article, Lehrer noted that not all anxiety is the same, and cited a study on snake-phobic individuals in which “those individuals who said that they were the most anxious were not necessarily the ones who stayed the farthest away from the snake, and neither of these were necessarily the individuals who showed the greatest increase in heart rate or palmar
sweating.” In conjunction with these findings, Lehrer added, “There is considerable evidence that various kinds of stage fright might each best be treated by a specific kind of intervention.”

Herein we begin to see a multifaceted approach replace strategies aimed at reducing a singular MPA symptom. However, Lehrer added that at this time, “No one has yet done a formal evaluation of the combination of various anti-anxiety techniques on stage fright.” At this time, research suggested or hinted at the benefits of a multifaceted approach despite the lack of an empirical study.

Lehrer’s article also explored the emerging research on the use of medications for coping with MPA. He noted, “Some forms of medication may also be helpful, although evidence for this is incomplete,” and added that psychological techniques may be used in conjunction with beta-blockers, although this interaction had not been studied at that time. Although this article did not serve as empirical research on the effects of medications on MPA, Lehrer suggested that those taking these medications, such as beta-blockers (which will be discussed in chapter 3), fell into the severe sufferer category in which the individual’s symptoms outnumber those of someone only mildly affected by MPA.

Lastly, Lehrer shed some light on behavioral issues and perfectionism in conjunction with MPA. Perfectionism is a characteristic closely associated with MPA, and was mentioned in Lehrer’s article and in many subsequent articles for its predictable qualities that pertain to an MPA sufferer. Lehrer states:

Demands for perfection are particularly problematic for musicians… the fact that today’s musicians can compare their own live performances with recorded performances by the greatest artists-performances that may have been dubbed and redubbed numerous times,

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13 Ibid.
14 Ibid., 145.
15 Ibid., 146.
yielding a standard of perfection that rarely is possible for anyone in a live performance... in such a buyers’ market for talent, performers can lose a steady job or a chance for a concert tour because of a single bungled performance.\textsuperscript{16}

It is easy to deduce the obvious implications perfectionism has on the MPA sufferer, especially because singers tend to exaggerate and catastrophize these types of events, which leads to behavioral issues as well as others. Lehrer remarked that:

The behavioral components of performance anxiety include technical problems that detract from performance; interpersonal problems with teachers, friends, managers, and stage hands (significant others too!); and a tendency for people to avoid doing things that make them anxious, such as practicing difficult passages and creating performance opportunities for themselves.\textsuperscript{17}

Herein we see avoidance behavior as a large deterrent to preparation, one of the most useful weapons in the MPA fight. The MPA sufferer who avoids performance situations because of their anxiety is a perfect example of the cyclical nature of MPA, as Lehrer noted concerning frequent performances, “In contrast, research suggests that widely spaced exposure to anxiety-provoking situations may lead to increased anxiety. This is known as the incubation effect.”\textsuperscript{18}

This concept was soon referred to as systematic desensitization and was investigated in many subsequent studies and surveys. Lehrer noted the surprising fact that no controlled empirical studies had been reported on behavioral treatment, nor had there been any reports of combined treatment approaches compared to individual methods.

In addition to publishing articles on the current trends in identifying and coping with MPA, Lehrer also published a study on MPA in conjunction with two other clinical psychologists. This study examined three phenomena related to MPA: (1) tendency to worry about various possible performance disasters, (2) to be overly rigid and judgmental about the possibility of their occurrence, and (3) to avoid planning how to cope with them, should they

\textsuperscript{16} Ibid., 147.
\textsuperscript{17} Ibid., 148-149.
\textsuperscript{18} Ibid., 149.
occur.\textsuperscript{19} Lehrer et al., also questioned MPA’s relationship with state/trait anxiety, and suggested that if MPA is more related to state anxiety qualities, then it can “best be managed by specific behavioral strategies that can be included in a performer’s musical performance education. If, however, it is related to generalized [trait] anxiety, then a more general psychotherapeutic approach may be called for.”\textsuperscript{20} The suggestion that the curriculum for a performance degree be changed to include a class that addresses coping with MPA was interesting and important to note.

The authors hypothesized that two phenomena designed into the questionnaire would emerge as independent dimensions of the problem and included: (1) the fear of judgmental attitudes and worry would relate to debilitating MPA, and (2) deliberately engaging in behavior specifically designed to cope with MPA was associated with facilitating the symptoms of MPA. They sent out packets to 700 various musicians including college music majors, professional musicians, and music teachers. All participants were giving a concert of some importance to their careers that could be used as a reference when completing the questionnaire. Performances were limited to solo offerings or from a group of no more than seven other musicians. Participants had no more than two days following the given musical performance to complete the questionnaires.

The most important aspect of this survey was the questionnaire designed by the authors called the \textit{Music Performance Anxiety Questionnaire} (MPAQ), which consisted of 32 items that assessed predictors and characteristics of MPA scored on a 5-point Likert scale.\textsuperscript{21} After having received their responses, the authors submitted the MPAQ to a statistical analysis system where the questionnaire was found to consist of five interpretable factors: (1) planning to cope with

\textsuperscript{20} Ibid.
\textsuperscript{21} See appendix 2 for the communalities and factor loading items of the MPAQ.
symptoms, (2) high standards and a judgmental attitude about performance, (3) worry about anxiety and its effects on performance, (4) concern with reactions of important others, and (5) concern about distraction with oneself and in the audience. Those who rated themselves as more anxious during the performance also tended to admit to engaging in more worry activity before and during the concert. The where and when predictors of performance anxiety served as the basis for many subsequent studies, including this early example.

The authors’ hypothesis was confirmed, as their study revealed that worry about anxiety and its effects on performance had the most consistent relationship with independent measures of debilitating performance anxiety, whereas preparing and planning to cope with anxiety symptoms was related to facilitating MPA symptoms. They added, “Performers who rated themselves as more anxious during the performance also tended to admit to engaging in more worry activity before and during the concert.” Concerning implications for future research, the authors were optimistic that the survey designed specifically for this study could be helpful and noted, “The MPAQ may become useful as a device for guiding music teachers and clinicians in helping performers to manage the specific manifestations of debilitating stage fright.”

In general, this is a rather vague and ambiguous study. In addition, the demographics represented do not render any singer-specific results. However, this survey does contain a valuable tool to be utilized by an MPA sufferer for self-assessment, the MPAQ.

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23 Ibid.
24 Ibid., 16.
25 Ibid., 17.
Donald Hamann: Drive Theory

Donald Hamann, another early contributor in the field of MPA research, was able to help bridge the gap between psychology and music in a study based largely on the theories of Spielberger. Hamann claimed that statements on MPA research at the time were based more on speculation and subjective assessment than on research results, and that few research studies had been done at the time. He used past anxiety studies not pertaining to music as reference and noted that they “generally conclude[d] that anxiety reduction either improves or does not affect quality of performance.”

According to Spielberger’s Drive Theory, mastery of a task (habit strength) and anxiety are related. The author’s subsequent research analyzed the relationship based on this theory as well as Spielberger’s Trait-State Anxiety Theory, including the STAI. “The Trait-State Anxiety Theory is based on the assumption that while A-Trait measures may provide predictive information regarding the ‘probability’ that high levels of A-State was aroused, the most effective measure of ascertaining A-State change is by using an A-State measure along with an A-Trait measure in a situation.” Going against the current trend, Hamann noted the benefits of anxiety, as A-State is assumed to fuel anxiety’s facilitating properties on performance, in essence, Drive Theory. Hamann added, “According to Drive Theory, the performance of high-anxious subjects with high training or ability will be superior to that of low-anxious subjects with equal training or ability.”

There were three purposes to Hamann’s research: (1) to assess anxiety’s effect on quality of performance under enhanced and reduced anxiety performance conditions, (2) to assess the

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27 Ibid., 78.
28 Ibid., 79.
relationship between the increase in state-anxiety and the subjects’ trait-anxiety, and (3) to assess the relationship between training and ability and performance quality in two different performance conditions. In addition to the STAI and a data questionnaire designed by Hamann, Spielberger’s State-Trait Personality Inventory (STPI) was also administered. This was designed to measure transitory and dispositional anger, anxiety, curiosity and depression. These inventories were all used to measure psychological factors as opposed to physiological symptoms. Hamann noted, “Through research readings, it was found that anxiety inventories have greater reliability than do physiological measures or projective tests, specifically the STAI, because they are less affected by extraneous factors.”

In addition, formal training is not required to administer and evaluate inventories/questionnaires, as opposed to measuring physiological symptoms.

The study consisted of ninety university students. Five were graduate students and the rest were undergraduates. There were forty-two males and forty-eight females, and each was given a five-day span to complete two performances in different settings: (1) a repertory class with peers and teacher present, and (2) alone with a tape recorder. The aforementioned inventories were administered after each performance and asked the subjects to indicate how they felt while performing and how they generally feel. Data was collected based on different analytical groupings, and correlations were drawn.

The results of this study were predictable yet important at the time as “a significant difference was found between the STAI mean state anxiety scores of subjects performing under enhanced and reduced anxiety conditions.”

One analysis involved grouping the subjects according to formal years of study. Ten subjects were in the high category (11-15 years), twenty-

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29 Ibid., 81.
30 Ibid., 84.
nine in the medium category (6-10 years), and fifty-one in the low category (1-5 years). Results indicated that a significant difference was found between STAI mean state anxiety scores of subjects performing under both enhanced and reduced anxiety conditions as categorized by years of formal study.\(^{31}\) As expected, the differing performance conditions revealed a significant relationship between years of formal study and judged performance quality. Of the three levels, ninety percent of subjects in the high ability category had their repertory performances chosen as superior by the judges, opposed to only sixty-two percent for medium ability and forty-nine percent for low. In addition, Hamann remarked, “The reported findings support Spielberger’s Trait-State Anxiety Theory: High A-Trait Ss [subjects] will perceive situations or circumstances that involve threats to self-esteem, such as failure or negative evaluation or performance, as more threatening than will Ss who are low in A-Trait, and will respond to such situations with greater elevations in A-State.”\(^{32}\)

Anxiety in relation to ability or task mastery is on a sliding scale. So too is the need to curtail its effects. Understanding where one falls in the hierarchy of MPA sufferers based upon trait anxiety levels in conjunction with years of formal study is a good place to start when self-assessing one’s MPA. Hamann gave us an early example of a clear guide in doing so based upon Spielberger’s theories. However, the study has its limitations; although vocalists are listed in the title, Hamann makes no distinction between instrumentalists and singers in his results.

**Glenn Wilson: Personality Aspects**

Psychologist and author Glenn Wilson, whose work appears in many music psychology texts used in higher education, was another important pioneer and continuing researcher in the

\(^{31}\) Ibid.
\(^{32}\) Ibid., 86-87.
field of MPA. His predictor/characteristic study on singers’ personalities as a contributing factor of MPA is important, as it represents an early example of a singer-specific study. This article offers important information for self-assessing one’s own MPA. Wilson remarked, “If voice type is hormonally determined, it is reasonable to suppose that certain other somatic and temperamental characteristics [are] systematically related, and anyone immersed in the world of opera is aware of certain stereotypes regarding characteristics of the different singers.” Anxiety is associated with these “temperamental characteristics” as well as one’s hormonal predisposition to suffering from it.

Wilson’s study set out to examine the validity of these stereotypes, by having singers rate their own personality characteristics as well as those of other singers. In addition, Wilson also explored background details and behavior/attitude factors with respect to the profession. Wilson created a tailor-made questionnaire titled “Opera Singers’ Survey,” and included questions on age, physical characteristics, voice type, experience, lifestyle, values, and performance difficulties. The test also asked subjects to rate their own personality on twelve bipolar attributes considered relevant to the study. The subjects were also asked to answer the same inventory for a member of each voice category, including baritone, bass, soprano, mezzo, contralto, and tenor. In addition, subjects were asked to answer the same questions about one man and one woman who were both non-singers. Three-hundred-fifty questionnaires were distributed in the Greater London area, including all of the principals in the 1982 winter season at Covent Garden and The English National Opera. Ninety-one subjects responded to the survey and included full-time professionals, part-time professionals, and serious, aspiring vocal students. The following pertinent results were observed: singers with higher voices (tenors and

34 See appendix 3 for the complete survey.
sopranos) tended to suffer more from stage fright than those with lower voices (see figure 3). In addition, Wilson also found higher voices to be more emotional, aggressive, unreliable, conceited, difficult, and feminine than those of their lower-voiced, same-sex counterparts (see figure 4). These results were consistent with Wilson’s expectations.

<table>
<thead>
<tr>
<th></th>
<th>Soprano</th>
<th>Mezzo/Contralto</th>
<th>Tenor</th>
<th>Baritone/Bass</th>
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<tr>
<td>Age</td>
<td>33.30</td>
<td>31.86</td>
<td>38.69</td>
<td>36.00</td>
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<tr>
<td>Experience (yr)</td>
<td>11.49</td>
<td>9.15</td>
<td>15.54</td>
<td>13.38</td>
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<tr>
<td>Height (in.)</td>
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<td>67.36</td>
<td>70.00</td>
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<tr>
<td>Weight (lb)</td>
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<td>140.86</td>
<td>170.64</td>
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<td>14.00</td>
<td>14.50</td>
<td>16.00</td>
<td>16.76</td>
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<tr>
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<td>2.05</td>
<td>1.93</td>
<td>1.92</td>
<td>1.62</td>
</tr>
<tr>
<td>Uneven performance</td>
<td>1.44</td>
<td>1.29</td>
<td>1.54</td>
<td>1.24</td>
</tr>
<tr>
<td>Self-opinion</td>
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<td>0.92</td>
<td>0.92</td>
<td>0.90</td>
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<td>Enjoyment of applause</td>
<td>2.56</td>
<td>2.36</td>
<td>2.39</td>
<td>2.48</td>
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<tr>
<td>Argumentativeness</td>
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<td>1.39</td>
<td>1.46</td>
<td>1.52</td>
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<tr>
<td>Sexual interest in co-singers</td>
<td>1.98</td>
<td>2.07</td>
<td>2.23</td>
<td>2.24</td>
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<tr>
<td>Number of affairs</td>
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<td>1.57</td>
<td>1.46</td>
<td>1.95</td>
</tr>
<tr>
<td>Determination</td>
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<td>1.63</td>
<td>1.31</td>
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<tr>
<td>Belief that talents underrated</td>
<td>2.19</td>
<td>2.21</td>
<td>2.23</td>
<td>1.95</td>
</tr>
<tr>
<td>Missed cues</td>
<td>1.12</td>
<td>1.29</td>
<td>1.54</td>
<td>1.24</td>
</tr>
</tbody>
</table>

Figure 3: Mean scores for four voice types on physical, background, and performance items. Where measurement units are not specified, the item is scored on a scale ranging from 1 (lowest) to 3 (highest). From Glenn D. Wilson, “The Personality of Opera Singers,” *Personality Individual Differences* 5, no. 2 (July 1984): 196.
Figure 4: Mean self-ratings of four voice types on various personality attributes scored 1 (lowest) to 10 (highest). From Glenn D. Wilson, “The Personality of Opera Singers,” *Personality Individual Differences* 5, no. 2 (July 1984): 197.

Although not specifically designed as an MPA study, Wilson’s “Opera Singer Survey” and the pertinent results offer an interesting overview of one’s predilection to suffer from MPA based on gender and voice type.

**Warren Brodsky: Reconceptualizing MPA**

In 1996, Israeli psychologist and music lecturer Warren Brodsky critiqued MPA research in an attempt to clarify and reconceptualize the psychologically-based problems musicians face in relation to a performance career, as opposed to relating them to a personality deficiency or previous psychopathology. In addition to defining the main effects of research efforts at this time, Brodsky critiqued the literature on five fronts including definition of terms, assessment, sampling, epidemiology, and treatment.

Brodsky’s belief at this time was that practitioners were misinformed, therefore limiting their ability to diagnose and treat MPA. He claimed these misinformed studies led to the
development of “broadly ineffective” management methods.\textsuperscript{35} Brodsky advocated for more
education on this subject and more development of therapeutic interventions to manage career
stress and MPA, as he claimed musicians were “among the top five occupational groups at risk
for mental illness.”\textsuperscript{36} Brodsky offered much criticism on the current trends in predicting and
coping with MPA, stating, “Although this diversity of approaches could have contributed to a
general theory and conceptual understanding, which in turn could generate applied protocols for
alleviating and managing performance anxiety, this has not been the case.”\textsuperscript{37}

Although there existed a multitude of burgeoning coping techniques—to be discussed
further in the next section—Brodsky felt that they were mostly ineffective. His concept of
studying MPA from the perspective of a music career demonstrated a trend to step away from the
previously accepted studies of correlations between anxiety not pertaining to music or music
performance and MPA. Thus, he reexamined the methods that were used to predict and treat
MPA. He claimed that scales and results were too easily skewed when diagnosing a participant’s
level of anxiety in any particular study because of the difficulty in measuring a subject’s base
level of anxiety. According to Brodsky, the constructs of anxiety, stress, and tension, also lacked
a standard definition, and were often subject to the researcher’s personal definition adding, “that
in reality, very few studies about MPA have actually dealt with performance anxiety per se.”\textsuperscript{38}

The terms \textit{stage fright} and MPA continued to be interchangeable during this time. This
was the wrong approach according to Brodsky, as MPA had proven to be multidimensional.
Singers suffered from various symptoms within the cognitive, physiological, and behavioral
realms, which necessitated a more realm-specific treatment approach, in addition to eliminating

\textsuperscript{35} Warren Brodsky, “Music Performance Anxiety Reconceptualized: A Critique of Current Research Practices and
\textsuperscript{36} Ibid., 89.
\textsuperscript{37} Ibid.
\textsuperscript{38} Ibid.
the synonymous, all-encompassing nomenclatures such as stage fright/performance anxiety and performance anxiety/MPA. Some researchers attempted to coin their own terms such as *musical performance stress*, *psychological stress of musicians*, *anxiety in musical performance*, *career stress in musicians*, and *musicians’ stress*.39

Although these terms were used interchangeably, several authors, including Brodsky, sought to codify these labels using severity of suffering as criterion for differentiation. Brodsky added, “For example, the different degrees of intensity could specify the type of disorder and hence dictate to some extent the intervention package needed to manage the condition.”40 This acute versus chronic approach directly correlated to previous state versus trait anxiety studies and was often ambiguous. What might have been considered acute for some was unmeasurable in others because of the subjective methods used in clinical studies at this time, and vice versa, according to Brodsky.41 It was his view that some authors and clinicians believed that “an exclusive focus on symptomatic anxiety in the performance context [alone] risks overlooking the potential impact of the many factors that heighten vulnerability, including cognitive, pedagogical, psychodynamic, skills-based, genetic, and biological components.”42 This was the accepted concept, adopted first by Steptoe, who found that career stress and stage fright were not independent, and stated that clinicians need to consider them in conjunction with each other to generate a more complete approach to managing MPA.

The nomenclature differentiation debate between *stage fright* and *music performance anxiety* continued for years. However, Brodsky called for a more medically derived nomenclature, *music-performers’ stress syndrome* (M-PSS). He claimed this could “specify

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39 Ibid., 90.
40 Ibid.
criteria such as intensity [intermittent, chronic, acute, limited, or severe], as well as utilize a series of extensions and suffixes indicating diagnostic codes [such as illustrating the “with or without” accompanying performance anxiety].”

Although it seems as if all of the previously mentioned nomenclatures similarly describe the malady of performance anxiety, adding delineations seemed like a good idea. Brodsky’s system would allow for differentiations such as M-PSS (music), T-PSS (theatre), and D-PSS (dance), which “could account for modality-specific idiosyncrasies.” This also allowed for a distinction between singers and instrumentalists, as it is possible to suffer from MPA while singing but not while playing an instrument, and vice versa.

Assessing the severity of one’s level of MPA was addressed by researchers at this time. Brodsky remarked, “It is paramount that some conceptual framework be brought forward for use by researchers and therapists whereby musicians who are experiencing the normal everyday ‘healthy’ aspects of stress and anxiety that are intrinsic to the profession can be differentiated from those musicians who are severely debilitated.” According to Brodsky, the literature at the time focused on two factors of MPA: (1) those that specifically assessed it, and (2) those that assessed more general aspects of anxiety or mental health management. He added that, for the most part, MPA assessment studies had been based on original instruments (such as the STAI, for example), and were constructed for a specific study. These studies, according to Brodsky, had served doctoral candidates well. However, general anxiety assessment instruments varied and most did not go through the rigorous testing required in order to determine their validity and reliability, raising cause for concern.

