

MUSIC PERFORMANCE ANXIETY THERAPIES:  
A REVIEW OF THE LITERATURE

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DISSERTATION

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## ABSTRACT

Music Performance Anxiety (MPA) is a widespread epidemic in the world of instrumental and vocal performance. While traditional music education provides a solid training in terms of technical and interpretive execution, attention is rarely given to managing the very symptoms that may challenge one's ability to perform at an optimum level. As both collegiate study in music performance and the process of acquiring employment as a performer often require the presentation of skill in an evaluative setting, it is imperative that more light be shed on the management of Music Performance Anxiety. Equipping the next generation of musicians with the skills to handle fear, adrenaline, tension, and other threats to their concentration in demanding situations may not only improve the quality of the performing arts henceforward, but also their success and satisfaction onstage.

This dissertation highlights findings from an extensive review of the current literature and research on the methods by which Music Performance Anxiety has been and is currently being treated among amateur musicians, conservatory students, and professional instrumentalists. Cognitive-Behavioral Therapies (e.g., Rational Emotive Behavioral Therapy, Meditation, Electromyographic Biofeedback, Progressive Muscular Relaxation, and Alexander Technique); Expressive Art Therapies (e.g., Guide Imagery

and Music Therapy); Exposure Therapies (e.g., Systematic Desensitization); and pharmacological treatments (e.g., beta blockers, benzodiazepines) will be discussed, as well as implications for future research and current music educators.

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## TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION.....	1
CHAPTER 2: PREDICTORS OF MUSIC PERFORMANCE ANXIETY.....	15
CHAPTER 3: COGNITIVE-BEHAVIORAL THERAPIES.....	24
CHAPTER 4: EXPRESSIVE ART THERAPIES.....	56
CHAPTER 5: EXPOSURE THERAPIES.....	68
CHAPTER 6: MEDICINAL TREATMENTS.....	75
CHAPTER 7: A REVIEW OF SELF-HELP PUBLICATIONS.....	88
CHAPTER 8: CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH.....	93
REFERENCES.....	102

## CHAPTER ONE

### *Introduction*

“To rise above the nerves, distractions, and stressful circumstances of a performance,

to feel as though nothing can get to you, and when the moment of truth arrives,

play the way you know you can.

To be, in a word, *bulletproof.*”

*-Noa Kageyama, Violinist and Performance Psychologist*

In the classical world, the practice of prioritizing accuracy over interpretive content has been compromising the concert experience of even the most acclaimed artists for centuries. Today, the fastidious tradition persists, worsened by the superhuman expectations set by the modern audience and an equally narrow, viciously competitive job market. What some naively dismiss as “butterflies” is, to many with Music Performance Anxiety, more comparable to barracudas; the somatic and psychological manifestations of anxiety in the performing musician can disrupt, compromise, or even lead to the premature end of promising careers.

The management of Music Performance Anxiety is a significant issue in the music community, yet it has to date not received sufficient attention. In an effort to prevent further distraction from individual musical values and to ensure the preservation of artistic vision in performance, this dissertation is intended to provide an extensive literature review of the current breadth of research evaluating treatments for Music Performance Anxiety. Because hundreds of studies have been conducted to investigate general anxiety therapies, this project is intended to serve as a reference others may look to for information and assistance. Many studies on the effectiveness of treatments for various performance anxieties have been documented, including that of public speaking (Kelly & Keaten, 2000), sports performance anxiety (Martin, Mortiz, & Hall, 1999), and test anxiety (Jones & Petruzzi, 1995). Far less research is published on the application of these treatments specifically to Music Performance Anxiety (McGinnis, 2005).

### *The Problem*

Music Performance Anxiety (MPA) can be defined as “the experience of persisting, distressful apprehension about and/or actual impairment of, performance skills in a public context, to a degree unwarranted given the individual’s aptitude, training, and level of preparation” (Kenny, 2008). Overall, research suggests that approximately 15% to 25% of musicians suffer from Music Performance Anxiety;

however, most performers regard the impairment as an indication of significant personal shortcoming, and consequently leave the symptoms untreated (McGinnis, 2005).