43 Ibid.
44 Ibid.
45 Ibid., 91.
Brodsky did give credit to Spielberger, claiming his STAI to be “the most extensively used assessment in all the literature,” but cautioned against it being the primary determinant for MPA as he cited a Lehrer study which found that only thirty-six percent of anxiety during performance was related to state-trait. 46 He suggested the need for new models that apply a more multidimensional outlook on stress as opposed to anxiety alone, and listed several emerging models at the time, including the MPAQ by Lehrer et al., Brodksy called for reconceptualization remarking, “This new generation of measure does not focus on particular anxieties of the stage performance, but assesses the musician within the context of a performance-based career and environment, which are particularly stressful.”47

Measures aimed at assessing the severity of one’s MPA varied, as did sampling demographics, subsequent results, and discussions. Grouping criteria was based on multiple aspects, such as age, gender, genre, instrument, career stage, etc., and produced differing results on the legitimacy or pertinence of the subject grouping and MPA. One such differential was that of professional samplings vs. student samplings. As mentioned earlier in this chapter, Steptoe’s work showed that there were significant differences in the stressors faced by professional musicians than even the most advanced student musicians.

Professional singers face multiple stress factors including separation from family, irregular hours, long and monotonous rehearsals, and constant travelling, while student musicians suffer from different stress factors such as employment uncertainty, professional competition, colleague betrayal, and irregular hours. Brodsky claimed that little can be learned about MPA regarding professional musicians from student-based surveys and studies. During this time, multiple student-based studies were conducted because of the relative ease in obtaining

46 Ibid.
47 Ibid.
a large sample. “Described as a *convenience sample,*” Brodsky noted, “this procedure of choosing the nearest and most convenient persons as participants is regarded as a deficient experimental method.”48 In general, singers should approach student-based results with caution and use them to reinforce MPA concepts based on a more thorough model that includes professionals.

Brodsky also took issue with the various pre-screening processes utilized at the time, as most major studies used self-referred subjects. Singers and instrumentalists, seemingly capable of dealing with the normal symptoms associated with MPA and the music profession, were screened out. In response, Brodsky advocated for MPA research to be based on the measurement of afflicted vs. non-afflicted individuals as opposed to afflicted vs. a placebo group. Moreover, he called for more studies based on every-day, working musicians as opposed to professional musicians with a limited performing schedule. However, this group was and still is often apprehensive to report problems with MPA, so as to avoid being labeled a nervous performer, or worse, terminated from one’s position.

Up to the time of his article, Brodsky claimed research studies took on three design formats: (1) questionnaires, (2) in-vivo, or real-life performance situations, lab and adjudicated performance studies, and (3) research-based intervention trials. According to Brodsky, these studies attempted “to prescribe and refer musicians to ‘coping therapies’ [The Alexander Technique, CBT, medications, etc.] rather than long-term analytically oriented psychotherapy.”49 Some studies assessed prevalence, while others focused on probable correlations between MPA and specific personality factors. Some studies investigated the principle components of MPA,

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49 Ibid., 93.
while others explored the particular cognitive processes involved.\textsuperscript{50} In-vivo lab and adjudicated performance studies tested individual aspects of MPA such as anticipatory perceived tension, level of threat, exaggerated irrational beliefs, and the facilitating/debilitating components of anxiety.

Brodsky noted that some studies that measured quality of performance as well as correlations between self-reported measures and psychosomatic indicators of anxiety, were based upon this same format. However, according to Brodsky, “the most outstanding use of the in-vivo research approach has been to evaluate differences between performance situations, such as a comparison of levels of anxiety during rehearsal sessions vs ensemble performances vs solo recitals, playing alone vs performing in front of an audience, and performing under conditions of open-field-of-vision vs double-blind conditions.”\textsuperscript{51} Concerning clinical intervention trials, he remarked that they sought to “evaluate the efficacy of a clinical approach by assessing the immediate effects of outcome as well as the durability of effects at follow-up; subjects are required to perform at least twice—once prior to the prescribed course, and once after it has concluded.”\textsuperscript{52}

With little variation, Brodsky noted the seven-stage design of all intervention studies at this time. First, they recruited many subjects. Second, more advanced musicians were screened out. Third, in-vivo pre-performances were held and multi-dimensional data was collected. This included self-reported assessments, behavioral measures, and physiological measures. While behavioral measures included performance error count, and/or codifying observable signs of anxiety, physiological measures gathered information on heart rate, electrocardiography, and Galvanic skin response. Fourth, subjects were assigned to a single specific treatment group, a

\textsuperscript{50} Ibid.
\textsuperscript{51} Ibid.
\textsuperscript{52} Ibid.
multiple treatment group, or a control group. Next, interventions were implemented. Next, they were followed by an in-vivo post-performance and the collection of end-of-therapy, multi-dimensional data. Lastly, a third in-vivo performance was held and multi-dimensional data was collected.\textsuperscript{53} In all trials, Brodsky noted the use of CBT either separately, in conjunction with, or in comparison to other therapies.

Brodsky raised issues with the trend in clinical intervention techniques. He claimed most studies were too short in duration, and follow-up data based on the differing lengths of time passed since a given intervention varied too much, noting that some studies were based on one hour a week of a given therapy for six weeks, compared to another that was based on one hour a day for one week. In addition to length of exposure issues, Brodsky labeled the varying therapeutic agents as a variable, as most assessments were performed by the researcher as opposed to an outside agent adding, “while some researchers identify exclusivity of a principal therapist as a limitation and/or weakness of an intervention study, psychotherapy outcome research studies suggest that using several therapists or counselors to execute different components of a therapeutic protocol is not simply a problem of inter-rater reliability.”\textsuperscript{54} However, future research suggested that a multifaceted therapeutic approach is most effective. In contrast, some psychotherapy research studies prior to the twenty-first century claimed that the individual therapist played a more important role in treatment than the actual therapy.\textsuperscript{55}

Unqualified to do so, voice teachers often fill this role in the studio.

Lastly, Brodsky took issue with the use of standardized treatment procedures noting, “Some researchers may conclude that execution of intervention sessions according to a structured format is a weakness of clinical investigation studies, other researchers have favored

\textsuperscript{53} Ibid., 93-94.
\textsuperscript{54} Ibid., 94.
\textsuperscript{55} Ibid.
the use of manuals in their treatment procedures.” However he suggested that using protocol increases internal validity, thus “interventions using therapeutic templates and/or treatment manuals are guaranteeing conformity to an empirical research methodology for use in clinical trials.”

Despite the lack of consistency to this approach, Brodsky noted that CBT is of the utmost importance when combatting MPA as he suggested, “all clinical intervention studies seem to point to the overall effectiveness of a therapeutic model approach based on CBT to ameliorate the effects of MPA.” Brodsky also suggested CBT was more effective than beta-blockers, musical analysis training, behavioral rehearsal, and imagery, in addition to being more effective in the follow-up assessments if exposure was six weeks or more.

However, a larger problem existed at this time. Despite the readily available and useful strategies regarding clinical intervention therapies aimed at alleviating MPA, musicians seemed unwilling and apprehensive to use them. Music performance anxiety sufferers were more willing and likely to seek help from friends, teachers, and family members, as opposed to professionally-trained counselors, which were considered a last resort. Musicians were unaware of the proper course of action, as Brodsky noted that the ICSOM study—the largest MPA research sampling from then and now—did not mention counseling or therapy as viable options for curtailing the effects of MPA. Instead, MPA sufferers turned to less effective and often conversely effective measures such as beta-blockers, illegal drugs, and alcohol because they were easier and cheaper alternatives than conventional therapy.

Brodsky concluded by again noting the benefits of CBT, whether alone or in conjunction with other forms of therapy, despite MPA sufferers’ ignorance and apprehension, stating:

56 Ibid.
57 Ibid.
58 Ibid.
Psychological interventions have been tried by approximately a fourth of musicians with MPA, however, these have been perceived as a less successful strategy. Thus, it seems warranted to consider new methods (such as enhancement of the traditional psychotherapy environment) so that counseling interventions might be seen as more applicable by musicians.\(^5\)

The following sections pertain to specific clinical intervention and in-vivo performance studies from roughly 1980-2000 aimed at discovering effective strategies to manage and cope with MPA in singers. Strategies include, but are not limited to CBT, group music therapy, guided imagery, Alexander Technique, and medications such as beta-blockers.

**Cognitive-behavioral Training**

Originally used to combat depression, CBT is a problem-focused and action-oriented approach to changing unwanted behaviors and thoughts negatively affecting an individual. An early study from 1990 on the benefits of CBT on MPA was performed by Mary Wolfe. She sought to discover ways to combat MPA without interfering with its positive aspects. Based upon a previous study of her own that used factor analysis, Wolfe found that trait measures of MPA fell into two categories: adaptive and maladaptive MPA. Adaptive included correlations between arousal and intensity of performance, while maladaptive centered on the relationships between nervousness and apprehension, and self-consciousness and distractibility. Her study consisted of a sample of 162 musicians. Fifteen percent (twenty-five) were singers. Those with professional experience scored higher on the adaptive factors and lower on the maladaptive factors than those musicians who claimed amateur status. This was in congruence with empirical research at the time concerning task mastery and level of achievement in conjunction with MPA.

Maladaptive MPA consisted of two models based on previous test-taking anxiety theories: (1) an interference model in which anxiety disturbs prior learning and depresses

\(^{5}\) Ibid., 96.
performance, and (2) a deficits model in which anxiety is attributed to factors such as inadequate preparation, poor technique, and lack of experience.\textsuperscript{60} Wolfe contemplated the cyclical paradox of MPA and remarked, “If anxiety results from poor performance, intervention may be directed at improving competence by increased study, practice, and performance opportunity. However, if anxiety causes poor performance regardless of competence, intervention should be directed first at symptom management and then, if possible, at the resolution of the problems underlying the anxiety.”\textsuperscript{61} The symptom reduction approach as opposed to an in-depth examination of what caused the symptoms remained a debate at this time.

The materials used in this survey included state and trait anxiety inventories adapted from previous models based on test-taking anxiety or other specific performing genre indices, such as a piano playing anxiety questionnaire reworded to include all mediums. Also included was the \textit{Performing Musician Coping Inventory} (PMCI), which revealed two specific categories of coping strategies utilized by musicians: (1) problem-focused and (2) emotion-focused.\textsuperscript{62} Although these inventories were not presented in their entirety for self-assessment, important factor analysis results emerged. Although not as readily used as Spielberger’s STAI, Wolfe’s \textit{trait anxiety scale} (TAS) and \textit{state anxiety scale} (SAS) were found to be sufficiently similar in their structure and content. In addition to the PMCI, three questionnaires were the basis for Wolfe’s results from which she analyzed the relationship between MPA and varying coping strategies.

Wolfe analyzed the relationship between four factors of the TAS: (1) nervousness/apprehension, (2) arousal/intensity, (3) self-consciousness/distractibility, and (4)

\textsuperscript{60} Mary L. Wolfe, “Relationships Between Dimensions of Musical Performance Anxiety and Behavioral Coping Strategies,” \textit{Medical Problems of Performing Artists} 5, no. 4 (December 1990): 139.
\textsuperscript{61} Ibid.
confidence/competence, in conjunction with reported scores on PMCI factors. Wolfe wrote, “The negative associations between the ‘nervousness/apprehension’ factor of the TAS and the three emotion-focused PMCI factors indicate that musicians who scored high on this factor tended to avoid using coping behaviors that promote relaxation, tolerance, friendliness, and communication with the audience.” She added, “The ‘arousal/intensity’ factor of the TAS was positively correlated with seven coping factors, both problem-focused and emotion-focused. Thorough preparation, friendly communication with the audience, positive self-talk, relaxation, meditation, and mental practice were strategies that were frequently used by musicians who scored high on this factor.”

Lastly, Wolfe found TAS factors three and four were each positively correlated with a specific coping factor, deliberately seeking rapport with their audiences. Possessing a better rapport with the audience lessens the perceived threat level—a coping strategy this author has personally witnessed and employed with much success. Lastly, Wolfe’s contributions revealed that roughly sixty-three percent of coping strategies used by musicians were emotion-focused, as opposed to thirty-seven percent that were problem-focused. She remarked, “Musicians whose predominant coping style is emotion-focused report feeling great confidence and competence, and less self-consciousness and distractibility.”

Wolfe’s findings supported the budding trend of a more mindful approach in mitigating the mental and behavioral factors that can cause physical symptoms of MPA, as opposed to trying to alleviate the effects of MPA by treating each physical symptom or subsequent performing mishap individually. This was echoed in the medical world. Maladies such as ulcers—conditions often imagined in the mind prior to symptom manifestation—had been shown

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63 Wolfe, “Relationships Between Dimensions,” 142.
64 Ibid., 142-143.
Factors such as stress and anxiety represented a large part of the overall problem. Therefore focusing on more of a mental approach utilizing techniques such as CBT is essential in curtailing the debilitating aspects of MPA, as opposed to acute symptom reduction.

**Group Music Therapy**

There were numerous studies illuminating the positive effects CBT techniques have on MPA at this time. One such technique, group music therapy, was explored in a pilot study in 1990. The major focus of this study was to introduce and assess the use of group music therapy as a treatment for the fear/anxiety component of MPA, and to develop an objective procedure for this assessment. The study emphasized the here-and-now experience of the individual and used the following as catalysts for communication, change, and personality integration: (1) musical improvisation, (2) performance, (3) awareness techniques, and (4) verbal processing. The trial lasted twelve weeks. Each week contained a ninety-minute therapy session that was structured into four components: (1) a warm-up that included relaxation and breathing exercises, (2) unstructured group musical improvisation, (3) verbal free association of individuals to the group improvisation, which led to (4) individual and/or group music therapy interventions. These interventions included clinically guided music improvisation techniques, role playing, vocal self-statements, “reality rehearsal” performances, and guided imagery exercises designed to express, explore, and treat emotional problems.

The study’s main goal was “to help anxious musicians to focus on their actual problems of music making—how the body, mind, and emotions interact during musical preparation and

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66 Ibid.
performance." This study fell into the problem-focused category mentioned above. Firmly embedded in the constructs of CBT, this study represented the previous regimen of symptom-based analysis leading to a singular approach, as opposed to one that was multifaceted. Only musicians who reported debilitating MPA were enlisted.

Within the study, both the control groups and the experimental groups consisted of moderate to severe MPA sufferers, as opposed to the control group consisting of non-sufferers. This concept helped increase the validity to the findings and was previously supported by Brodsky. Both groups received questionnaires that measured anxiety levels prior to and at the end of the twelve-week period. The therapy group received more questionnaires during this period so as to chart the “effectiveness evolution” of the treatment; they also performed on weeks two, six, and twelve.

When compared with themselves or those in the wait-listed group, it was hypothesized that subjects would: (1) “become significantly more confident as performers as measured by their responses on the Personal Report of Confidence as a Performer Scale (PRCP), (2) show significantly less anxiety as measured by the Spielberger Trait (STAI-T)… inventory, and (3) become significantly more optimistic and free to create as judged by their choices on the 23-item bipolar Adjective Checklist on which are reported here-and-now feeling states.”

The researchers performed two different studies to test their hypothesis. In the first study, the therapy group sang a Stephen Foster song in weeks two, six, and twelve. This method induced performance anxiety for both diagnostic and therapeutic purposes. Each group consisted of at least one opera singer, and the experiment group consisted of twenty freelance musicians from a pool of NYC music conservatories. While the control group received zero treatment, the

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68 Ibid., 50.
experimental group completed an Adjective Checklist and a state anxiety inventory prior to and following each weekly session.

The researchers gathered qualitative information during and after the test performance regarding the subjects’ lived experiences of the musical performance. This data included: (1) the effects of being in a test situation and its effect on attitudes toward preparation and interpretation of music, (2) information regarding how the body and mind integrate during the performance, (3) communicative ability, (4) creativity, and (5) coping skills.

The results supported the researchers’ hypothesis that anxiety would decrease as the sessions unfolded. They wrote, “This qualitative information was used to better understand and assess the SSAI (a lesser utilized state anxiety index designed by Spielberger) and Adjective Checklist results regarding changes in the subjects’ state anxiety from before to after each performance, and from one performance session to the next.”69

However, the results of the experiment had issues concerning validity, as research has suggested that task mastery and MPA are on a converse sliding scale. As the students became more familiar and comfortable with performing the piece, their anxiety levels decreased. In addition, reliability issues stemmed from the small sample size according to the researchers.

The second experiment was like the first, as it also used the STAI and PRCP. According to the researchers, this experiment sought “to ascertain whether [or not]—as one would hope for these musicians and their audiences—an improvement in their actual performances, as perceived by others, accompanies therapy-produced reductions in anxiety and increases in performance confidence.”70

69 Ibid.
70 Ibid., 53.
Unlike the first experiment, this experiment included a third, “attentional control” group. Unlike the other two groups, this group was not given any therapeutic treatment, although the members met with the therapists weekly for evaluation and to discuss musical topics. Another new feature of this second experiment was the Narcissistic Personality Inventory (NPI), a questionnaire based upon results from the first experiment concerning self-involvement or narcissism. It sought to measure the relationship between self-involvement and responsiveness to treatment.71

Although the methods used were the same as the first experiment, this experiment was slightly different. It omitted the SSAI and Adjective Checklist in favor of the NPI. Also, the participants in the control group from the first experiment became the therapy group in this new experiment. Twenty-two new musicians who satisfied criteria formed both the new control group and the newly formed attentional control group.

Unlike the first experiment, the therapy and attentional control groups performed a piece of their own choosing on the second week and a different piece of their own choosing during the last (week twelve) session. The performances were videotaped, and unlike the first experiment, they were adjudicated by an outside psychologist/amateur musician and a professional musician, as opposed to the researchers. In addition, the evaluators were blind to performance order (whether week two or week twelve), group membership, and the nature of the study as they evaluated performance musicality (PM), performance stress symptoms (PSS), and performance self-involvement (PSI). The results were similar to experiment one, and suggested that group music therapy was effective in reducing MPA, as indicated by the PRCP and NPI scores combined with the adjudicator-rated PSS and PSI video scores. An increase in musicality in the treatment group, when compared to the others, was also noted based on the PM video ratings.

71 Ibid.
During the course of therapy, it was found in both studies that the participants had experienced music-related traumas early in life that had resulted in unresolved conflicts around personal and musical identity, relationships with significant others, self-esteem, self-expression, and creativity. These unresolved conflicts seemed to be the root causes of performance anxiety in this particular group of musicians. However, because of their extreme self-involvement, which was actually a mechanism for denial and dissociation of the feelings related to these conflicts, the musicians, prior to their participation in music therapy group, were unable to confront the underlying dynamics of their anxiety. During the course of therapy, the musicians who did not score extremely high on the NPI gradually let down their guard against the undesirable feeling states associated with their inner conflicts and became more accepting and less judgmental. They were (then) able to use their own music to transform their feelings associated with these conflicts into meaningful expressions of self. This helped them to be more wholly in touch with themselves and with the expression capacity of their music which may be responsible for their significant increase in musicality after the music therapy intervention.\textsuperscript{72}

Taking Brodsky’s criteria into account, this research was lacking in a few areas. First, the sample size is very small. Secondly, the findings seem to be more suited to music students as opposed to professionals. However, MPA affects music students as well as professionals, and any information based upon research studies can be considered beneficial information in curtailing its effects, regardless of level of achievement.

**Guided Imagery**

In addition to group music therapy, imagery (or guided imagery) is also a form of CBT. Defined as the “thought process that involves the use of the senses: vision, audition, smell, taste, the sense of movement, position and touch. It is the communication mechanism between perception, emotion, and bodily change.”\textsuperscript{73} Imagery has been shown to affect skin temperature, salivation, heart rate, anxiety, and hormonal responses. It facilitates relaxation, improves academic performance, relieves test anxiety, and improves memory and comprehension. It has

\textsuperscript{72}Montello, Coons, and Kantor, “The Use of Group Music Therapy,” 56.

\textsuperscript{73} Mary Jane Esplen and Ellen Hodnett, “A Pilot Study Investigating Student Musicians’ Experiences of Guided Imagery as a Technique to Manage Performance Anxiety,” *Medical Problems of Performing Artists* 14, no.3 (September 1999): 127.
been used effectively in oncology treatments, weight loss, and particularly in reducing symptoms of stress.\textsuperscript{74}

In a 1999 study, Mary Jane Esplen and Ellen Hodnett recognized the need to incorporate guided imagery techniques in the field of MPA; although guided imagery had success in other fields, there was little research on strategies aimed at curbing MPA. The researchers felt that “many of these studies utilized small samples, and to date only a few techniques have been empirically investigated, resulting in few options for those seeking assistance in managing performance anxiety. In addition, some evidence has demonstrated that the effects of a specific learned technique may decrease over time, suggesting a need for a repertoire of multiple strategies.”\textsuperscript{75}

Despite realizing the usefulness of a multifaceted approach, the authors took issue with some studies and suggested they were limited because of the ambiguity of what is actually effective and what is not. Because of this, Esplen and Hodnett set out to clarify the effectiveness of guided imagery as a sole treatment strategy.