Though “stage fright” is a term often used interchangeably with Music Performance Anxiety, the disorder is much more complex than the nickname suggests. Stage fright refers to the state of nervousness prior to or during an appearance before an audience and affects individuals across numerous disciplines, from seasoned athletes to first-time public speakers. In most cases, stage fright is a natural phenomenon and does not require treatment; when the symptoms escalate to such a degree that performance quality is compromised, however, the more appropriate designation is performance anxiety (see Brugues, 2001).

Perhaps one of the most troubling components of Music Performance Anxiety is that it is experienced regardless of adequate preparation (Gabbard, 1979, p. 383). The degree to which individuals suffer from Music Performance Anxiety, then, appears less related to preparation and more to their ability to manage heightened emotional states of apprehension (also referred to state and trait anxieties). The natural experience of nervousness is simply an escalated state of arousal where the body naturally adjusts to a threatening or challenging situation in a manner that may improve performance. According to the Yerkes-Dodson Law (originated by psychologists Robert M. Yerkes and John Dillingham Dodson in 1908), an organism’s performance can be improved if it

is aroused in some manner, but if arousal increases too much, performance suffers.

Oxendine (1980) offers three generalizations on arousal in athletic performance, which can be easily applied to the performing musician:

1. A high level of arousal is essential for optimal performance in gross motor activities involving strength, endurance, and speed;
2. A high level of arousal interferes with performances involving complex skills, fine muscle movement, coordination, steadiness and general concentration;
3. A slightly above-average level of arousal is preferable to a normal or sub-normal arousal state for all motor tasks. (Oxendine, 1980, pp.104-105)

Because high pressure performance situations commonly inspire arousal states better suited for physically demanding activities, the anticipation-induced excitement experienced before a performance by most musicians often renders unfavorable results. According to Brontons (1994), Ely (1991), and Salmon (1991), four different manifestations of performance anxiety may occur independently or in conjunction with one another when normal states of arousal are exceeded:

1. Physiological changes that take place within the body, including: increased heart rate, sweating, shortness of breath, shaking, numb fingers, clammy hands, dry mouth, upset stomach, headache, dizziness, nausea, and diarrhea.

2. Psychological/emotional conditions, such as intensified apprehension, fear of failure, irritability, and panic.
3. Cognitive problems, such as loss of confidence, lack of concentration because of interfering thoughts or concerns about the performing situation, memory lapses, and interferences in the creative process (Hingley, 1985).
4. Behavioral changes, such as dry mouth, neck and shoulder lifting, trembling of knees and hands, and muscle tension.

Psychological conditions of anxiety frequently result in physiological symptoms. The natural human tendency to shake, perspire, or hyperventilate in dangerous situations is interestingly relative to musicians who view performance opportunities as similar threats. Additionally, because of the numerous hours dedicated to mechanizing complicated motor skills in the anticipation of a performance, musicians (and other performing artists, for that matter) may experience what Kaplan (1969) refers to as “blocking” and “depersonalization.” Blocking refers to the fear of losing technical control over diligently rehearsed motor functions or of artistic expression, and depersonalization is the sensation of observing one’s functioning self “off at a distance operating mechanically before an audience (p. 65).” Experiencing and acknowledging blocking and depersonalization as they occur only perpetuate the sensations, suggests

Plott (1986), and the physiological expressions of anxiety that accompany their prolongation only give the observing self more to scrutinize (p. 6).

Performance anxiety in the arts is not isolated to environments in which a gathered audience is present. Though anxiety may increase in public performances, it may also be very present in lessons, rehearsals, and individual practice (Fogel, 1982). To those with performance anxiety, the audience is synonymous with evaluation; therefore, any situation in which the performer is being assessed or judged may serve as a triggering factor for anxiety symptoms. It is not unusual to diagnose performance anxiety in conjunction with social phobia or other emotional conditions; nearly one-third of the reported cases of Music Performance Anxiety are influenced by an already present anxiety disorder (Sanderson, DiNardo, Rapee & Barlow, 1990). As those with social phobia typically find their normal state of apprehension intensified by judgmental and isolating environments, it is unsurprising that the diagnostic requirements for Music Performance Anxiety parallel the diagnostic criteria of social phobia. Social phobia, as well as perfectionism, are discussed along with other predicting factors of performance anxiety in Chapter Two, as well as in the Rational Emotive Behavioral Therapy discussion in Chapter Three.