Their sample consisted of seventy-one performance students from the University of Toronto. The intervention study contained twenty-six students, while the remaining students made up the control group. Each participant was given a consistent, standardized demonstration of the guided imagery exercise as well as techniques in imagery to use at home. These techniques were provided on a cassette tape, and participants were to utilize the techniques at least once daily prior to their scheduled adjudicated performance.

The guided imagery intervention instructed participants to focus on an imagined musical performance for a ten-minute duration. They were asked to imagine different scenarios.

\textsuperscript{74} Ibid.
\textsuperscript{75} Ibid.
including control and mastery over their performance, a relaxed state, walking onto a stage, and images of a friendly and supportive audience.\textsuperscript{76} The subjects were also asked to maintain a record that described the frequency of their use of the tape, where it was used, how they felt while using it, the ease or difficulty in doing the exercise, and thoughts or images experienced during the exercise. All subjects completed a pre-performance questionnaire with items on age, gender, achievement level, and prior MPA coping strategies.

During the initial meeting, subjects were asked to imagine a performance situation for ten minutes and were then administered the state scale of Spielberger’s STAI. The day of the performance, the subjects were asked to complete the entire STAI thirty minutes prior to the performance. Following the performance, they were administered a questionnaire, designed by the researchers, that asked for descriptive information about their subjective experience associated with the performance, and included questions about performance satisfaction.

The researchers, along with another independent researcher, analyzed the data. They sought to identify themes or categories and the frequency of the types of statements within them. Results showed a significant reduction in anxiety levels for the experiment group during pre and post-intervention. Eighty-six percent of the experiment group found the exercise to be “somewhat useful” and fourteen percent claimed it was “very useful.”\textsuperscript{77} One hundred percent found the tape to be both easy to understand and easy to listen to, but only twenty-five percent reported having used the tape on the day of the performance. However, roughly ninety-five percent disclosed that the treatment was “making a difference in my performance.” Seventeen out of the twenty-six experiment subjects chose to keep the tape for future use. Of the entire seventy-one participants, roughly twenty-five percent listed some level of exposure to a MPA

\textsuperscript{76} See appendix 4 for the entire guided imagery exercise.
\textsuperscript{77} Esplen and Hodnett, “A Pilot Study,” 129.
reduction strategy over the course of their musical upbringing. Most of these reports listed some form of relaxation or meditation, while a few mentioned the use of books or medications such as beta-blockers. In addition to these findings, pre-performance anxiety questionnaire results revealed that thoughts about a pending musical performance could bring about as much anxiety as an immediate danger in one’s external surroundings.

While this study pertains to college students, and is therefore, according to Brodsky, difficult to correlate results to professional musicians, the guided imagery exercise was useful at the student level. Moreover, as research suggests, voice instructors can employ these exercises to reduce anxiety levels during their student’s lessons. However, because of the subjective nature of the findings, this study does nothing to prove the usefulness of this singular approach over the multifaceted regimens explored at this time and later.

**Alexander Technique**

One of the most important movements in the reduction of MPA was The Alexander Technique. Although not originally invented for such a task, MPA research has included its methods and teachings for decades. Invented by Shakespearean actor F. Matthias Alexander in 1900 to solve his vocal problems, Alexander Technique (AT) is a way of improving the use of self. As Eleanor Rosenthal states, “When Alexander spoke of the ‘self,’ he meant the entire mind-body complex, which he saw as an interconnected, interdependent whole. And when he spoke about ‘use,’ he meant what the self does—at all time, in all activities.” His objective, according to Rosenthal, “was to teach people a skill that would help them improve the way they

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executed all of the activities of their daily lives.”79 This included activities such as sitting in a chair, playing the viola, solving a math problem, and singing.

In essence, AT is about posture and body mechanics, and can be considered a pre-technique, one that precedes and supplements the technique of whatever activity one is trying to accomplish, such as singing. On the surface, AT aimed at reducing tensions in the body, facilitating all activities encountered in daily life. On the macro level, “it satisfies the most exacting demands of the scientific method,”80 and is considered “one of the true epics of medical research and practice.”81 AT teaches students how the head, neck, and spine work in conjunction with the torso to activate the primary control. In addition, AT students reported “improvements more easily classified as mental or emotional,” and one admitted, “I became less anxious when dealing with the everyday frustrations of life. I felt more relaxed in social situations… the changes occurred naturally as I participated in the daily act of living. Things flowed together more naturally; the body and mind felt more centered.”82

The Alexander Technique is taught worldwide in music schools, theatre schools, and professional companies, and approaches the learning process from both the conscious and unconscious levels. Using a hands-on approach, Alexander believed that, as long as his own primary control was functioning properly—on an unconscious level, when teaching the technique to a student by placing his hands on them—that he could trigger the student’s primary control. Alexander described it this way.

I discovered that a certain use of the head in relation to the neck, and of the head and neck in relation to the torso and other parts of the organism… constituted a primary control of the mechanism as a whole… and that when I interfered with the employment

79 Ibid.
of the primary control of my manner of use, this was always associated with a lowering of the standard of my general functioning.\textsuperscript{83}

AT-certified teachers learn to teach with their hands, a skill not quickly learned, as accredited programs consist of roughly 1600 hours of training over the course of at least three years. Rosenthal offered student accounts from therapy sessions concerning the effectiveness of AT: “It felt as if my shoulder knew what your hands wanted it to do.” Also, “It felt as if my shoulder was widening and moving out, but from the inside.”\textsuperscript{84}

The student accounts described unconscious learning, but Rosenthal notes, “Unconscious learning can lead to change, but it is the conscious part of the process that gives the student autonomy and the ability to work on himself after his lessons are over.”\textsuperscript{85} Rosenthal identified the three steps of AT conscious learning as awareness, inhibition, and conscious control. Alexander referred to “awareness” as simply being aware of an unwanted habit, remarking “You are not here to do exercises or to learn to do something right, but to get able to meet a stimulus that always puts you wrong and to learn to deal with it.”\textsuperscript{86} He referred to “inhibition” as suppressing the undesired response as opposed to correcting it. For example, if a student sings with his head and neck pulled or strained in some direction the problem cannot be fixed by having the student pull to the opposite side. The student must first inhibit the undesired action.

“Conscious control” was the term Alexander used for “replacing the old habit, now inhibited, with a new, more satisfactory manner of use. This requires knowing what good use is, figuring out what is needed, and then directing the self in the change.”\textsuperscript{87} According to Alexander, the word “directing” is of the utmost importance here. He stated, “If, instead of merely framing

\textsuperscript{83} Frederick M. Alexander, \textit{The Universal Constant in Living} (London: Chaterson Ltd., 1941), 10.
\textsuperscript{84} Rosenthal, “The Alexander Technique,” 54.
\textsuperscript{85} Ibid., 55.
\textsuperscript{86} Alexander, \textit{The Universal Constant}, 10.
\textsuperscript{87} Rosenthal, “The Alexander Technique,” 56.
and holding this desire [of directing the specific physiological function] in his mind, he attempts the physical performance of these acts, he will invariably stiffen the muscles of his neck and shorten his spine, since these are the movements habitually associated in his mind with lengthening his spine, and the muscles will contract in accordance with the old associations.”88

Here, we see an illustration of the anonymous statement “the body achieves what the mind believes.” This approach also fell in line with some of the concepts of CBT, with the mental approach preceding the physical results. This was echoed by Alexander Murray when he suggested, “Knowing what we do while we are doing it is the beginning of conscious control of our activities.”89 Practicing these techniques in conjunction with the aid of a trained AT teacher’s hands, a student becomes better at directing. However, the student must learn to associate the subsequent kinesthetic experiences to which they correspond, or directing is rendered meaningless.

F.P. Jones, a certified master AT teacher, studied and communicated Alexander’s work as well as his own experiences. He was inspired by the work of psychologist John Dewey who noted, “Alexander’s work bore the same relationship to education that education bears to all other activities.”90 Jones’s work led him to hypothesize that, “(1) the reflex of the organism to gravity is a fundamental feedback mechanism which integrates other reflex systems, (2) under civilized conditions this mechanism is commonly interfered with by habitual, learned responses which disturb the tonic relation between head, neck, and trunk, and (3) when this interference is

90 Dewey, Introduction to Alexander, 19.
perceived kinesthetically it can be inhibited. By this means the antigravity response is facilitated and its integrative effect on the organism is restored.”

Although AT is aimed at relieving physical tensions, it is easy to see the positive correlations between AT and CBT as an MPA deterrent, considering what is known about CBT and its effectiveness in combatting MPA. Murray added, “The Alexander Technique enables a performer to utilize the force of gravity instead of battling with it…A load is literally taken off the mind.”

The following two sections contain discussions on research pertaining to medications and their use for MPA. In general, research has shown most to be ineffective. All researchers, in addition to this author, recommend seeing a physician before taking any medications.

**Medications**

For as long as singers have been suffering from debilitating MPA, there have been attempts to find ways of curtailing these effects with the use of medications or drugs. As Murray states, “The history of the use of chemical substances to alleviate both pre-performance anxiety and performance anxiety itself is an ancient one.” Generally, these medications fell into three categories: (1) prescribed/over-the-counter, (2) legal/illegal, and (3) effective/ineffective. Previously prescribed medications for MPA included drugs such as Valium, Xanax, Ativan, and other central nervous system suppressants. These were largely ineffective because of side effects that seemed to make these drugs a non-choice.

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Richard Lederman noted that, despite the side effects and addictive tendencies associated with these types of drugs, many performers still relied on them to alleviate their performance anxiety symptoms, and added, “…they continue to have broad appeal for performers and nonperformers alike and are among the most widely prescribed drugs throughout the world.” These drugs leave a performer feeling inebriated, similar to illegal drugs such as marijuana and opiates, as well as legal drugs including alcohol. Performers used these drugs, not only expecting them to suppress their MPA, but also to enhance their performance in some way. The associated side-effects of these drugs affect singers in a detrimental way. However, with so many options available, MPA sufferers can find themselves in a difficult situation when trying to seek medical treatment, or worse, attempting to self-medicate.

A leading pioneer in the field of performing arts medicine and founding editor of *Medical Problems of Performing Artists* (MPPA), the first clinical medical journal devoted to the etiology, diagnosis, and treatment of medical and psychological disorders related to the performing arts, Alice Brandfonbrener, described the problem concerning medications and MPA. She remarked, “Performance anxiety has different origins, meanings, and manifestations, which are as varied as the individuals in whom it occurs… There is no single correct approach to its treatment, and the application of therapy is as complex a medical decision as is the treatment of any other syndrome.” Eventually, a group of drugs called beta-blockers were introduced and provided a weapon in combatting MPA, although not originally intended to do so.

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94 Ibid.
**Beta-blockers**

Introduced in the 1960s, beta-blockers were prescribed for heart conditions such as angina and high blood pressure. All drugs in the beta-blocker family act as a competitive inhibitor of beta-adrenoceptors sites present throughout the body. There are two different types of beta-adrenoceptors, $\beta_1$ and $\beta_2$. They are located in different parts of the body primarily, although each organ has some of both types. $\beta_1$ types are predominantly found in the heart and kidneys. They mediate the inotropic and chronotropic responses to catecholamines such as epinephrine and norepinephrine, both forms of adrenalin, the substance released during the fight-or-flight response. $\beta_2$ types are present in the lungs, skeletal muscle, vascular smooth muscle, and liver. They mediate bronchodilation, tremor, vasodilation, and certain metabolic effects.  

It is impossible to prescribe one or any combination of the roughly fifteen different beta-blocking drugs available to specifically target symptoms relating to MPA without affecting other systems. Nies noted, “No matter how specific the agonist or antagonist is for one subtype, it is impossible to confine the effects of the agonist or antagonist to any given organ.” One specific drug might lesson the amount of adrenalin, while another might be necessary for lessening the amount of bronchodilation, a symptom associated with MPA related to the feeling of breathlessness. Brandfonbrener suggested, “In treating the symptoms of performance anxiety with beta-blocking drugs, it is the general adrenergic effects [corresponding to $\beta_2$ adrenoceptors] as opposed to the more purely cardiac [$\beta_1$] effects of these drugs that are desired… The aim is to moderate the autonomic nervous system’s response to anxiety which may be detrimental to

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97 Ibid.
performance situations (e.g., the acceleration of heart rate, increased blood pressure, the tendency for hyperventilation, dry mouth, and skeletal muscle tremors).”

Determining the dosage of a specific beta-blocker is important when using these drugs to curtail the symptoms of MPA. Numerous studies suggested a reduced dosage when using beta-blockers for MPA compared to the original applications for heart conditions, in order to avoid the unwanted side effects as much as possible. Brandfonbrener offered her three axioms: (1) treatment for each person’s symptoms must be specifically tailored, (2) persons administering treatment, therapy, or medications should be suitably trained, and (3) “The use of one mode of therapy does not preclude others, in fact, combined methods are frequently helpful and even essential.” Her advice suggests a prescribed beta-blocker regimen in addition to other methods of combating MPA, as again, a multifaceted approach is favored. She remarked,

It has also been documented that, because these drugs are not anxiolytics, they are largely ineffective in treating pre-performance anxiety, i.e., the perception of fear and anticipatory anxiety that may result in insomnia and lack of appetite or cause disturbances even days or weeks before a [performance]. Pharmacologically, these symptoms necessitate the use of drugs capable of sedation. The amount of beta-blocking drug used in the treatment of performance anxiety does not achieve the blood concentration necessary to cross the blood/brain barrier. Thus… carefully conducted studies of memory and concentration in individuals taking single, low-dose beta blockers have shown no adverse effect on memory or mood but do show an enhanced ability to concentrate.

Brandfonbrener and others at this time suggested the use of the popular beta-blocker Propranolol, but at a reduced dosage. In her expert opinion, the recommended dose was 10-20 milligrams, taken one to two hours prior to performance. In addition, she insisted on a trial dose with her patients prior to the actual performance, “so that the normal anxiety about possible side

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99 Ibid., 23.
100 Ibid., 25.
effects does not itself amplify the symptoms.”101 As with any other drug/medication, the side effects can be severe at times, but they were generally tolerated. These included central nervous system disturbances such as sleep interruption, hallucinations, fatigue, and depression, peripheral vasculature effects such as cold hands and feet, and other effects such as the slowed response a diabetic has to hypoglycemia. Nies noted, “These side effects rarely pose a problem with a single dose use of these drugs as for performance anxiety.”102 However, singers may have differing opinion than instrumentalists because of the different somatic systems utilized when performing.

A literature review from 1991 found there were significant differences in dosages, type, and testing procedures being applied by medical professionals and pertaining to the efficacy of beta-blockers for MPA treatment. This caused confusion and a lack of unequivocal conclusions, and “yield[ed] at best a very obscure picture of the drugs’ effects on musicians.”103 In addition, the effects that beta-blockers had on the interpretive and emotional spectrums of the subjects studied were rarely addressed, but were of “paramount interest” to musicians at this time.104 This study also revealed the lack of singers represented in the research. Jacqueline Nubé noted that of the nine studies only one, Gates et al., included singers (see figure 5), but did not yield any specific results positively correlating MPA reduction with the beta-blocker Nadolol in varying dosages.

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101 Ibid., 26.
104 Ibid., 61.

The lack of valid and reliable singer-specific studies, combined with the unclear picture painted during the 1980s and 1990s concerning the what, when, how, and how much to use beta-blockers, made it difficult to discern the value of this approach. However, the prevalence of their usage based on research such as the ICSOM study (see page 11), suggested that they had some degree of desired effect. Most experts favored a smaller dosage, and Propranolol was the preferred type of beta-blocker. In addition, both Brandfonbrener and Lederman suggested an initial test dosage. All experts recommended a beta-blocker regimen in conjunction with a physician, as opposed to obtaining the drugs illegally.

It is also important to note that, in a majority of the literature surrounding beta-blockers from this time, experts stressed the importance of a multifaceted MPA symptom reduction approach as opposed to a magic pill. Most admitted prescribing beta-blockers as a last resort.
Nies stated, “Certainly for a short-term or single-dose occasional use for performance anxiety in normal individuals, they are very safe. Nonetheless, it is important that these drugs be given under the direction of a physician and that patients take them only when potential benefits [such as optimal arousal] outweigh the risks.”\textsuperscript{105} Nubé added, “Each has to weigh the pros and cons of taking the risk of stage fright versus a technically clean performance at the possible expense of emotional involvement.”\textsuperscript{106} In other words, a singer must ascertain whether the acute symptom reduction is worth the unwanted, often times more debilitating side effects associated with beta-blockers and MPA. In addition, current research has yet to reveal a medication, beta-blocker or other type of drug, that has facilitated treating MPA and eliminated the unwanted side effects.

Major contributors such as Steptoe, Lehrer, and Hamann provided the framework for future researchers as they attempted to gain a better understanding of the malady. In addition, researchers slowly began attempting to differentiate between singers and instrumentalists when testing different treatment techniques. The following chapter will discuss the subsequent decades, which contained a growing number of singer-specific data, techniques, and strategies on how to best curb the symptoms of MPA.

\textsuperscript{105} Nies, “Clinical Pharmacology,” 29.  
\textsuperscript{106} Nubé, “Beta-Blockers: Effects,” 68.
Chapter 3:
Music Performance Anxiety in the Twenty-First Century

There was no decline in the amount of research and literature at the turn of the
millennium. Many new authorities and coping strategies emerged based upon the findings of
previous decades. As the research and science evolved, more in-depth analytical models for
coping with MPA were explored. Research studies employed new measures and began to offer a
better understanding of the characteristics/predictors of MPA, leading to more treatment options.
In addition, those dedicated to helping MPA sufferers, as well as those battling its effects on their
own, added new techniques to combat MPA. Coping strategies such as the use of yoga, neuro-
linguistic programming, nutrition, and new medications were explored. Moreover, more singer-
specific studies and results highlighted the differences between treatment options held for them
as opposed to instrumentalists.

New research offered insight into the relationship between MPA and some of its
predicting characteristics such as perfectionism, personality type, and other pertinent, singer-
specific factors including the career demands of a professional singer. Concerning these
demands, one researcher noted that, “The major factor most likely to distinguish the best
performance from a mediocre one is the singer’s ability to cope with [psychological] pressure…
Today’s top-level singers find themselves in a highly competitive environment whose rewards
[success] and disappointments [failures] are often great—thus, a truly volatile mix that causes
stress.”¹ This chapter will discuss the evolving research aimed at helping singers with MPA meet
the increased psychological demands of a career in singing.

¹ Shirlee Emmons and Alma Thomas, “Understanding Performance Anxiety,” The Journal of Singing 64, no. 4
(March/April 2008): 461.
As with any relatively new-found medical condition, the course of MPA treatment began to evolve. New ideas and concepts, in conjunction with information and technological advances in the world, provided many options for those suffering from MPA. The internet played a role in this evolution. Whereas in the past, singers did not have a platform to discuss their anxiety issues, new and readily available information on MPA reduction techniques became available based on an increasing number of self-reports. New authorities such as Julie Nagel, Maria Sandgren, and Dianna Kenny emerged and offered singers better insight, advice, and more effective techniques for MPA reduction. While cognitive-behavioral training continued to be considered an effective method, the science behind the drugs prescribed for treatment—namely beta-blockers—evolved as well. This offered singers more options for treatment in that manner. In addition, the idea of a multifaceted approach was continually stressed in the empirical research community.

The demands, expectations, and pitfalls of a singing career began to rise in conjunction with new ideas, advice, and techniques. Reports of singers struggling with MPA increased because of the growing number of aspiring singers, and declining ticket sales in the classical music world. A majority of the literature regarding MPA at this time included information on both predictor/characteristics of MPA, as well as coping strategies. Some were based on expert opinion, while others were based on clinical trials.

The following section will examine important MPA researchers who contributed a substantial amount of literature on the topic. Nagel, Sandgren, and Kenny represent the foremost authorities on the topic of singers and MPA and all provide new insight. New ideas concerning personality aspects of singers, as well as other predicting characteristics of MPA, continue to be addressed. In addition, there was an increase in the number of clinical trials aimed at finding
techniques to alleviate anxiety, having taken into account the characteristic/predictor research from previous decades, and adapting it to studies that better represented the issues facing singers.

**Julie Nagel: Multifaceted Approach**

Often cited in secondary and tertiary sources, Julie J. Nagel is known as one of the leading contributors in the field of MPA, as she helped bridge the gap between what we knew in the 1980s and what we know in the early decades of the new century. Her research and publications span from the 1980s through 2015. Her “one size does not fit all” approach to curtailing the effects of MPA is echoed by other experts, and serves as the mantra for her large body of work on the subject.

In an early publication, Nagel explored the correlation between perfectionism and MPA, as well as the effect that career choice had on one’s performance anxiety. According to Nagel, both played a role in exacerbating MPA’s debilitating symptoms. It is important to note that Nagel also explored correlations between MPA and childhood relationships—a time when psychological issues associated with learned anxiety begin. This lead to a better understanding of MPA in adults.

In an early study, Nagel offered data that suggested that a correlation existed between three variables and MPA: (1) the quest for perfection (perfectionism) as relatable to the absolute standards that exist in the performing world, (2) aspects of career decision-making employed by singers, and (3) aspects of early interpersonal relationships. She remarked, “The pursuit of perfection sets the stage for musical, mental, and medical maladies.” In addition, she suggested that career choice, in conjunction with financial security/insecurity, also played a role, stating,

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“When compared to other vocations that demand highly skilled professionals, musicians, who typically have concentrated on an instrument since childhood, fall short when incomes are compared.”\(^3\) Nagel noted the conflict between positive affirmations such as singing for free for the sheer enjoyment, and career choice, vocational alternatives, and debilitating MPA, because of the financial concerns.

Nagel also listed the “problematic job market” and “early involvement with an instrument and music lessons” as obstacles to a career in music. According to Nagel, children who begin study at an early age have their careers “overdetermined” by their parents, which implies that “significant interpersonal relationships with parents are operative during critical development years as personality is shaped.”\(^4\) These interpersonal relationships are therefore related to the manifestation of MPA after childhood, especially for children who pursue a career in music despite their parents’ best wishes, or conversely, their parent’s overzealous encouragement to do so. Both circumstances serve as a starting point for future anxiety. Nagel succinctly summarized what may be considered the crux of MPA as she remarked, “When many years of preparation and visions of a performance career are threatened by self-doubt, stage fright, and problematic economic scenarios, musicians who have been trained to pursue absolute standards find themselves in an unenviable position.”\(^5\)

In her main study, Nagel adopted a theoretical model of ego identity called the identity status model, which examined occupational choice. Eighty-two subjects were interviewed based on this model, and were put into four categories: achieved, foreclosed, moratorium, and diffused (see figure 6). She found there was a significant difference in MPA and the four identity status models and remarked, “These findings, extracted from a larger study [by Nagel], suggest that the

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\(^3\) Ibid.

\(^4\) Ibid., 141.

\(^5\) Ibid.
conflict embedded in career choice, evolving from dynamic developmental experience, impeded some musicians’ quest for perfection, possibly resulting in stress-related symptomology.”

<table>
<thead>
<tr>
<th>Achieved</th>
<th>Foreclosed</th>
<th>Moratorium</th>
<th>Diffused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seek careers in music, but have seriously considered or even tried other options</td>
<td>Like achieved, they maintain that a career in music is their goal, but have never considered other options</td>
<td>Musicians currently in crisis concerning their career path</td>
<td>Possibly pursue music professionally because they enjoy it and the attention, but also consider the satisfaction of other professions</td>
</tr>
<tr>
<td>Weigh the pros and cons of their decisions</td>
<td>Career path often generated by their parents (nurture)</td>
<td>Undecided and weighing alternatives</td>
<td>Have not explored the aspects of a professional music career and maintain a naïve attitude toward what it takes</td>
</tr>
<tr>
<td>Arrive at their choice relatively conflict free</td>
<td>Self-esteem greatly dependent upon authority figures such as parents, teachers, and audiences</td>
<td>Talent and potential conflicted with parental objections and social/economic problems that confront performing artists</td>
<td>Lack of commitment to the field as well as a lack of struggle</td>
</tr>
</tbody>
</table>


Results suggested that the latter three groups suffered from MPA more than the achieved group. The achieved and foreclosed groups showed similar certainty about career choice.

However, foreclosed individuals were “thought to be more defensive of [these] feelings than seems apparent and are motivated primarily by family expectations. By contrast, achieved individuals have worked through troublesome issues and conflicts, perhaps allowing them to score lower in stage fright.” Moratorium subjects experiencing crisis and diffused subjects

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6 Ibid., 142.
7 Ibid., 142-143.
uncommitted to their careers scored higher in MPA measures than achieved individuals. Higher MPA was found in individuals with higher family pathology levels, characterized as violent arguments in the family, lack of communication among family members, parental neglect, and volatile interpersonal interaction in the family. Nagel added, “Withdrawal to the solitary ritual of practice in search of virtuosic and musical perfection may be adaptive for the young musician whose home life is in turmoil. However, the adult musician pays a high price, perhaps physically as well as emotionally if underlying issues are not addressed.”

These results suggested that certain personality types were drawn to the perfectionist aspects of being a performer. This creates a vicious cycle, as the impossible pursuit of perfection is what underlies the accompanying anxiety. Nagel also suggested that students who go against their parent’s wishes by continuing to seek a career in music, could develop a feeling of self-doubt, which leads to anxiety and a need to prove their parents wrong, stating, “Anxiety over displeasing parents and losing their love often becomes displaced onto the audience, surfacing as stage fright.” This phenomenon was reported and supported by previous studies.

Conflicting interpersonal issues combined with being exposed to a highly competitive and judgmental performing arts career can add to a singer’s stress level, and more often than not, can lead to less than perfection. This epitomizes the cyclical nature of MPA. Nagel encourages music educators to ask, “How best can we train talented young people?” and implores professionals in the field of MPA to consider the personality attached to the career choice, leading to more effective MPA treatment.

Nagel showed concern for the mental, behavioral, and environmental characteristics of MPA over the physical manifestations, and represents the current trend. It had been determined

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8 Ibid., 143.
9 Ibid., 144.
that MPA has roots in adolescence, and is more of a psychological malady than a physiological one. However, because of the previous ambiguousness of the course of treatment options for MPA, the idea of a multifaceted approach continued to displace singular faceted approaches aimed to reducing physical symptom.

Nagel criticized psychoanalytic therapy for being too costly, self-indulgent, and for lacking empirical validity, stating, “Symptom reduction is often overestimated and considered efficient, particularly in this era of managed care.”

Based on her background in psychology, Nagel applied the psychoanalytical theories of Freud, Skinner, Watson, Pavlov, and others, to the field of MPA and stressed that these must be contextualized. She remarked that they must answer how and why patients improved or did not because each subject’s history plays a part in the analytical process of psychodynamic MPA therapy.

Nagel believed that symptoms are manifested from something deeper in the psyche based on childhood experiences, and offered a clinical vignette concerning her treatment of MPA sufferers:

In the case of Mr. B, a treatment that focused primarily on symptom reduction could not provide the insight that could help prevent relapses and repeats of his life history. He was unable to resolve the unconscious conflicts that stayed alive beneath the symptoms because they were outside his awareness. When a ‘cure’ is borrowed from external sources, such as homework assignments, therapist suggestions, and reliance on drugs, as the primary source of relief, the musicians’ internal resources and strengths are not developed and strengthened. When the symptoms that are so relentless are not interpreted as a screen for unresolved deeper conflicts that continue to propel the presenting problem and undermine self-esteem, the possibility exists of an unintentional, unanalyzed collusion and dependency on the therapist who—in efforts to help prescribes and proscribes—deprives a patient of exploring his own childhood fantasies and misunderstandings that have evolved into adult laws.

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11 Ibid., 41.
As she advocated for a long-term, multifaceted approach for MPA reduction, Nagel highlighted some of the apprehensions presented to her and noted that people looking for a “quick fix” are encouraged by the insurance industry.\textsuperscript{12} In addition, “sick people” who saw psychiatrists reflected a societal and individual attitude that prevented anxious performers from seeking the necessary long-term help via psychodynamic therapy. She implored MPA sufferers to consider the cost/benefit factor of long-term therapy against a successful, mentally healthy performance career.

According to Watson’s theories, MPA can be “conceptualized as a learned behavior that can be modified or extinguished through various techniques of controlling external environment through rewards and punishments.”\textsuperscript{13} Nagel’s techniques and theories for MPA reduction align for the most part with these concepts. There are many forms of CBT that parallel her “one size does not fit all” mantra. In a publication from 2010, Nagel noted, “While there are more empirical studies of CBT in various populations in the literature, until recently there was an indifference to empirical research by psychodynamic investigators. However, meta-analyses show strong efficacy for psychodynamic psychotherapy [in various disorders, not specifically music performance anxiety], but also that the benefits of psychodynamic psychotherapy may endure longer and increase with time.”\textsuperscript{14}

Nagel advocated for this approach as she noted two of the underlying factors in MPA that differ from other highly skilled professions. First, unlike most careers, the majority of individuals who become professional performers as adults begin lessons early in their childhood, with a

\textsuperscript{12} Ibid., 42.
\textsuperscript{14} Ibid., 141.
median age for starting study of ten years old. As previously discussed, this can lead to serious, deep-rooted emotional issues that may or may not be clear to the sufferer.

Secondly, the job market in the United States for classical performing musicians was more problematic than other highly skilled or highly educated professionals. Nagel suggested three factors that led to this discrepancy: (1) the unemployment rate for musicians rose faster than the civilian workforce when the U.S. economy took a turn for the worse in 2008, (2) there is inadequate pay for musicians, and (3) individuals are underemployed relative to experience and education. She remarked, “These economic data and lack of career opportunities exacerbate the complex psychological issues that are involved in feared [or actual] rejection, loss, and competition—all [are] external realities in the highly competitive performance profession and the internal emotional reactions to the vicissitudes of performance discomfort, fears, and inhibitions.”

Nagel offered advice concerning the psychodynamic approach in treating MPA. Understanding that symptoms have been developed over many years is paramount as Nagel noted, “Psychodynamic theory maintains that painful events and feelings become repressed but exert a debilitating influence on affect and behavior that are unavailable to logic and conscious thought processes without treatment.” According to Nagel, this was based on individual development and relationships with others during the formative years, and was particularly true for musicians considering the age at which they began their training.

Nagel stated that the psychodynamic angle on MPA treatment was less represented than other CBT models at the time. It was perceived as lacking empirical support, and was also criticized for not specifically focusing on symptom reduction. However, today there is an

15 Ibid., 142.
16 Ibid., 144.
abundance of psychodynamic research on anxiety, the goal of which includes and reaches beyond symptom reduction. Patients access inner strengths, examine self-doubts and fantasies, and strengthen self-esteem in a number of ways that affect performance.\textsuperscript{17}

Because this appears to be a viable path to take for combating MPA, Nagel criticized the prior research that called for avoiding this type of therapy. She suggested that there was a direct correlation between avoiding this type of therapy to MPA itself, lending to its cyclical nature. She offered some suggestions and strategies for thinking about MPA. She recommended performers seriously take stock of their own MPA situation and provided a list of criteria from which to appraise his or her feelings on MPA from both the cognitive and psychodynamic perspectives (see figure 7). In addition, Nagel also offered some more structured forms of help for the more affected individual not able to curtail the effects of MPA on their own (see figure 8).

1. Think about why you are performing
2. Focus on what you are doing rather than how others perceive you
3. Practice mindfully: repetition is useless unless you are concentrating
4. Develop a plan for a “jam” in performance
5. Practice all the way through your program so you can deal with lapses
6. There is no such thing as a perfect performance or perfect performer
7. Think of anxiety as eagerness/excitement—positive energy
8. Visualize performing when offstage
9. Think of your instrument as your friend
10. Breathe deeply and slowly
11. Expect to feel anxious
12. Visualize a comforting image or place
13. Accept yourself
14. Enjoy yourself

Figure 7: Self-coaching and self-appraisal for the performance anxious musician. From Julie Jaffee Nagel, “Treatment of Music Performance Anxiety via Psychological Approaches,” Medical Problems of Performing Artists 25, no. 4 (December 2010): 145.

\textsuperscript{17} Ibid., 145.
1. Think in positive terms about your performing and challenge negative self-statements
2. Analyze some underlying reasons for your affects and anxiety that are not specifically performance related
3. Accept the idea that seeking professional help is a strength
4. Exercise
5. Yoga, meditation
6. Relaxation training
7. Diet (limit caffeine)
8. Biofeedback
9. Medication
10. Cognitive behavior therapy
11. In-depth psychotherapy/psychoanalytic treatment

Figure 8: Structured approaches for treating MPA. From Julie Jaffee Nagel, “Treatment of Music Performance Anxiety via Psychological Approaches,” *Medical Problems of Performing Artists* 25, no. 4 (December 2010): 145.

Nagel cautioned against short-term therapy techniques as they can be used to avoid deeper emotional issues. She reiterated that it is the responsibility of the MPA sufferer to educate themselves and seek a multifaceted therapy approach that focuses on the mental aspects of MPA, as opposed to avoidance behaviors or any singular reduction approach that would act as a band-aid. In other words, take stock of the problem and find the appropriate form of therapy.

**Maria Sandgren: Aspects of a Singing Career, Health Anxiety, and MPA**

Maria Sandgren emerged as a leading MPA authority, and focused specifically on singers. She conducted predictor studies of opera singers that addressed the specific psychological and physiological problems singers face in their day-to-day lives. As late as 2002, Sandgren noted the limited amount of research pertaining to singers in the MPA literature. Her aim was to illuminate specific factors related to the “artistic strivings” of opera singers in conjunction with MPA. Sandgren’s work offered insight into the characteristics and predicting factors of MPA and provided coping strategies based upon her research.
In the first study, she attempted to answer four specific questions based on qualitative measures: (1) what problems do singers face while striving for artistic perfection? (2) which coping strategies are employed? (3) what are the motivational factors that drive and influence singers’ activities? and (4) what does a strong emotional singing performance mean for a singer? Sandgren also focused the quantitative portion of the study on the physiological or somatic problems, concern over the opinions of others, depressive tendencies, relationship with their own voice, and activities aimed at promoting optimal health.18

The qualitative study involved semi-structured interviews with fifteen opera singers: eight women and seven men ranging in age from twenty-seven to sixty-five. Results revealed certain psychological issues. First, singers were constantly exposed to others’ negative evaluations and judgments. However, the results also revealed singers both desired and feared these reactions and judgments in forms such as reviews. One participant added, “You never forget the reviews. I can easily recall each cruel review I had, and that is not funny.”19

Constructive criticism was most desired. Singers expressed a need for critics to “validat[e] both their abilities and their short-comings, offering them a new view about their skills and potential, and encouraging their artistic development.”20 In addition to constructive criticism, singers reported issues with positive praise, as one subject remarked, “If I get too much praise, I get mentally blocked.”21 Sandgren cautioned against becoming dependent upon recognition and validation to feel secure, as these feelings have addictive tendencies that cannot always be recalled for optimal mental health while performing. Moreover, self-criticism was

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19 Ibid., 13.
20 Ibid., 12.
21 Ibid.
found to be the most destructive of all criticisms. Self-criticism leads to self-doubt, which can cause one to focus on mistakes during performances.

Other qualitative results revealed that singers are rarely satisfied with their performance, and were more critical of their own performance than listeners were. In addition, singers were more aware of mistakes than triumphs. Most of these mistakes concerned vocal technique or missed stage directions as Sandgren noted, “Achievement in terms of mastering the vocal technique, overcoming technically difficult singing, and correctly carrying out stage directions seemed to be of greater concern than expressive qualities in voice, body, and the performance as a whole.”22 This is directly related to the rigid demands, leaning towards perfection, that singers face in the professional singing world on a daily basis. Heightened concern over small details of a performance can easily lead to a disruption in the psychosomatic relationship for a nervous performer not armed with proper MPA coping strategies. This disruption can lead to a poor performance, which can lead to being fired.

The results also revealed that singers had anxiety issues concerning vocal indisposition, reporting that they felt a need to be constantly aware of their surroundings. During flu season, and especially prior to an important performance or audition, they avoided public transportation and other typical germ-heavy environments and activities. In addition, singers must deal with allergy issues. The psychological weight of these issues can lead to hypochondria symptoms in some singers. Moreover, singers employed obsessive behaviors such as constantly testing the voice by humming or slightly grunting “um hum” to test for indisposition. One singer revealed, “If the voice is there, I feel confident. If it is not there, the self-esteem vanishes abruptly.”23 Results also revealed some singers would wake up “testing” the voice, and would continue this

22 Ibid., 13.
23 Ibid.
behavior throughout the day as a mental check-up to make sure the voice was still there. According to Sandgren, this led to an observable fear of losing one’s voice.

In addition to observing psychological issues, Sandgren discovered specific ways that singers coped with these issues. The most commonly used coping mechanism was emotionally focused. Singers simply changed their expectations regarding outside criticism in order to avoid feelings of not having performed well. They made judgments based on the validity of said criticism and blamed others for their opinions, whether positive or negative. Sandgren noted, “Only very few singers considered the possibility of changing their own attitudes. Consequently, coping strategies often failed and only had short-term effects when it came to reducing anxiety or strengthening self-esteem.”

One specific coping strategy, viewing performance as achievement, was seen in very few participants, as most were more concerned with their mistakes. This was directly related to the motivation of singers and emphasized the satisfaction of performing. Most singers did not care to examine the entire performance and tended to fuss over the small details, which led to less satisfaction with the performance, and added to their anxiety and stress levels. Carol Vaness, world-renowned soprano and voice teacher at Indiana University, always stressed the importance of the bigger picture while performing. In addition, she stressed the importance of focusing on the character that one is portraying instead of a vocally difficult passage to reduce anxiety. However, Sandgren noted that singers tend to employ the opposite approach, stating, “the majority of singers seemed to lack such concepts [stressed by Vaness], instead focusing their coping strategies on stabilizing their vocal technique and avoiding health problems, concern with mistakes (i.e., not being good enough) and fearing vocal impairment.”

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24 Ibid., 14.
25 Ibid.
notably observed singers’ tendencies to avoid potentially harmful stimuli such as smoke, dust, air conditioning, and public transportation and remarked how these behaviors focused on symptom reduction as opposed to finding out the basis for their anxiety and worry.

Singer-specific somatic problems leading to and caused by anxiety were also reported. These included colds and allergies, vocal fatigue, hoarseness, lack of sleep, muscle tension, back pain, and obesity. Singers also reported issues with falling ill directly following a high-anxiety performance situation, like premieres. In addition, Sandgren found an “association between [the] occurrence of physical problems and [the] occasions when the singer had a performance coming up and was inadequately prepared or felt reluctant to perform.”26 Most subjects were unaware of this self-sabotaging behavior as well as their hypochondriac-like tendencies. Sandgren suggested some coping strategies including physical fitness/activities, adequate and regular sleep, yoga, CBT, and meditation.

Sandgren also examined the psychosocial dynamic concerning singers and MPA, a topic often overlooked in the literature. However, it is important as it directly relates to the time periods leading up to and following an anxiety-filled or fueled performance. Sandgren found that a majority of the participants expressed the importance of a stable family life outside of opera. These problems were difficult to solve, however, because of singers’ irregular hours, demanding work, and erratic travel schedule.

In addition, singers reported a need to withdraw from social relationships in order to prepare or enhance concentration prior to a performance. This effected loved ones, especially spouses, as the daily responsibilities often fell on them. Moreover, they are asked to make career sacrifices in order to support their opera-singing spouse. One participant noted, “There is no doubt about it, the freedom I have had for my career has affected my wife’s career. It is now time

26 Ibid., 15.
for her to go further." Sandgren suggested engaging in activities outside of the opera world, and to make friends with no connection to opera as a coping strategy. She commented on the judgments and issues singers face concerning their private lives as, “both the professional and the private identities of opera singers are closely tied to the outcome of [their] performance.”

In addition to her qualitative results, Sandgren offered quantitative information as well (see figure 9). She found correlations between obsessive testing of the voice and anxiety of others’ opinions with MPA in all groups. Singers did not readily pinpoint their MPA, nor did many admit to it.

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worry about others’ opinions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Critics: It is very difficult to ignore negative criticism.</td>
<td>2.37</td>
<td>0-4</td>
</tr>
<tr>
<td>2. Goof: I worry about not being good enough.</td>
<td>2.16</td>
<td>0-4</td>
</tr>
<tr>
<td>3. Comment: It is very important that somebody comments about my performance.</td>
<td>2.16</td>
<td>0-4</td>
</tr>
<tr>
<td>4. Judge: The profession as an opera singer means that your whole person is being judged.</td>
<td>2.12</td>
<td>0-4</td>
</tr>
<tr>
<td>5. Bald: If nobody says anything about my performance, I believe that my performance was poor.</td>
<td>2.10</td>
<td>0-4</td>
</tr>
<tr>
<td>6. Cynics: I experience criticism of my voice as criticism directed to my whole being.</td>
<td>2.00</td>
<td>0-4</td>
</tr>
<tr>
<td>7. Rumor: I worry that people around me, such as colleagues, family, vocal coach, will not like my performance.</td>
<td>1.98</td>
<td>0-4</td>
</tr>
<tr>
<td>8. Confirm: I constantly look for confirmation.</td>
<td>1.92</td>
<td>0-4</td>
</tr>
<tr>
<td>9. Expect: It does not matter how well I do, I do not feel that I can live up to the expectations that other people have of me.</td>
<td>1.22</td>
<td>0-4</td>
</tr>
<tr>
<td>The relation to the voice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Self: When the voice does not function, the self-esteem plummets.</td>
<td>2.39</td>
<td>0-4</td>
</tr>
<tr>
<td>11. Measure: To be ill is very trying for my mental well-being.</td>
<td>2.40</td>
<td>0-4</td>
</tr>
<tr>
<td>12. Voiceless: Whether or not I care about my health depends on the vocal function.</td>
<td>2.02</td>
<td>0-4</td>
</tr>
<tr>
<td>13. Voiceover: I test the voice several times a day to see if it is there.</td>
<td>1.62</td>
<td>0-4</td>
</tr>
<tr>
<td>14. Voiceover: When I awaken in the morning, I immediately test the voice to feel how it is.</td>
<td>1.26</td>
<td>0-4</td>
</tr>
<tr>
<td>15. Avoid: I avoid speaking at any problem with my voice.</td>
<td>1.04</td>
<td>0-4</td>
</tr>
<tr>
<td>Depressive tendencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Tiredness: Tiredness or malaise</td>
<td>1.50</td>
<td>0-4</td>
</tr>
<tr>
<td>17. Inability: Difficulties or inability to do what you actually strive for and what you are capable of.</td>
<td>1.43</td>
<td>0-4</td>
</tr>
<tr>
<td>18. Doubts: Doubts about your artistic ability.</td>
<td>1.33</td>
<td>0-4</td>
</tr>
<tr>
<td>19. Harm: Feels of worry, anxiety, fears, or phobias.</td>
<td>1.21</td>
<td>0-4</td>
</tr>
<tr>
<td>20. Work: Feelings that your professional life takes too big a part of your life.</td>
<td>1.20</td>
<td>0-4</td>
</tr>
<tr>
<td>21. Meaninglessness: Feelings of meaningless or hopelessness.</td>
<td>1.14</td>
<td>0-4</td>
</tr>
<tr>
<td>22. Concentrate: Difficulties to concentrate.</td>
<td>1.00</td>
<td>0-4</td>
</tr>
</tbody>
</table>

Figure 9: Mean, minimum, and maximum values across subjects regarding agreement with variables indicating worry about others’ opinions, relation to the voice, and depressive tendencies. From Maria Sandgren, “Voice, Soma, Psyche,” Medical Problems of Performing Artists 17, no. 1 (March 2002): 17.

27 Ibid.
28 Ibid.
Sandgren wrote a follow-up article in 2009 focused more intently on the correlation between health anxiety among singers and MPA based on the data she collected from her previous study. She sought to explore how this correlation affects singers in their daily lives as well as their performing abilities. The aim of the study was to determine whether psychological and voice-specific variables would relate to aspects of performance anxiety and health anxiety. Sandgren described the unique situation singers find themselves in concerning aspects of health anxiety: “Singers use their body as their core instrument. Both singers and dancers have reported hypochondriasis that is traditionally defined as a somatoform disorder (by the Psychological Association) with the main feature of a preoccupation with fears of having, or the idea that one has, a serious disease based on a misinterpretation of one or more bodily signs or symptoms.”

Singers possessed a heightened sensitivity and concern for their vocal health because of the extremely demanding nature of their jobs and because a simple head cold could lead to vocal indisposition and an inability to perform. This led to constantly seeking medical attention when perhaps psychological evaluation may be more in order. According to Sandgren, for opera singers, there were four common criteria for the reconceptualized framework of health anxiety that corresponded to singers preoccupation with the physiological components of singing: (1) their preoccupation and fear of having a somatic impairment, (2) reassurance-seeking behavior by taking a few tones to check vocal functioning several times a day or by visiting caregivers, (3) their preoccupation can cause impairment in occupational functioning, and (4) the distress and illness behaviors are not associated with any psychiatric disorder.

According to Sandgren the most important health anxiety disorder (HAD) aspect concerning singers and MPA was distress and preoccupation with the physical symptoms and/or

30 Ibid.
impairment. A HAD manifested because of the way in which a person relates to others. Sandgren explained, “Individuals with attachment insecurity tend to be dependent of others’ approval, i.e., to receive a positive view and display a tendency to seek reassurance.” In essence, performance could be considered an interpersonal process between the singer and the audience.

Personality traits also played a role in the study of HAD. Although neuroticism, an intrapersonal condition, has been commonly thought of as a HAD, Sandgren noted the minimal reports in MPA literature of neuroticism among singers and concluded that “health anxiety cannot primarily be a manifestation of high neuroticism among opera singers.” Results suggested a need for further research.

In over a decade of research between the initial publication and her 2009 paper, Sandgren revealed a significant association between MPA and voice-related and psychological variables. Sandgren found MPA was related to anxieties such as vocal indisposition, worry about disapproval, and crippling self-doubt concerning one’s abilities. Moreover, because MPA prevalence among singers had been reported as moderate, possibly because of the lack of singer-specific research studies, most singers engaged in methods to reduce its negative influences experienced minimal success. This led Sandgren to explore other possible contributing factors, such as HAD. She concluded, “It appears as if the characteristic of having the voice as a core instrument makes the opera singers particularly vulnerable for the exposure to others’ evaluation of their performance and may result in illness worry.”

31 Ibid.
32 Ibid.
33 Ibid., 472.
Dianna Kenny: The Kenny Music Performance Anxiety Index

Dianna Kenny’s research has been cited numerous times in MPA studies throughout the twenty-first century. She has contributed chapters to numerous college texts on the subject, in addition to her own text on MPA, and is well respected in the field. With the exception of the work of Sandgren, Kenny conducted the only other singer-specific study that satisfied evidence-based medicine criteria concerning MPA. Moreover, Kenny has developed multiple indexes and coping strategies, and has commented on the efficacy of previous models and studies with new interpretations.

In a study conducted at the turn of the millennium, Kenny explored the relationship between state and trait anxiety, occupational stress, perfectionism, career aspiration, and MPA among elite opera choristers at the Sydney Opera. She began by attempting to best define/redefine MPA in psychological terms and described David Barlow’s model as having, “heuristic value in understanding performance anxiety in general and music performance anxiety… in particular.” In an attempt to redefine MPA, Kenny offered her twenty-first-century perspective of MPA after Barlow.

This model proposes an integrated set of triple vulnerabilities that can account for the development of an anxiety or mood disorder: a generalized biological (heritable) vulnerability: a generalized psychological vulnerability based on early experiences in developing a sense of control over salient events, and a more specific psychological vulnerability whereby anxiety comes to be associated with certain environmental stimuli through learning processes such as respondent or vicarious conditioning.

Based on this model, Kenny designed the Kenny Music Performance Anxiety Inventory (K-MPAI) to test hypotheses related to the genesis of MPA within this emotion-based theory of

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34 Dianna T. Kenny, “Music Performance Anxiety and Occupational Stress Amongst Opera Chorus Artists and Their Relationship with State and Trait Anxiety and Perfectionism,” Journal of Anxiety Disorders 18, no. 6 (June 2004): 758.
36 See appendix 5 for the entire K-MPAI.
anxiety. Kenny specifically tailored four items on the survey to address these redefined MPA criteria that are based on her integrated set of triple vulnerabilities model: (1) evocation of anxious propositions, (2) attentional shift, (3) physiological arousal, and (4) memory bias. In addition, four other surveys were employed including Spielberger’s STAI (both trait and state portions), the Cox and Kenardy MPA Scale (CK-MPA), the Occupational Stress Inventory-Revised (OSI-R), and the Frost Perfectionism Scale (FROST-PE).

These surveys were distributed to the forty-eight-person opera chorus at Sydney Opera; thirty-two people responded. The average age of the participants was forty-one, including eleven males and twenty-one females. Kenny used statistical analysis, and results were gathered, analyzed, and correlations were drawn. Based on STAI-S data, Kenny’s results revealed little difference between singers and a non-musician sample. However, based on the STAI-T data, the opera choristers scored more than three times higher than the normative group for trait anxiety. The OSI-R data was compared to the normative sample and revealed that singers “experienced more difficulties with occupational roles and personal strain, but reported [more] personal resources than the standardized sample.”

These results suggested that a better understanding of and sympathy for the mental components of singing and the accompanying hurdles that singers face is necessary. Other OSI-R data, while scoring higher than other occupational groups, fell into the “acceptable limits” for occupational stress and personal strain in the work environment. Such items included the level of dust, amount of noise, inappropriate heat or cold within the rehearsal space, and erratic rehearsal/performing schedules. Conversely, those who scored the highest on the psychological subscale of the OSI-R scale reported depression, anxiety, and fatigue. They also had the lowest

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38 Ibid., 764.
score on the self-care/coping sub-scales, despite the comparative prevalence of coping resources available to them.\textsuperscript{39} In addition, a sub-group analysis concerning the artists’ level of career aspiration showed results that suggested those singers who reported higher aspiration scores were more anxious, but had a clearer understanding of their role within the opera company than those with lower aspiration scores.

In closing, Kenny posed this question for debate: “Does higher trait anxiety result in higher scores on the occupational roles and personal strain questionnaires of the OSI-R, or does the sensitizing occupational environment of musicians foster greater anxiety?”\textsuperscript{40} Based upon the results of the OSI-R, she suggested, that occupational stress may not add to one’s level of MPA, and claimed that this variable was independent of MPA, and should be addressed separately.

This study also revealed that elite choristers had a greater supply of personal coping resources compared to a normative sample. Moreover, Kenny suggested that “those engaging in more behaviors defined as personal resources in the OSI-R were also those who had the highest scores on trait anxiety. It is possible that the very anxious members… used their personal resources as an adaptive way of coping with their anxiety.”\textsuperscript{41} In addition, singers who scored higher on the perfectionism scales tended to engage in fewer recreational activities, and were more likely to engage in self-care and coping strategies. Kenny admitted that the relationship between MPA, occupational stress, and trait anxiety is a complex one and listed obtaining access to a large enough sample as the main difficulty in determining this relationship. Kenny shared the opinion of other prominent researchers calling for further research.

\textsuperscript{39} Ibid., 764-765.
\textsuperscript{40} Ibid., 770.
\textsuperscript{41} Ibid., 771.
Evolving MPA Characteristic/Predictor Literature Review

As in previous decades, MPA literature continued to emerge as psychologists, medical practitioners, and musicians continued to search for ways to predict and cope with the mental components of performing. As singers became more aware of their condition, whether acute or severe, other avenues were explored to find better and more effective ways of coping with MPA. New concepts in nutrition, medicine, and alternative therapy like yoga emerged to address MPA. New CBT methods also adapted to address MPA, including neuro-linguistic programming (NLP), flow state ideas based on the theories of Mihaly Csikszentmihalyi, meditation, and hypnosis. These added to the already large number of treatment options for an MPA sufferer. Although the opinions on these methods varied among the MPA community, almost all of the experts supported a multifaceted approach as opposed to an either/or approach during this time. Research on predictor studies sought new ways to understand the underpinnings of what causes MPA. Although these studies aimed at shedding light on the characteristics that may predetermine one’s predilection for being a nervous performer, as with previous research, issues arose concerning sample size, specific demographic, and level of achievement amongst the participants.

The rest of this chapter will present an overview of currents trends in the research on predicting and characterizing MPA in the twenty-first century. It is not meant to be exhaustive, but will instead focus on studies pertaining to singers and their MPA, as opposed to previous decades that did little to differentiate singer-specific ideas and concepts. Before following any techniques, coping strategies, or medications discussed in the following, individuals must first seek the advice of a professional medical doctor in the given field.
Research dating from the twenty-first century began to offer more singer-specific methods and measures in an attempt to better understand some of the inherent problems that MPA causes vocalists. A professional opera singer once stated that the singing voice “reflects all of the problems and emotions a person has in his private life. It is imperative… that personality components and situational/environmental influences which may impinge upon vocal freedom and personal expression be considered.”^42

The stringent professional demands that singers experience were previously noted. These fall into four categories: (1) socio-economic conditions, (2) inter- and intrapersonal relationships, (3) occupational concerns, and (4) personality. In a 2010 article, Christopher Arneson commented on the recent changes concerning Günter’s thoughts and remarked, “One wonders if Mr. Günter had any idea of the significant changes that would take place in our situational and environmental influences in the short period of time that has passed between 1992 and 2010, and the effect those changes would have on singers in the twenty-first century.”^43

The downturn of America’s economy in 2008 played an important role in those changes. Opera companies began to face financial hardships, which led prestigious companies such as The New York City Opera to cancel performances, shows, or entire seasons, while some companies closed permanently. Consequently, this led to fewer jobs and more financial insecurity for singers. The impact of this socio-economic climate combined with the persisting stressors in singers’ lives remains a concern to this day. When combined with the daunting aspects of a performing career, MPA can easily derail a promising singing career. As Arneson noted, “The act of singing requires a high level of expertise in a varied range of skills from fine motor

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coordination, attention, and memory, to aesthetic and interpretive skills. The physical systems sustaining vocal performance are precisely those likely to be disrupted by the excessive tensions that accompany performance anxiety.\textsuperscript{44}

As the psychologically-based courses of treatment for MPA evolved, predicting and characterizing MPA in singers became easier. Arneson noted the relative ease in forecasting the malady among singers and suggested, “Based on demographic data, personality factors, and past experiences with anxiety [childhood factors], MPA can be forecast in singers with a large degree of accuracy.”\textsuperscript{45} The change in economic climate produced more anxious singers. In addition, changes in singers’ social environments, those specifically related to the singing profession, played a part as Arneson quipped, “Singers today live in a world that has little to do with the simpler, calmer lifestyles of singers thirty or forty years ago.”\textsuperscript{46} Several observable factors contributed to these changes. General changes included media and technological advances and degradations. In addition, heightened security issues because of terrorism caused anxiety when traveling. More importantly, singer-specific obstacles such as (1) increased air travel, (2) a demand to sing higher because of today’s tuning and temperament, and (3) pressure from artistic directors to look more attractive because of today’s visually stimulated audiences, and (4) pressure from conductors to learn music more quickly in order to meet society’s penchant for instant gratification, have all contributed to the MPA fabric of singers.

Although MPA in conjunction with the changing socio-economic climate greatly affected singers, our understanding of the malady also evolved. Arneson, as well as others, believed in tackling the psychological aspects of MPA first and suggested, “Singers need to realize that their performance anxiety is the result of a battle between two parts of the psyche; the part that wants

\textsuperscript{44} Ibid., 537.
\textsuperscript{45} Ibid.
\textsuperscript{46} Ibid., 539.
to express itself is in conflict with the part determined to remain silent." Furthermore, he cautioned against listening to the inner voice of doubt as it evokes memories of negative childhood experiences.

Once an individual experiences a trauma, the event becomes locked into the nervous system into its own state-specific neuro-network and is isolated from other neuro-networks which contain therapeutic information. Instead of being processed into our narrative memory, in which we would simply recall the event, a trauma is processed into our motoric memory, thus retaining all of the negative emotions, feelings, sights, sounds, and overall sensations associated with the original trauma.

Based on his personal experiences and expertise, Arneson offered a twelve-point checklist of performance anxiety reduction (PAR) techniques that can be added to the list of coping tools for any singer in the mild to intermediate level of suffering. Similar to previous opinions, Arneson encouraged singers to first accept their fear. According to Arneson, when fear is embraced, it becomes less powerful over the singer and allows them to focus on the positive aspects of anxiety. Next, singers must understand their fear. The fear of failure and the fear of success are ubiquitous, according to Arneson, as he posed the following question that all anxious singers should ask themselves, “Would you be happier and less anxious if you were to achieve your goals and live your dream? Or would you be happier in a different profession?”

After accepting and understanding one’s fear, Arneson suggested silencing the negative inner voice and listed characteristics, first designed by Kruger, of the three inner monsters responsible for this inner voice: (1) The judge is interested in your mistakes and failings. This voice is always with us and is associated with perfectionist aspirations as well as feelings associated with disapproving parents. Arneson added, “Bodies, minds, and vocal instruments will not function at their best under the tyranny of perfectionism. The muscles in the throat

47 Ibid., 540.
49 Arneson, “Performance Anxiety,” 541.
automatically constrict when you criticize yourself.”\(^{50}\) (2) The *doubter* is skeptical, uncertain, and insecure and should be silenced. (3) The *timid soul* expresses a rationale for feelings of failure. This voice is related to avoidance behaviors, and has self-sabotaging effects on singers. It manifests negative cognitions and self-fulfilling prophecies, or leads to actually falling ill prior to an important performance.\(^{51}\) Next, Arneson encouraged singers to eliminate excuses and self-destructive behaviors and noted, “Your words are manifestations of your thoughts, and they become your actions.”\(^{52}\)

The next item on Arneson’s list was based on Maisel’s “three keys to handling criticism,”\(^{53}\) an aspect of performing not to be feared according to Arneson. These included the *dynamic key*, the *mindfulness key*, and the *holistic key*. The dynamic key refers to consciously breaking free of the past, noticing and eliminating patterns of thought and behavior that serve one poorly, and healing from the effects of shame, guilt, and other psychological impediments. The mindfulness key refers to a process that involves learning how the mind generates fears, worries, doubts, and negative self-talk, and includes engaging in practices that return the mind to the conscious control. The holistic key is a process that involves seeking an understanding of how allowing criticism to deflect one from one’s life path amounts to self-sabotage. Arneson added, “Beauty is often in the eye of the beholder, but it does not mean that the beholder has a *hold* on you.”\(^{54}\)

The next PAR offered states, “Don’t be unsure,” and pertains to preparation, planning, studying, and practicing. Francine Shapiro commented:

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\(^{50}\) Ibid., 541.
\(^{52}\) Arneson, “Performance Anxiety,” 542.
\(^{54}\) Arneson, “Performance Anxiety,” 542.
How a performer processes the music both emotionally and physically while alone in a practice room or in the voice studio is extremely different than what is to take place on stage in front of a live audience, especially if the performer’s personality is not conducive to the emotional freedom required to communicate to the audience. This, coupled with insufficient practice time, the requisite memorization of text (often in a foreign language) and the possibility of dislike or disdain for the repertoire, can create a highly anxious singer.\textsuperscript{55}

Arneson’s next PAR incorporated ideas and techniques from Shainberg and encourages singers to \textit{recall and prepare} based on Shainberg’s two-part concept consisting of \textit{peak performance}, and \textit{reaction rehearsal}. \textit{Peak performance} directs singers to imagine a performance when they were at their best and to let their body sense it. Shainberg suggested spending a few minutes every day recalling this feeling. \textit{Reaction rehearsal} directs singers to imagine a potential performance issue/problem and rehearse how they would react if it happened on stage.\textsuperscript{56}

Next, Arneson suggested that singers release physical tensions. This is a paramount step in the process and must be practiced, as the author noted, “The purpose of relaxation techniques is to reestablish the balance between the sympathetic and parasympathetic components of the autonomic nervous system in order to reduce anxiety symptoms.”\textsuperscript{57} One way to release this tension is to focus cognitions elsewhere. Arneson’s next step implored singers to refuse to focus on nervousness by thinking about \textit{what} they were doing as opposed to \textit{how}. Arneson’s penultimate PAR, \textit{having realistic expectations}, cannot be overstated. Singers must sing with their own voice as opposed to comparing themselves to and attempting to emulate recordings and other, more advanced performers on stage or elsewhere. This can lead to unrealistic expectations and should be avoided. Similar to professional sports, very few aspiring singers actually succeed in the professional classical singing world. Lastly, Arneson implored singers to be generous in

\textsuperscript{55} Shapiro, \textit{EMDR as an Integrative Psychotherapy}, 30.
\textsuperscript{57} Arneson, “Performance Anxiety,” 543.
their personal singing communities and to not be critical of other singers, as this can lead to their own MPA. Arneson’s self-help guidelines, although not based on a clinical trial, were based on personal experience combined with previous MPA research, and are a great resource for singers suffering from MPA in varying degrees.

In addition to Arneson’s article, two other singer-specific articles appeared in *The Journal of Singing* around the same time. They described characteristics and predictors of MPA, and offered experience-based advice from professional singers/teachers on coping techniques. In addition to the affect that MPA has on the cognitive, physiological, and behavioral realms, Emmons and Thomas introduced a fourth area of concern they dubbed affectively. This referred to the period before, and sometimes during a performance in which “affective changes” took place related to the singer’s emotions. According to Emmons and Thomas, emotionally-based changes in feelings ranged from anger, fear, worry, guilt, and shame, to aggressiveness, irrationality, and irritability, and needed to be addressed.\footnote{Emmons and Thomas, “Understanding Performance Anxiety,” 463.}

Another multi-step coping strategy checklist was provided, and included advice on many items. (1) Singers should *prepare* their feelings by determining what level of arousal is best for each performing situation. (2) Singers need to take notes on how they felt prior to and after a performance. (3) Singers should prepare body-mind signals in the same manner as in step one, but with somatic measures. (4) Singers should reduce mental anxiety through imagery by recalling positive past performances, or *ratio breathing exercises*. (5) Reduce somatic anxiety through relaxation, and by reinterpreting bodily sensations as positive aspects. (6) Raise the level of optimal arousal by (a) listening to *inspirational music*, (b) engaging in *physical exertion* such as running in place prior to an audition, and (c) using *activating clues* such as, “I love this kind of pressure,” in order to trick the brain out of anxious cognitions. Emmons and Thomas
concluded “As with all elements of performance, there is no substitute for self-awareness: knowing how the singer functions before and during performance; recognizing the levels of stress and the symptoms of anxiety, both mental and physical; dealing with the consequent arousal level and achieving an ideal state for performance.”

Based on budding MRI technology, psychologists have recently begun to study musicians’ brains in order to understand what goes awry in certain performance situations and how singers process them. Human information processing is categorized as either learned or inherent. Vocal techniques (learned) are integrated over the course of many years of formal lessons and become second nature (inherent) via constant reinforcing (see figure 10). When a trained singer takes a breath before singing, the soft palate automatically rises; this has become an inherent action. However, this began as a learned activity in the voice studio, in which the process of learning how to breathe was slow. As previously stated, MPA is a learned behavior. When a learned behavior interferes with automatic or inherent learning, MPA can occur.

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<th>LEARNED</th>
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<td>Tacit</td>
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<tr>
<td>Slow</td>
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<td>Demands attention</td>
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<td>Volitional</td>
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<td>Declarative learning</td>
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<td>“Top-down”</td>
<td>“Bottom-up”</td>
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Figure 10. Human information processing, controlled versus automatic, illustrating the differences between a beginner and a professional’s learning process during vocal training/performing. From Lynn Helding, “Break a Leg! The Ironic Effect, Choking, and Other Mind Games,” *The Journal of Singing* 67, no. 2 (November/December 2010), 209.

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59 Ibid., 464-465.
Singing and performing requires fast, multi-task-based learning because of the myriad of ongoing processes within the brain. Music performance anxiety takes away from a singer’s ability to rely on inherent learning and instead shifts their focus to MPA’s volatile demand for attention. However, as figure 10 illustrates, MPA and its effects are avoidable. According to singer/professor Lynn Helding, when panic and subsequent choking occurred, the “top-down” approach to learning associated with MPA attempted to disturb the fundamental “bottom-up” learning associated with years and decades of formal singing instruction. While more advanced singers are vulnerable to choking, or not reaching the full potential of their performance, beginners’ MPA manifests as a feeling of panic. Helding noted, “Panic is generally demonstrated by beginners who, for lack of training, simply flounder, flee, or even ‘blank out’ and completely disassociate from the present.” Fainting is considered an extreme version of panic.

In a 2010 article in *The Journal of Singing*, Helding attempted to elucidate the catch-22 phenomenon associated with MPA and singing by exploring concepts of the *ironic mental controls* based on Harvard psychologist Daniel Wegner’s theory of ironic processes of mental control. Wegner’s theory suggested that an “ironic monitoring process that looks for the failure of our intention” accompanies the intentional focus on positive thoughts. These ironic processes—focusing on the *how* as opposed to *what*—underlie anxiety and occur in two different parts of the brain causing much strife in an anxious performer’s career. Helding added, “Within the power vacuum created while the two metaphorical sides of the brain argue for primacy, the dreaded choke occurs: the missed putt, the muffed pitch, the flubbed high note… Considering that performing artists regularly and doggedly pursue success in public arenas, and most such

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public performances are accompanied by both stress and mental load, it is no small wonder that [singers] are able to succeed at all.”

Despite the numerous pitfalls associated with MPA and singing, Helding offered coping advice. According to Helding, singers must practice deliberate calm, using airplane pilots as an example because they incorporate similar techniques in their training. Helding presented the 2009 emergency landing of an airplane on the Hudson River as an example, and provided a quote from the captain that illustrated her point: “For forty-two years, I’ve been making small, regular deposits in this bank of experience: education and training. And on January fifteenth, the balance was sufficient so that I could make a very large withdrawal.” Considering the pressures and demands faced in their daily singing careers, singers must learn to do this on a smaller scale, but on a regular basis.

Next Helding suggested singers should utilize holistic word cues because the brain interprets one-word cues as pictures as opposed to a sentence of instruction that could evoke the ironic process, and therefore facilitate anxiety and choking. Helding suggested using a word clue such as “loose” as opposed to the sentence “keep your jaw loose,” for example. Lastly, she echoed the sentiments of others and stressed preparedness, pertaining not only to singing and technique, but to the mental components as well. In addition she denounced avoidance behaviors and denial, and suggested singers replace them with accepting their fear/anxiety, and cope with them in a proactive manner.

A 2010 clinical study consisting of seven opera singers and two woodwind players offered insight into the physiological obstacles an opera singer faced on stage concerning MPA, although it was small in scope and did not satisfy evidence-based medicine criteria. It is

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important to note that Spahn included the affective, or emotion-based domain, on the accepted list of domains affected by MPA (cognitive, behavioral, and physiological); this is similar to the study by Helding et al. According to them, this was because of the emotional connection a singer has to his or her instrument, as they added, “A violin is played by a person, a piano is played by a person, but a voice is a person.” Opera singers face a difficult task as they must learn to manage this affective domain in conjunction with delivering the emotion of the character they are portraying within the opera. World-renowned mezzo-soprano Janet Baker commented, “Our business is emotion and sensitivity—to be the sensors of the human race.”

Trait anxiety levels combined with personality aspects and increasing socio-economic demands in the professional singing world can turn a relatively moderate MPA sufferer into a severely anxious performer. Spahn et al., noted that, “The change from normal to pathological and clinically relevant MPA occurs when the singer is personally suffering a lot, and/or when he cannot deliver his optimal performance on stage.” Issues such as illness, fatigue, and depression are contributing factors. From experience, singers often admit feelings of sadness or depression based upon an inability to perform their best, and MPA only exacerbates the problem. Fortunately, research science evolved and provided more insight. “Our understanding of how these levels interact and of how emotions can be conceptualized has undergone considerable change.”

Emotion can be defined as a purely physical phenomenon based upon the perception of an outside stimulus, or as an experiencing state resulting from perception. Emotions-based phenomena such as MPA are a learned behavior based on previous experiences. Spahn et al.,

64 Spahn et al., “Music Performance Anxiety,” 175.
67 Ibid., 177.
attempted to quantify the relationship between an emotional, on stage operatic performance and the physiological happenings relating to MPA. They also suggested pedagogical and treatment approaches for a singer and a singing teacher.

Seven opera singers and two wind players were analyzed during performance, during rehearsal, and during daily routine situations found in the theatre business. In addition, the theatre’s artistic team completed interviews concerning the singers’ performances. Blood pressure and heart rates were measured using a Somnoscreen, a standardized device originally designed for sleep medicine, adapted for use on stage. In addition, the performers were administered the state portion of Spielberger’s STAI before and after their stage appearance. Results were typical based on previous studies (see figure 11).

Figure 11: Mean heart rates before, during, and after performance. Subjects 1-7 represent singers; 8 and 9 represent wind players. From Claudia Spahn et al., “Music Performance Anxiety In Opera Singers,” *Logopedics Phoniatrics Vocolology* 35, no. 4 (December 2010): 178.

The highest heart rate and blood pressure values were reported during performance. Evaluations of the STAI-S data demonstrated that singers reported the highest levels of anxiety
prior to performance with one exception, subject nine. Additionally, there was no correlation between anxiety levels and blood pressures found among the subjects. Subject two, for example, reported high anxiety, but normal blood pressure levels. Additional results suggested that physiological arousal may be a necessary condition for MPA, but it is not a sufficient explanation, as other factors are involved including the perception of physiological arousal and cognitive responses to performing. They wrote, “Performers experience the same feelings of physiological arousal, but while one finds these feelings energizing, another perceives them as signs of impending disaster.”

Spahn et al., looked to previously accepted research studies, as well as their own results, and offered pedagogical treatment and coping strategies. They remarked, “All previous clinical trials on MPA therapy demonstrated how cognitive therapies, as well as training and exposing oneself to the performance situation, are more effective than pharmaceuticals or placebo.”

Despite the advancements in MPA research, Spahn at al., noted the lack of a specific psychotherapy model. This could be due in part to the readily accepted multifaceted approach in which no particular model is stressed, or because of insufficient research on the efficacy of a particular psychotherapy model.

Spahn et al., offered a three-phase therapeutic approach for nervous performers attempting to manage their MPA. Like so many others before them, Spahn et al., first stressed preparation as the first phase. According to this approach, every aspect of a performing situation from foods consumed during the day of a performance, to the costume worn on stage should be planned ahead of time.

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68 Ibid., 178-181.
69 Ibid., 181.
The second phase occurs on stage during the performance where ideally, the singer should be completely focused on what they are doing. However, according to the researchers, it is important for a nervous performer to prepare emergency measures in case exaggerated, catastrophizing cognitions attempt to derail the performer/performance. Techniques included: (1) recalling positive somatic sensations when such sensations are negatively affected by anxiety, (2) focusing on the emotions of the character or thought being portrayed, and (3) focusing on a connection with the audience. The last phase happens post-performance and was considered “extremely important, as pre-conditions for the next performance are created during this time.”

According to Spahn et al., heightened adrenaline levels must be metabolized and negative cognitions concerning the performance must be suppressed during this time. The researchers suggested focusing on the positive aspects of the performance as a way to curtail the often self-deprecating cognitions a singer experiences. According to Spahn et al., the post-performance assessment should take place no more than a day or two following the performance. In the classical singing world, this three-phase approach can be difficult to achieve as the authors noted, “The three phases are drastically shortened and often overlap. The singer thus needs a considerable amount of discipline and attention in order to adapt positively to these routines and requirements.”

Flow State

In addition to new MPA predictor and characteristic studies, various research studies aimed at determining the effectiveness of a particular psychological coping strategy surfaced. New ideas on previous models emerged in the areas of CBT, NLP, and other psychotherapies,

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70 Ibid.
71 Ibid., 182.
including meditation. These new ideas and strategies provided additional options for MPA sufferers to implement into a multifaceted treatment approach.

The relationship between MPA and flow state proneness was examined in an exploratory clinical trial conducted in 2008. Based on the research of Csikszentmihalyi, *flow state* theories focus on the absorption of all mental focus into a particular activity. It is defined as “a merging of action and awareness, where consciousness, mind, and body become harmoniously directed, without the presence of anxiety.” General conditions that facilitate flow experiences include engaging in above average concentration tasks that are freely chosen and that also have an equal skill to challenge ratio. A sense of time loss is associated with flow state as the task is mentally absorbing. Means and methods for achieving clear goals provide immediate feedback.

In this particular study, researchers hypothesized that there was a negative correlation between MPA and flow as well as a negative correlation between MPA and the ability to perform without destructive self-criticism. Ninety undergraduate music students from Temple University were selected to participate. The mean age was roughly twenty-four, and approximately sixteen percent of the participants were singers. Inventories included Nagel’s *Performance Anxiety Inventory* (PAI) modeled after Spielberger’s STAI, and *The Music in Flow Inventory* (MFI) designed by Arvid Bloom and Paula Skutnick-Henley. The MFI consisted of two parts. Part one included several dozen Likert-scored items that predict flow proneness based on five criteria: (1) self-confidence and self-trust when performing, (2) a desire to experience and express feelings through music, (3) having musical experience goals, (4) an ability to maintain focus on the music while performing, and (5) an ability to perform without destructive self-criticism.

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73 Ibid.
The second part of this test included a write-in section that asked participants to describe a recent flow experience while singing based on five relevant items: (1) it stood out as a special musical experience, (2) it involved total absorption, (3) the goals were clear, (4) there was confidence in task accomplishment, and (5) attention was focused on the music and not the task-irrelevant thought.\textsuperscript{74} Results suggested flow proneness was negatively correlated with MPA. However, this correlation was found to be relatively weak, and suggested that MPA and flow could coexist.

The researchers’ second hypothesis was also supported, as the ability to sing without destructive self-criticism was negatively correlated with MPA. In addition, MPA was found to be inversely related to self-confidence and self-trust as well as maintaining focus during singing. In addition, the researchers found a negative correlation between MPA and age, whereas flow was positively related, and commented, “Perhaps as individuals develop psychologically, it becomes easier to enter a flow state and less likely to feel threatened in performance situations.”\textsuperscript{75}

The ability to battle MPA may simply be a matter of one’s capacity to maintain appropriate focus as the researchers noted, “It appears that creating performance conditions that foster flow (e.g., attempting to match challenge level to skill level) can be useful for helping to alleviate the intensity of performance anxiety, especially the cognitively distracting aspects.”\textsuperscript{76} Researchers determined that flow state was also associated with moderate levels of arousal, and offered ways to achieve flow state in order to reduce MPA. They suggested teachers assist performers in their own arousal levels when performing, and to instruct students how to remain in flow during evaluative situations—where arousal tends to rise naturally—by developing new teaching techniques to appraise and frame arousal symptoms.

\textsuperscript{74} Ibid., 61.
\textsuperscript{75} Ibid., 62.
\textsuperscript{76} Ibid.
Similar to previous reduction techniques, simply raising the appropriate questions regarding arousal levels was found to be beneficial as immediate feedback is provided that relates logically back to stated goals. The authors advocated harnessing MPA symptoms as opposed to eliminating them, and suggested further research on the topic should include a larger sample, a comparison between professionals and students, and a comparison between instrumentalists and singers.

Meditation

Attention and focus techniques have been found to greatly reduce symptoms of MPA in singers. Meditation incorporates both of these techniques. In a ground-breaking study from 2003, Joanne Chang, Elizabeth Midlarsky, and Peter Lin attempted to test the efficacy of meditation as a tool to increase relaxation and concentration among musicians, thereby curtailing MPA symptoms. Previous MPA research indicated that an important component of the anxiety suffered by musicians was the fear of evaluation. This is related to the fear of losing the audience’s love, as well as being embarrassed in front of large groups. It is imperative for singers to enter a relaxed and focused state when unwanted tensions caused by MPA arise. The researchers noted, “Meditation is a technique designed to help the individual to achieve exactly such a state—an optimal balance between relaxation and tension, wherein muscles not required for the task at hand are at rest, with others poised for action. A state of relaxation combined with focus and attention is the goal of this technique.”

Their study consisted of nineteen college music students whose age ranged from eighteen to forty-one, and included three singers. Nine subjects were placed in the experiment group, and

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ten subjects comprised the control group. In addition to meditation training, the study utilized Nagel’s PAI and a personal information questionnaire designed by the researchers that assessed the degree to which performer’s minds wandered as they performed a specific task. The first questionnaire was administered prior to and following the eight-week experimental period, while the second was administered post-performance for the sake of immediate response. In addition to the initial experiment, the control group was invited to participate in a follow-up study three months later. In both trials, the experiment group performed on a concert following an eight-week meditation class. Participants were told to meditate before practicing, and were provided with at-home instructions on meditation. All subjects who performed in the concert had a five to ten minute solo in addition to ensemble work. The audience numbered roughly 150 people.

Results revealed a significant decrease in scores on the post-test PAI for the meditation group, as opposed to the control group, which showed no difference. The authors noted that, “They generally indicated that meditation was beginning to help them focus on activities in and outside of music, and they felt an easing of tension beginning to occur. A few spoke of greater concentration, with others noting that the newness of meditation for them increased their self-consciousness, and intrusive thoughts were augmented, rather than diminished.” Other hypothesized results could not be concluded, possibly because of the small sample size. Moreover, participants reported that the newness of the approach was a possible hindrance to its effectiveness.

Although there was no significant change reported in the subjects’ ability to concentrate, other studies from the same period demonstrated the positive effect that meditation has on concentration. The research suggested that these results could be happenstance because of sample size, length of study, and the fact that participants may have been unmotivated because of

78 Ibid., 129.
pre-existing pathologies. In other words, they did not pursue meditation as a means for MPA reduction. Instead, they were chosen because of their classification as musicians—a classification, the researchers suggested, which may have been high in concentration levels based upon the demands of a musical upbringing. Lastly, the researchers suggested further research should include the evaluation of physiological measures in addition to, and as opposed to self-reported measures, in order to better understand the effectiveness of meditation on MPA.

**Neuro-linguistic Programming**

A form of CBT, neuro-linguistic programming (NLP) is a psychotherapy technique that has been used in clinical psychology since the 1970s. It employs verbally manifested positive cognitions in an attempt to improve or change certain behaviors, both somatic and psychological, by reprogramming the brain. It puts forth the notion that it is not enough to have positive thoughts because they must be verbally stated. These techniques have been used in quitting smoking and losing weight as well as other self-improvement efforts including MPA. For a nervous singer, these utterances can include phrases such as, “I am a great singer!” or, “There is no reason to be nervous, I have performed this piece 100 times!”

In a recent case study, Sarah Carson, a licensed NLP practitioner, worked with an opera singer named Chrissy. Chrissy was suffering from the ironic processes of MPA and revealed, “Part of me wants to show everyone that I can sing these [high] notes, and part of me is frightened and wants me to hold back in case I don't make it or crack on the note.” The “part of

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79 See Appendix 6 for the entire interview with comments from Carson.
“me” sentiment was a recurring complaint often reported in the NLP world according to Carson. She further stated that, when this occurs, an exercise called *The Visual Squash* may be employed.

*The Visual Squash* method is an early NLP technique that attempts to re-wire or re-anchor learned behaviors and cognitions. By doing so, previous bouts with MPA can be reduced or eliminated by rerouting the paths of the conflicting processes to a common, higher ground. The process is simple. First, one must imagine the problem state in one hand and make a representation of it that involves seeing, hearing, feelings, smelling, and tasting as though the problem state was a tangible item. Secondly, one must determine what the desired state should be, and in the same manner, make a representation of it in the other hand. The participant then alternates between the two hands while focusing on what they represent by verbally describing each, and then slowly brings the two hands together. According to the Visual Squash method, the representations in each hand will fuse and change into something else in the mind. Lastly, the participant is instructed to sympathetically incorporate this new representation into the body by touching their clasped hands to their head, chest, or stomach.\(^{81}\)

The part of Chrissy that wanted to sing great high notes was conflicted with the part of her that was afraid to leave her comfort zone. This risk/reward represented cognitive dissonance in Chrissy’s brain. By visually, verbally, and physically addressing the two halves, an NLP practitioner is able to reveal the higher ground they share as Carson noted, “We had reached a place where both parts reached a mutual higher intention.”\(^{82}\) As with Alexander Technique, Carson implored MPA sufferers to find a licensed practitioner. While the cost can be great, NLP

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82 Carson, “Neuro Linguistic Programming.”
has been proven to be a viable method of improving oneself, and was shown to be a beneficial endeavor for singers with MPA.

**Hypnotherapy**

Carson’s work with her client Chrissy revealed that it was not uncommon for a patient to enter a trance state during an NLP session. This is directly related to hypnotherapy, and was endorsed by the American Medical Association as a valid therapeutic tool in 1958. Similar to day dreaming, hypnotherapy involves an altered state of consciousness. The four elements of hypnotherapy are concentration, relaxation, suggestion, and expectation. Hypnotherapy techniques incorporate methods from other self-improvement disciplines such as guided imagery, progressive relaxation exercises, and positive suggestions, visualizations, and affirmations, similar to the previously discussed NLP methods.

There are many benefits in utilizing these methods: they allow a singer to transform anxious energy into enthusiasm, cultivate feelings of safety and security, eliminate the need to prove oneself onstage, release physical tension and negative self-talk, cultivate positive expectations on stage, focus on communication as opposed to technique, stay “in the zone” or a flow state, release prior negative stage experiences, and return power and control to the self.

Vanessa Cornett-Murtada conducted an informal study in 2005 that attempted to test the effectiveness of hypnotherapy on MPA. The sample consisted of graduate music students and volunteers from a public university. They were administered an average of six hypnotherapy sessions by the authors. One hundred percent of the subjects reported some degree of relief from

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84 Ibid., 268.
stage fright. In addition, eighty percent experienced a “remarkable improvement in their ability to control their performance anxiety on stage.”

Similar to previous suggestions, Cornett-Murtada recommended finding a certified professional (C.Ht. [Certified Hypnotherapist], M.Ht [Master Hypnotherapist], or D.C.H. [Doctor of Clinical Hypnotherapy]) with at least one hundred hours of training. In addition to this recommendation, she offered some at-home techniques singers could use to supplement their treatment. Again, before trying these at home, one should find a certified professional. First, she suggested performers find a quiet room and close their eyes in order to coax brainwaves to slow and facilitate entering into an altered state of consciousness. Next, she suggested focusing on breathing while intently imagining and concentrating on a desired objective, as opposed to simply daydreaming about it. By doing this, a performer is able to tap into multiple senses and domains of learning to achieve results. The researcher suggested, “Ten minutes of intense visualization should be sufficient for most people, and should include imagined feelings of excitement and satisfaction felt after the performance… the method of self-hypnosis does not usually matter as long as there [is] a state of intense, concentrated focus with little regard to external stimulation.” Despite having garnered a bad reputation because of hypnotists like those appearing on cruise ships, hypnotherapy and self-hypnosis techniques “can cultivate a powerful tool to quiet the body and mind, transform stress, anxiety, low motivation, [and] distorted self-image, and to enhance the quality of performance overall.”

85 Ibid., 269.
86 Ibid., 269.
87 Ibid.
Emerging Physiological Coping Strategies

Researchers offered many new studies to test the efficacy of a particular somatic approach in order to alleviate MPA symptoms. New ideas surfaced concerning physical exercise, yoga, diet and nutrition, and other forms of integrative, holistic medicines. Because of research ambiguity concerning anxiety medications, and partly because of the ineffectiveness reported with their use, researchers attempted to find alternatives, or ways to supplement them via a multifaceted approach. In addition, singers became more aware of the unwanted side effects associated with the use of such medications, including their negative side effects. For example, increased levels of anxiety cause a reduction in saliva that leads to a dry mouth. This is detrimental to a singer. However, one study revealed, “The use of beta blockers is not accepted among many singers and wind instrumentalists, because it has been proven that they increase salivation.”88 This is also undesirable for singers. Moreover, studies comparing the use of medications alone versus medications combined with any particular form of CBT, overwhelmingly revealed the effectiveness of a multifaceted approach over any particular anxiety medication alone. Surprisingly, one study revealed lower MPA scores in the placebo group compared to a group given the beta-blocker Busiprone alone.89 For these reasons, researchers cautioned against the use of beta-blockers, and recommended their use in severe cases only, in which other therapy options had been exhausted.90

89 Ibid.
90 Ibid.
Physical Activity

In a 2014 clinical trial aimed at showing the direct correlation between physical activity and reduced MPA, eighty-seven graduate school music majors from the Federal University of São João del Rio were studied. While not singer specific, the results were as the authors hypothesized. Students engaging in at least fifty minutes of physical activity, a minimum of three times a week, displayed less effects of MPA based on the administered K-MPAI. Researchers note that, “Physical activity has been shown to lessen the effects of epinephrine on the cardiovascular system, and also can improve cognition. Thus we can explain, at least in part, that physical activity modulates two of the three independent factors (cognition, autonomic modulation, and behavioral responses) related with anxiety.”

In order to be at one’s best as singers, a physical fitness regimen should already be standard practice. There are many benefits, and as the research suggested, cognitive and somatic issues pertaining to MPA can be reduced. Physical activity alone may not be enough. However, the benefits of regular exercise should always be included in a multifaceted approach to curtailing the effects of MPA. Before engaging in any physical activity, one should consult with their physician.

Yoga

Numerous studies have been conducted that attempted to correlate the positive effects yoga has on anxiety. In addition to the physical components of practicing yoga, there is also a mental aspect that makes yoga a psychosomatic exercise. One practitioner remarked, “Yoga, [is] a holistic mind-body practice that includes cognitive (meditation) and somatic (physical postures

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and breathing exercises) elements, [and] has been described as an ‘attractive therapeutic option’ for anxiety and anxiety disorders, especially for people who reject conventional psychological treatments.” Yoga and singing share this psychosomatic distinction, which lends to the efficacy of its methods in curtailing MPA symptoms.

One of the first clinical trials aimed at determining yoga’s effect on MPA was conducted on music conservatory students in the late 2000s. Twenty-four college-aged musicians, both instrumental and vocal, from Boston Conservatory, agreed to take part in a nine-week yoga intervention. Ages ranged from seventeen to twenty-nine, with a median age of 22. The researchers hypothesized, based on their own informal work previously conducted on yoga and anxiety, “that baseline trait anxiety levels would show a significant positive relationship with baseline MPA levels, which would provide evidence of convergent validity of the MPA measures.”

Researchers invited the entire conservatory from Boston University to participate in the study. Roughly five percent of nearly 500 students responded. This low percentage may suggest that the current trend concerning the positive aspects of yoga was relatively unknown less than a decade ago. The intervention included fourteen one-hour classes administered twice a week for an entire semester, excluding breaks and holidays. The intervention also included instructions for at-home practice. This was to be completed four days per week using a sixteen-minute CD recorded by the instructor. Lastly, the intervention included optional, very brief and spontaneous practice minis—techniques learned in class or on the CD—to be performed at any time in response to their body’s need for movement or breath.

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93 Ibid., 124.
94 Ibid.
Measures utilized for the intervention included the STAI-T, the K-MPAI, the Profile of Mood States Brief (POMS Brief), and a home practice log to be completed by the participants. The POMS Brief measured mood state and psychological distress based on thirty items scored using a five-point Likert scale. Six subscales of the POMS Brief measured mood states including tension and anxiety. In addition, two follow-up measures were used post trial: (1) The Yoga Program Evaluations Questionnaire asked questions concerning the participant’s reactions to the program, and (2) The Yoga Program Follow-Up Questionnaire asked questions about post-trial yoga practices and the effectiveness the program had on their musical performances.

General questions such as “was this intervention beneficial?” were based on cross comparisons and produced positive values when evaluating yoga’s effectiveness on reducing MPA. However, more specific music-related questions scored slightly lower. Subjects who participated in all aspects of the study showed the best results. According to the researchers, areas in which conclusive correlations could not be drawn concerning yoga’s effectiveness on MPA reduction could have reached validity with a larger sample group. Based on the POMS-Brief measures, the researchers hypothesized that general psychological distress would improve. However, this was not supported and suggested that yoga impacts anxiety more than mood.95

Limited because of the sample size, gender imbalance (most were females), and attrition (many participants did not complete all the aspects of the study), the study still offered promising results according to the authors. Similar to previous pioneer MPA studies, the authors suggested additional, randomized studies consisting of a larger, more diverse sample.

95 Ibid., 125.
Alternative Medications, Diet, and Nutrition

Researchers examined the use of integrative or complementary and alternative medicine (CAM) during a 2011 study, in order to determine its effectiveness in combatting MPA. Nutrition, herbal medicines, dietary regimens, and homeopathy concepts were also explored. Researchers sought to determine the benefits offered by a more holistic approach that included these concepts. They described this approach as “the practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals, and disciplines to achieve optimal health and healing.”

Because of undesired side effects associated with MPA medications such as beta-blockers, singers have sought alternatives in the field of medication. However, they were often left on their own to explore these alternatives, because of a lack of information, or because of financial concerns. The researchers cautioned against this and suggested, “It is wise to use nutritional supplements, herbs, and other approaches under the guidance of an integrative medicine team to avoid hazards of uninformed self-treatment.” In addition to nutritional supplements and herbs, the CAM approach incorporated beneficial psychological and somatic concepts such as yoga, relaxation techniques, and meditation, as well as the concepts and practice of spirituality, religion, and/or prayer.

Diet, nutrition, and nutritional supplements can provide many benefits for a healthy lifestyle. However, singers who seek help or advice to curtail their MPA symptoms by incorporating these benefits need to understand the difference between a nutritionist or

97 Ibid., 166.
integrative medical practitioner, and a dietician. Nutritionists and integrative medical practitioners are likely to recommend nutritional supplements to accompany therapeutic diets, whereas dieticians are untrained in the use of supplements and their therapeutic potential, and can only offer advice on what foods to eat relative to a healthy lifestyle.

The researchers offered three primary dietary approaches addressed in integrative medicine that may affect singers. These included: (1) a balance of macronutrients (such as sugar) and other factor-specific guidelines for hypoglycemia, abnormal glucose tolerance, and insulin resistance, (2) elimination (no carbohydrates consumed) or rotation diet for food intolerance or food allergy, and (3) anti-inflammatory (avoidance of caffeine) diets.\(^9\)

All three approaches were found to be associated with MPA because of the effects ingested (or not) substances have on a person’s ability to handle stress and anxiety. In addition to the possible benefits related to MPA reduction, by employing one or more of these dietary approaches, singers saw benefits related to their health and body image.\(^9\)

In today’s opera world, body image is very important. Professional companies require singers to look the part as well as being able to sing the part. As opposed to days passed, the obese opera singer stigma has been replaced by more visually appealing, even sexual, character portrayals in the current operatic performing world. Singers who implement a healthier dietary plan leading to better physical fitness, could be hired in favor of a less physically fit singer. This leads to a more positive mental appraisal of one’s abilities, an increase in confidence, and a reduction in stress and anxiety.\(^1\)

Nutritional supplements can be useful for prevention, symptom control, and specific conditions. However, their use in clinical practices can be limited because of insurance issues.
and physicians’ time constraints. Researchers argue in favor of supplements and note that, “People can be particularly responsive to targeting key supplements as part of an integrative approach, in order to avoid adding to the number of other medications already being taken and to avoid potential adverse effects or interactions.”\textsuperscript{101} This is an important point for the singer who tries to avoid the side effects of any particular anxiety medication.

Researchers offered suggestions for basic supplements that have been linked specifically to anxiety reduction. These included: (1) foods high in potassium, such as bananas, potatoes, white beans, raisins, and oranges, (2) foods containing high amounts of omega-3 fatty acids, such as salmon, and (3) foods high in B-vitamins. In addition, they recommended avoiding caffeine, as it was shown to increase anxiety levels. Alcohol was also cautioned against because of associated decreases in serotonin, an important neurotransmitter partly responsible for combatting stress.\textsuperscript{102} No single course of action works for every singer, as nutritional deficiencies vary from person to person based on their diet, environment, and genetic defects. The authors recommended seeking a professional for diagnosis and course of action.

Herbal remedies have been utilized for thousands of years outside of western medical practices. Commonly used herbs include black cohosh for sleep disturbances and mood disorders, and St. John’s Wort for mild depression. Anxiolytic herbs, found to reduce anxiety, include valerian, chamomile, catnip, cramp bark, kava kava, linden flower, hops, motherwort, American skullcap, California poppy, lavender, and passion flower.\textsuperscript{103} Although many are not endorsed by the Food and Drug Administration, these herbs are readily available through the

\textsuperscript{101} Ibid.
\textsuperscript{103} Allison Buck, “Tradition and Non Traditional Techniques for Performance Anxiety,” student paper presented at Ball State University, Muncie, Indiana, 2012.
assistance of a specialist, and should only be used under supervision as opposed to self-medicating.

The authors concluded by offering a three-step course of action for the practical application of nutrition and integrative medicine, including herbal supplements. These steps included: (1) developing a healthy lifestyle, (2) assembling an integrative healthcare team of professionals, and (3) learning how to best use the tools and resources available. Although the cost of obtaining an integrative medical team could be an issue for some, for the severe MPA sufferer, this approach may offer benefits not found elsewhere. Before beginning an integrative therapy, one should consult a medical professional.
Chapter 4:

MPA Moving Forward

Anxiety has always been inherent in the performance of art music. Moreover, MPA afflicted novices as well as the most accomplished famous opera singers in the world, as accounts from several singers have emerged over the years. Enrico Caruso was known to suffer from debilitating stage fright—to the point of taking serious precautionary measures in the event that his self-sabotaging cognitions led him to perceive vocal indisposition. It was reported that he would sew pockets on the inside of his costume to house bottles of liquid that contained water, orange blossom drops, and salt that he drank on stage when his back was to the audience. His impresario noted, “With him, stage fright took on indescribable dimensions, robbed him of all reason, whipped his nerves and led everyone surrounding him into despair. On performance days there had to be deathly silence in all rooms. Every word spoken aloud distressed him. Breakfast, lunch, food absolutely easy to digest and consumed in tiny quantities—nothing of it he could keep to himself, and after drinking two cups of chamomile tea he drove to the theatre.”¹

The famous Mozart soprano Carol Vaness developed a litany of positive reaffirmations following a particularly nervous opening of La Traviata in San Francisco. These reaffirmations varied from one production to another. In order to better combat her nerves prior to a show, Vaness would tell herself, “Go ahead and be a little nervous. Just remember it's not Traviata.” Then when it was Traviata, I would say, ‘Just remember it's not Norma,’ and when it was Norma, I really couldn't think of anything more difficult!”²

Technological Advances

Advancements in western medicine, psychology in particular, have provided a platform from which music psychology evolved and offered insight into the malady continuing to affect singers. In addition, advancements in modern science and technology have also helped to further our understanding of what causes MPA and how to treat it. Moreover, advancements in information technology have made it possible for research on the subject to be shared and discussed in ways not possible prior to the invention of the internet. Databases such Medical Problems of Performing Artists arose and made it easier to find information on the topic. Websites dedicated to the numerous coping strategies and blogs on MPA have also surfaced. Singers can find information and personal accounts related to MPA at www.bulletproofmusician.com. The site serves as a virtual self-help group. Developed by Noa Kageyama, a sports and performance psychologist and Juilliard faculty member, the site also offers an online course for treating MPA. The course offers advice and techniques on how to regulate stress, effectively practice, and build confidence, courage, and trust. It also offers tips on how to concentrate on demand, minimize mistakes, and how to bounce back from adversity.3

In addition, many of the foremost authorities on the subject now have websites dedicated to their work in the field. At http://julienagel.net/ one can find self-help techniques, as well as background information on characteristics and predictors of MPA. Nagel offers therapy in person, as well as remotely via the internet. Singers can even find Facebook pages dedicated to discussing and treating MPA. However, in these days of Wikipedia—a time in which anyone, expert or nonprofessional, can have one’s say on the internet—this influx of on-line resources can cause concern for a singer coping with MPA. Similar to advice offered by top researchers in

the field who recommend coping strategies, it is paramount for singers to seek and find an expert for information on MPA, and to consult a doctor prior to engaging in any therapeutic technique.

**Pedagogical Implications**

Implementing MPA reduction techniques in the voice studio can be challenging. Many factors contribute to this challenge. Research suggests students are apprehensive in seeking help. Therapy is viewed as a sign of weakness, and for some, just talking about the issue causes more anxiety. In addition, open dialogue between teacher and student, concerning their level of MPA, is rarely commonplace in the voice studio. On average, a typical degree in voice allots for one sixty-minute lesson per week with the primary instructor. The prodigious amount of information conveyed concerning vocal technique, repertoire, and performing, leaves little room to discuss the mental components of singing.

All MPA experts implore singers to seek professionals to assist with MPA coping strategies, yet few discuss the pedagogical aspects of bringing the discussion into the voice studio. This seems counterintuitive considering most, if not all, teachers of singing have expert experience. However, on one hand, professors who have never experienced debilitating MPA may not be able to relate. On the other hand, professors may consider themselves underqualified to assist. An Indiana University professor admitted, “Some days I feel like I’m a psychologist, not a voice teacher!” While possibly daunting, it is vital for this discussion to take place. The teacher/student relationship is the most important relationship a vocal student experiences. A basic understanding of the mental components of singing is to be expected. Moreover, considering the massive amount of research on MPA, it is in the best interest for all voice teachers to employ the basic fundamentals found to reduce MPA symptoms, in consultation with

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4 Personal correspondence with Andreas Poulimenos from 2004.
a medical professional, regardless of expertise in the field of psychology as it relates to music. A 2001 survey revealed that sixty-five percent of the faculty and over eighty percent of students interviewed thought an MPA prevention/reduction course should be addressed in the school’s curriculum. In addition, other researchers have suggested adding specific coping strategies, such as yoga, to the voice degree curriculum as a more cost-effective, proactive approach to battling MPA.

**Summary and Suggestions for Future Research**

MPA research has suggested that anxiety affects all singers in some way. Although percentages vary from study to study, the average percentage of severe sufferers numbers roughly twenty-five to thirty-five percent. Because MPA and its symptoms are often unreported by singers in an attempt to hide what could be considered a weakness, this number could be higher. Research has also suggested that many singers attempt to handle their MPA on their own without seeking advice from a professional. According to the experts, this is a grave mistake, and this is cautioned against in a majority of the literature on the subject.

The introductory period prior to the 1980s flood of MPA literature served as an exploratory time for MPA research. The fields of music and psychology became more aware of each other during this time. Most early MPA research was adapted from other anxiety studies such as test taking. Inventories such as Spielberger’s STAI were adapted and utilized to address the burgeoning group of musicians who began to report symptoms of MPA. Because the field was so new, singer-specific studies did not exist at this time. The ICSOM study (see page 11) served as the standard for much of the subsequent research studies in the following decades, but

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did not involve singers. Because of its sample size and the validity of its measures, this study is included in a majority of MPA literature including current research.

Introductory MPA research focused on determining the characteristics of MPA and how its symptoms affect musicians. A singular approach to curtailing MPA symptoms was popular among researchers. It was during this introductory period that beta-blockers were first explored as an option for MPA sufferers. Originally intended for heart patients, these drugs were consumed by a significant percentage of musicians with varying degrees of success. Moreover, they were often obtained without a prescription, which lead to exploratory usage by musicians. As more research was conducted on their efficacy, studies revealed unwanted side effects associated with beta-blockers. In addition to other ineffective, singular-faceted approaches to curtailing MPA symptoms, this “magic pill” approach soon lost favor in the MPA research community. Aspects of trait anxiety, personality type, behavioral and anticipatory elements pertaining to MPA were explored. This would lead to a multifaceted approach in the following decades.

In addition to researchers adopting a multifaceted approach, the 1980s and 1990s represented the golden age of exploratory research on the topic. Important researchers in the field such as Steptoe, Lehrer, Hamann, Wilson, and Brodsky began to offer insights into what characterizes and predicts MPA (see page 15). Anticipatory elements such as the time leading up to and following a given performance were explored. In addition, behavioral aspects such as avoidance of practicing were discussed, as well as the debilitating cyclical nature of MPA. Although a significant amount of literature was exploratory during this time, an increased understanding of the different aspects that cause and exacerbate MPA led to a large number of recommended coping strategies. Researchers began to realize that by combining treatment
approaches, sufferers were able to address multiple domains affected by MPA, as opposed to the
cognitive, somatic, or behavioral domains exclusively.

There was no decline in the amount of research and literature at the turn of the
millennium. New and important researchers such as Nagel, Sandgren, and Kenny offered new
insight and approaches to dealing with MPA. More importantly, researchers explored singer-
specific aspects of MPA, such as personality type, perfectionism, health anxiety because of the
intrinsic nature of the voice, and career demands. Previous treatment strategies such as CBT
were stressed and expanded to include new strategies such as meditation and neuro-linguistic
programming. New trials testing the efficacy of beta-blockers were conducted, as well as new
types of beta-blockers in general. This research revealed that there was a negative correlation
between beta-blockers and singers because of unwanted side effects and general ineffectiveness.
One study reported better symptom reduction in the group that took a placebo, as opposed to a
group of singers who took the beta-blocker Busiprone (see page 101).

In addition to the cognitive and behavioral domains, physiological coping strategies
emerged. Exercise regimens, diet and nutrition, and yoga were all found to reduce MPA
symptoms. Yoga was shown to incorporate both cognitive and physiological aspects. Therefore,
yoga is inherently multifaceted. The research of Stern et al., suggests its efficacy for singers
cannot be overstated. In addition to the health benefits of practicing yoga, it is a cost-effective
alternative to higher-priced therapy options.

As MPA research extended into the twenty-first century, technological advancements
played a significant role in disseminating previous research, offering singers larger, more
accessible databases, such as MPPA, to find information on the subject. The invention of the
internet has made finding information regarding MPA easier. However, in a time where the
internet has convinced many that they are able to self-diagnose and self-medicate, all researchers offering coping strategies share the opinion that professional advice should be sought prior to engaging in any coping strategy. Luckily, blogs and websites, such as the one maintained by Nagel, offer a starting point from which to seek professional help. In addition, these forums consist of like-minded individuals and can provide a virtual self-help therapy group to supplement other strategies employed within a multifaceted approach.

Despite technological, medical, and scientific advances in the field, an exhaustive, comprehensive study on singing and MPA that satisfies validity and reliability standards has not yet been conducted. The only related study that satisfied these requirements, the ICSOM study, pertained to orchestral musicians (see page 11). Additionally, discussions on viable techniques aimed at MPA reduction need to be more prevalent in the voice studio in addition to the normal curriculum. Moreover, undergraduate performance curricula should include specific content that addresses MPA and at the same time, satisfies the National Association of Schools of Music’s musician wellness requirements.\(^7\) Singers should no longer be left to their own devices concerning MPA management. The wealth of knowledge, and the relative ease in finding it, has facilitated our understanding. Singers and teachers must learn from the epidemiologic evolution of MPA in order to produce a mentally-sound singing approach. Historically, singers attempted to cope with MPA in ways found to be ineffective. These included the use of alcohol and other self-administered medications; prescribed or nonprescription drugs not specifically tailored to alleviate MPA symptoms, and drugs from the beta-blocker family found to have few benefits and many unwanted side effects for singers.

Despite what we currently know, compared to sixty years ago, there is still room to advance our understanding of how to cope with, predict, and treat MPA. Thanks to the numerous methods and measures explored, characteristics that predict and define MPA have been widely accepted in the field. Correlations between high trait anxiety in singers and MPA, as well as the characteristic effects MPA has on behavioral issues, psychological aspects, and somatic issues are widely accepted as truths in the MPA community. However, a majority of the MPA literature suggests that further research is necessary, especially research aimed at the issues facing singers, including the occupational stressors, the different voice types and personalities, and the somatic issues that set singers apart, such as relying on what could be anxiety-inducing feedback because of an inability to hear one’s voice when singing. Taking into account sample size, level of task mastery, and length of study, this author recommends an exhaustive, comprehensive study on the effectiveness of an MPA reduction regimen for singers to include these variables. Incorporating a multifaceted approach is of the utmost importance: methods and measures assessing all affected areas as well as subsequent treatment options should be included in the study. In addition, parallels between the fields of sports psychology—a longer-established and more well-funded field of research—and music psychology as it pertains to MPA and singing should also be explored. This research should not attempt to eliminate a singer’s MPA. Instead, it should focus on how to harness anxiety, which could lead to less apprehension to seek help, and in turn, better performances.

Starting a dialogue with the self is the first step in moving forward for an MPA sufferer. A singer in denial of his or her predicament must not avoid help. In doing so, it opens the door for further discussions with a voice teacher. If MPA symptoms persist, it is important for singers to seek professional help. CBT therapy techniques, yoga classes, advice from a nutritionist,
meditation, etc., can be combined in an effort to determine what works best for a particular singer, as Nagel emphasizes and advocates for the “one size does not fit all” approach.

A singer’s mental health and happiness can be compromised when the effects of MPA are left untreated, leading to a conundrum for a singer. That which makes them happy also causes anxiety. Left untreated, the effects of MPA can infiltrate every aspect of a singer’s life. This can lead to depression, or in extreme cases, quitting singing altogether. Because of the intense scrutiny and pressures in today’s classical singing environment, a strong psyche is required. Some singers do not possess the proper mental fortitude to deal with these pressures, and when the effects of MPA are added, they will fold. However, because of the wealth of knowledge afforded us on this topic, this can be avoided. Teachers should create an environment that is conducive to talking about a student’s MPA. Students should be aware of and willing to discuss their MPA. This is a very important first step. What follows is up to the sufferer and the particular team of professionals assembled, including the voice teacher, and should include multiple techniques to explore what works best for the individual.

Winston Churchill said, “There’s nothing to fear but fear itself!” Baroque singer, composer, and writer Pietro Tosi added, “By losing his fear, he may acquire an assurance, but not boldness. Assurance leads to a fortune, and in a singer, becomes a merit. On the contrary, the fearful is most unhappy…a timorous singer is unhappy, like a prodigal, who is miserably poor.”

Hopefully, the majority of experts who carry out more in-depth, singer-specific research studies, in doing so can produce a clearer, more consistent approach to treating MPA, leading to healthier and happier singers. Until then, the resources and literature provided offer a great starting point.

---

from which singers and teachers may begin a dialogue to address the mental components of singing.
Appendix 1
STAI (state portion)

SELF-EVALUATION QUESTIONNAIRE

(STAI Form Y-2)

Name________________________

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then make your selection by circling the appropriate number 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.

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<tr>
<th></th>
<th>Almost never</th>
<th>Sometimes</th>
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<th>Almost always</th>
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<tr>
<td>1. I feel pleasant</td>
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<td>2. I feel nervous and restless</td>
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<td>3. I feel satisfied with myself</td>
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<td>4. I wish I could be as happy as others seem to be</td>
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<tr>
<td>5. I feel like a failure</td>
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<td>6. I feel rested</td>
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<tr>
<td>7. I am “calm, cool and collected”</td>
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<td>8. I feel that difficulties are piling up so that I can’t overcome them</td>
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<td>11. I have disturbing thoughts</td>
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<td>12. I lack self-confidence</td>
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<td>13. I feel secure</td>
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<td>14. I make decisions easily</td>
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<td>15. I feel inadequate</td>
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<td>16. I am content</td>
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<tr>
<td>17. Some unimportant thought runs through my mind and bothers me</td>
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<td>4</td>
</tr>
<tr>
<td>18. I take disappointments so keenly that I can’t put them out of my mind</td>
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<td>3</td>
<td>4</td>
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<tr>
<td>19. I am a steady person</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>20. I get in a state of tension or turmoil as I think over my recent concerns</td>
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STAI (trait portion)

SELF-EVALUATION QUESTIONNAIRE

(STAI Form Y-2)

Name__________________________

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then make your selection by circling the appropriate number 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.

<table>
<thead>
<tr>
<th>Statement</th>
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Appendix 2

MPAQ items results

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor Loading</th>
<th>Item Communalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>I planned in advance exactly what I would do to recover if I were to become distracted by my own thoughts during the performance.</td>
<td>.80</td>
<td>.77</td>
</tr>
<tr>
<td>I planned in advance exactly how I would recover if I had a memory slip during the performance.</td>
<td>.71</td>
<td>.64</td>
</tr>
<tr>
<td>I planned in advance exactly how I would recover if I were to become too anxious at some point in the performance.</td>
<td>.66</td>
<td>.63</td>
</tr>
<tr>
<td>I planned in advance exactly how I would recover my concentration if I were to be distracted by some external disturbance during the performance.</td>
<td>.65</td>
<td>.65</td>
</tr>
<tr>
<td>I planned in advance exactly how I would recover if I were to lose confidence in my performing ability during a performance.</td>
<td>.56</td>
<td>.76</td>
</tr>
<tr>
<td>I planned in advance how to relax my muscles if they should tighten up during the performance.</td>
<td>.50</td>
<td>.59</td>
</tr>
</tbody>
</table>

**Factor 1: Planning to Cope with Anxiety Symptoms**

I considered losing physical control to be a terrible, embarrassing, or unprofessional thing to happen. | .70 | .61 |
I considered it terrible, embarrassing, or unprofessional to perform with overly tense muscles. | .67 | .58 |
I considered it terrible, embarrassing, or unprofessional to make technical mistakes during a performance. | .67 | .65 |
I considered memory slips to be a terrible, embarrassing, or unprofessional thing to happen. | .65 | .72 |
I considered becoming overly anxious to be a terrible, embarrassing, or unprofessional thing to happen. | .65 | .58 |
I considered it terrible, embarrassing, or unprofessional to have an unconvincing interpretation of the music. | .45 | .58 |

**Factor 3: Worry About Anxiety and Its Effects on Performance**

I worried about the possibility that I might lose physical control during the performance. | .84 | .78 |
I worried about my muscles tightening up during a performance. | .69 | .68 |
I planned in advance exactly what I would do to recover if I lost some physical control during the performance. | .63 | .75 |
I worried about the possibility that I might become too anxious during the performance. | .49 | .65 |

**Factor 4: Concern with the Reactions of Important Others**

I planned in advance exactly what I would do, think, or say if people close to me did not like my performance. | .70 | .64 |
I worried about the possibility that people close to me (e.g., my parents, teachers, colleagues, loved ones) might not like my performance. | .67 | .64 |
I worried about the possibility that the critics or others might speak unfavorably of my performance. | .62 | .56 |
I planned in advance exactly what I would do, think, or say if the critics or others spoke unfavorably of my performance. | .59 | .68 |

**Factor 5: Concern about Distraction in Self and Audience**

I worried about the possibility that during the performance the audience might appear to be restless or uninterested. | .76 | .67 |
I worried about the possibility that I might become distracted by external disturbances (e.g., someone coughing in the audience) | .67 | .63 |
I worried about the possibility that I might become distracted by my own thoughts and that this might interfere with the performance. | .55 | .72 |
I considered it terrible, embarrassing, or unprofessional to play and to have the audience appear to be restless or uninterested. | .53 | .58 |

---

Appendix 3

Opera Singers’ Survey

Please answer these questions as openly and honestly as possible.

<table>
<thead>
<tr>
<th>Your age:</th>
<th>height</th>
<th>weight</th>
<th>collar size</th>
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</thead>
<tbody>
<tr>
<td>Voice type (soprano, baritone etc.):</td>
<td></td>
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<tr>
<td>Status:</td>
<td>Amateur</td>
<td>part-time pro</td>
<td>fully pro</td>
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<tr>
<td>Chorus</td>
<td>principal</td>
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<tr>
<td>Years of experience:</td>
<td></td>
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</tr>
</tbody>
</table>

1. Do you suffer from stage fright or nervousness? (Tick one reply)
   - Not much
   - Somewhat
   - Quite a lot

2. Do your performances vary a great deal in quality from one occasion to the next?
   - No, generally much the same standard
   - Somewhat variable
   - Tremendous ups and downs

3. Do you believe that on your night you are as good as any singer in the world?
   - Yes
   - Doubtful
   - No

4. Do you revel in the applause at the end of a performance?
   - Not at all
   - To some extent
   - Definitely

5. How well do you get on with conductors, directors and fellow singers?
   - Quite easily
   - They sometimes irritate you
   - You are often having tiffs

6. Are you sexually attracted to the people you sing with?
   - Seldom ever
   - Sometimes
   - Frequently

7. Do you get involved in affairs with fellow artists?
   - No
   - Occasionally
   - Frequently

8. How determined are you to forward your operatic career?
   - Take it as it comes
   - Fairly ambitious
   - Determined to succeed at all costs

9. Do you think your talents are at present underrated?
   - Yes, very much so
   - Somewhat perhaps
   - Not really

---

10. Which of these composers do you most admire?

Mozart
Wagner
Verdi
Puccini

11. Have you ever missed your cue in an opera because you were not on stage in time?

Never
Once
More than once

12. How much do you value opera relative to other areas of your life? Compare the following in terms of their importance within your own life by putting the number “one” after that which you value most highly, “two” for second most important, and so on down to “seven” for the least valued.

Opera
Other types of music
Sex
Family
Religion
Sport
Travel

13. Personality: Please describe yourself in terms of each of the following adjective pairs by putting a circle around one of the numbers on the scale between them. For example, if you are generally calm pick a low number, and if generally emotional a high number. If you are about average on this trait choose an intermediate number. And so on for each pair of adjectives.

When you have done that, please think of any principal soprano you know fairly well and describe her personality in the same way. Then do the same for one mezzo-soprano, one contralto, one tenor, one baritone, and one bass. Please keep a particular singer in mind each time, even if you think they are not typical of their breed.

<table>
<thead>
<tr>
<th>Your Own Personality</th>
<th>Calm</th>
<th>Extravert</th>
<th>Gentle</th>
<th>Reliable</th>
<th>Dull</th>
<th>Modest</th>
<th>Amenable</th>
<th>Masculine</th>
<th>Asexual</th>
<th>Promiscuous</th>
<th>Attractive</th>
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Note: equivalent pages were provided for “a soprano you know well”, “a mezzo you know well”, and so on through contralto, tenor, baritone, bass, “a man you know well who is not a singer” and “a woman you know well who is not a singer.”
Appendix 4
Guided Imagery Exercise

This is an exercise through which I will guide you. Just follow the instructions on the tape, but remember that you have complete control over the exercise. Make yourself comfortable. Close your eyes. Allow your body to feel loose and comfortable. Take a deep breath, slowly . . . a deep breath. Again, take a slow, deep breath . . . breathing slowly and deeply. Continue to breathe slow. To help you concentrate on your breathing, count silently to yourself as you inhale, “in . . . one . . . two . . . ,” and as you exhale, “out . . . one . . . two . . . .” That’s it . . . , In . . . one . . . two . . . out . . . one . . . two . . . . [Repeat several times.]

Feel yourself relax as you breathe . . . Breathe out slowly . . . Concentrate on your breathing . . . slowly and deeply . . . . Breathe deeply.

. . . Breathing deeply will help you to feel more relaxed. Feel the air going into your lungs, out of your lungs. As you breathe out, you begin to feel more and more relaxed. Tension is draining from your body. Continue breathing slowly. Continue in and out . . . breathing slowly . . . and continue to listen to my voice.

Now I want you to continue to focus on relaxing and I am going to describe some images. These will be images of you as you prepare for your performance. Experience the images with all of your senses. Sense yourself there . . . during your practice. I want you to picture or sense yourself in the scene and feel all the sensations that I describe. You are experiencing the scene. I want you to create a mental picture in your mind. See the images in as much detail as possible.

See them from inside your body. Involve all of your senses. See . . . touch . . . hear . . . feel . . . and smell . . . . Allow yourself to explore the scene. You are in the scene as if it were real.

Now picture yourself just prior to your performance. . . . Let the tension go from your body, breathe slowly, and remember how prepared you are for the performance. You are aware at this moment of all the practice that you have accomplished, and you remember how well you performed in your practice sessions. Breathe deeply . . . slowly. . . . You’re stretching your arms and fingers . . . letting the tension flow from your body.

You’re picturing one of your practices... feeling so relaxed and in control... the smell of the room where you practice feels so familiar to you. ... What do you sense is there? Feel what is in that room. As you practice you feel so in control of the music. ... You know the music... you’ve mastered the piece... the notes easily surface in your mind. ... Breathe deeply. 

Now visualize or sense yourself backstage at one of your performances. You can hear the audience... they sound cheerful as you look from behind the stage. ... They seem very friendly and happy to be at this performance. ... You’re feeling confident and prepared for this performance and you feel very pleased to be relating your talent to others. You are aware that you are the one at this performance who is the most familiar with the musical score. ... You know the piece better than anyone in the audience. The audience is eager to hear your performance... and it is an opportunity to share your talent.

Breathe deeply. ... You’re feeling warm and comfortable. ... Now visualize yourself approaching the audience. ... You’re smiling and you feel like you want to perform for this audience. ... You see your instrument... the sight of it feels soothing as its shape and contours are so familiar to you. As you touch your instrument it feels so comfortable and you feel content in its presence. ... It’s like an old friend to you. [omit for vocalists.] Remember that you are in control... you are controlling the performance. You know your instrument (voice) well, and it feels good to touch [omit for voice], to feel. It is the most familiar object to you right now. ... You have a relationship with your instrument (voice)... you know it more intimately than anyone... and it’s a positive relationship... very positive. ... You feel “at one” when you are with your instrument (voice)... and you don’t have to think of the parts, or your fingers... it’s automatic. ... You react automatically when you play your instrument (sing)... you know it so well.

You’re feeling quite comfortable as you take your place in front of the audience. The silence is soothing to you as you can collect your thoughts. ... Take a deep breath... Slowly. ... You look at the audience and you think of the musical piece. ... You know it well... and you feel ready. ... You are pleased that your practices went well... you now have this opportunity to display your talent... and you have prepared well and feel in control of the music. ... The timing... the score... it’s all so familiar.

Your touch with the instrument or sense of your voice sends the
music out to the audience. . . . It’s a beautiful sound . . . the timing is right . . . you don’t think of each note . . . it’s automatic . . . it feels like it is flowing from you. . . . Not just your instrument (voice) . . . but the music is coming from you and your instrument (voice) as one . . . it sounds so familiar. . . . You forget about the audience . . . just the beautiful sounds of the music fill your ears. . . . It sounds as you know it . . . it’s automatic . . . and you are allowing yourself just to go with the performance. . . . It feels good . . . to play (sing) . . . you enjoy it as a positive experience . . . it just happens . . . the music just flows. . . . It’s exciting to feel and to hear that piece . . . that you know so well . . . it’s so beautiful. . . . Music is so magical . . . it’s such a positive experience for the ears . . . a gift to have music. . . . Just enjoy the positive feeling . . . enjoy the moment. . . . Now you hear the last notes of the piece . . . it ends . . . it still feels positive . . . the performance feels like it went well . . . and you feel so good with yourself.

. . . The sound stops . . . a second of silence . . . and then applause . . . and the audience is smiling . . . and you feel the tingling that always accompanies that positive feeling when you finish . . . the satisfaction that is mixed with pleasure that the audience enjoyed your music . . . it all went well . . . they loved the music. . . . You feel proud . . . and relaxed . . . and you demonstrate your own appreciation with a smile. . . . You glance at the audience . . . such a friendly audience . . . you are happy with your performance . . . and you’re feeling so positive. . . .

Now you return to your spot behind the stage . . . you walk with confidence . . . and the pleasure feels warm . . . so familiar . . . you are at peace with yourself. . . .

Now I am going to begin to count slowly from one to five. . . . On the count of one begin to move your legs and feet, on three move your arms, and on the count of four move your head and neck. . . .

On the count of five open your eyes. OK, now begin . . . one . . . begin to move your legs . . . two . . . three . . . four . . . five. . . . Now allow your body to move. Move your arms slowly. . . . Take a deep breath and allow your body to become aware . . . again of your surroundings . . . continue to breathe slowly and deeply . . . again, you become aware of your surroundings. . . . You feel so relaxed . . . allow yourself to slowly become in touch with your surroundings.
Appendix 5

KENNY MUSIC PERFORMANCE ANXIETY INVENTORY (K-MPAI)

Below are some statements about how you feel generally and how you feel before or during a performance. Please circle one number to indicate how much you agree or disagree with each statement.

<table>
<thead>
<tr>
<th></th>
<th>Sometimes I feel depressed without knowing why.</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>I find it easy to trust others.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
</tr>
<tr>
<td>3</td>
<td>I rarely feel in control of my life.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>I often find it difficult to work up the energy to do things.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Excessive worrying is a characteristic of my family.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>I often feel that life has not much to offer me.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>The harder I work in preparation for a concert, the more likely I am to make a serious mistake.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>I find it difficult to depend on others.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>My parents were mostly responsive to my needs.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
</tr>
<tr>
<td>10</td>
<td>I never know before a concert whether I will perform well.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>I often feel that I am not worth much as a person.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>During a performance I find myself thinking about whether I’ll even get through it.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>Thinking about the evaluation I may get interferes with my performance.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>Even in the most stressful performance situations, I am confident that I will perform well.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
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</tbody>
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Dianna T. Kenny, “Music Performance Anxiety and Occupational Stress Amongst Opera Chorus Artists and Their Relationship with State and Trait Anxiety and Perfectionism,” *Journal of Anxiety Disorders* 18, no. 6 (June 2004): 774-775.
<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Scale</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>I am often concerned about a negative reaction from the audience</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Sometimes I feel anxious for no particular reason</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>From the beginning of my music studies, I remember being anxious about performing</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>I worry that one bad performance will ruin my career</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>My parents almost always listened to me</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>20</td>
<td>I give up worthwhile performance opportunities due to anxiety</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>As a child, I often felt sad</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>I often prepare for a concert with a sense of dread and impending disaster</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>I often feel that I have nothing to look forward to</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>My parents encouraged me to try new things</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>25</td>
<td>I worry so much before a performance, I cannot sleep</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>26</td>
<td>My memory is usually very reliable</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-1</td>
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</tbody>
</table>
I asked Chrissy to sit comfortably in her chair and to place her hands in front of her, palms up. I then asked her to indicate to me in which hand was the "part" of her that was frightened of performing the high notes. Chrissy thought for only a split second then smiled and said, "hmmm well it's in this hand" (waving her left hand). "...and in this hand...?" I asked touching her right palm. "Well that's the part of that is singing all those high notes so beautifully" she said.

I then asked Chrissy to take a moment and ask the part of her that was singing the high notes what its intention was. She answered almost immediately:

Chrissy: “to show what I can do.”
Me: “and when you have that... what else is there?”
Chrissy: “Happiness”
Me: “And when you are showing what you can do and you have happiness, what else is there?”
Chrissy: “Joy!” (she was beaming by this time)
Me: “and beyond that...?”
Chrissy: “it’s a completeness and wholeness.”

By asking these questions I was asking Chrissy’s unconscious mind to find the highest intention of this part. Next I would ask the same of the other “part” in her left hand. What I would be looking and listening for was for some kind of “mutual” higher intention of both parts…a sort of higher common ground where both parts can move into alignment. I touched Chrissy’s left palm and asked her to ask the part that was nervous of the high notes what its intention was.

Chrissy: “Safety...it stops me from being embarrassed”
Me: “and when you have that...what else?”
Chrissy: “Comfort.”
Me: “and with safety and comfort...what else do you have?”
Chrissy: “protection and ease.”
Me: “and what is beyond that?”
Chrissy: “A sense of wholeness.”

We had reached a place where both parts had reached a mutual higher intention.

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By this time in the process Chrissy was in trance (this is quite usual when accessing these inner thoughts and feelings). I asked Chrissy’s unconscious mind to bring these two parts together by bringing her hands together in her own time. I continued to guide Chrissy verbally using much of the positive language she had used during the session. I noted that Chrissy’s hands began to move together slowly and in a jerky fashion, which is typical of unconscious movement and exactly what I expected to see. As Chrissy’s hand came together in front of her I suggested that she bring this feeling into herself, back into her body, integrating and consolidating these new learnings. I continued the trance until Chrissy’s hands were together and over her heart. I then brought Chrissy back out of trance and asked her how she felt different now.

She smiled a broad smile and said, “well now I’m ready to wholly sing those high notes with complete joy!”
Bibliography

Alexander, Frederick M. *The Universal Constant in Living*. London: Chaterson Ltd, 1941.