## *Rationale*

There has been a long standing stigma attached to musicians that from depression, substance abuse, and general suffering spring the most artistic individuals (Schou, 1979). Along with the general discomfort associated with mental health in today's society, such misconceptions may discourage musicians from seeking treatment for their anxiety issues. Furthermore, the attention of most musicians is on their technical improvement, and anything that costs time in the practice room is often met with some resistance (Brandfonbrener, 2009).

If left untreated, Music Performance Anxiety for the practicing professional musician could lead to the development of various medical and psychological symptoms, including a more general anxiety disorder or depression. Consequentially, some turn to maladaptive coping behaviors such as abuse of beta blockers (Harris, 2001; Steptoe, 1989; Wesner, et. al., 1990), alcohol, and illegal substances (Raeburn, et. al., 2000). Park (2010) collected cross-sectional data from a sample of 230 young adult classical musicians between the ages of 18 and 35 who had studied music at an intensive professional institution. Results found that high levels of Music Performance Anxiety were positively correlated with total scores of substance used in an effort to cope with Music Performance Anxiety. In contrast, high levels of Music Performance Anxiety were negatively correlated with high scores in the maintenance of a health-promoting lifestyle. Park comments further on the risk of highly anxious individuals

with unhealthy coping patterns influencing others, especially in the case of prescription drugs. For this reason, he writes, these issues need to be addressed more actively in music schools and communities.

Music Performance Anxiety serves as unique threat to an individual's musical purpose, as even making an effort to lessen the physiological manifestations of anxiety mid-performance undoubtedly distracts the individual from their artistic intent, something Fogel refers to as defensive playing versus creative playing. He comments:

Performance anxiety thus tends to de-automatize performance, as the player reverts to a more self-conscious, laborious style of playing... If the performer attributes some performance decrement to his/her nervousness or stage fright, this insight will not necessarily be of much help. Deliberate (and anxious) efforts to reduce tension before, much less during a concert often fail, and they further deflect the victim's effort and attention from any larger musical values. (p. 369)

Currently, Cognitive-Behavioral Therapies are the most prevalent in the amount of research and success rate among study participants, presumably due to its effectiveness in redirecting the destructive thought patterns that typically cause maladaptive behavior. Furthermore, in successfully addressing the psychological causes for anxiety, physical issues such as muscle tension and tremors also subside as new, more positive behavioral structures are espoused.

Cognitive-Behavioral Therapies will be considered in the following literature review, as well as expressive art therapies, and exposure therapies. Pharmacological solutions will also be discussed, with the primary focus being the beta blocking drugs (Inderal, Nadolol, Oxprenolol, and Propranolol) and benzodiazepines. Taking into account the staggering number of professional musicians reportedly taking beta blockers to ease the symptoms of performance anxiety, experimental studies evaluating the effectiveness of these and other drugs will also be explored.

### *Glossary of Therapies and Related Terms*

As a precursor to the review, the following paragraphs briefly outline the therapies to be evaluated in the forthcoming chapters. Each description includes the therapy's delineation as either a Cognitive-Behavioral or pharmacological treatment, as well as a general statement regarding their therapeutic objectives.

The *Alexander Technique* is a method of kinesthetic education in which a new postural model is associated with verbal instructions and habits of tension are challenged with intentionally directed action or inhibition. The method stresses economy of effort and the balanced management of tension, both of which contribute to optimal physical function (Valentine, et. al. 1995). Alexander Technique is closely related to *autogenic therapy*, a therapeutic system involving body awareness and relaxation exercises. The exercises consist of simple formulas repeated silently, focusing on the

physical sensations associated with relaxing different parts of the body (Sisterhen, 2005, p. 43)

*Beta blockers* are tranquilizers commonly used in the medicinal treatment for stage fright to ameliorate the aversive physiological symptoms of performance anxiety such as palpitations, hyperventilation, tremor, and nausea (Hingley, 1985).

*Electromyographic Biofeedback* offers a means by which to measure a subject's quantifiable bodily functions such as blood pressure, heart rate, skin temperature, sweat gland activity, and muscle tension by strategically placed sensors and instant on screen readings (Levee, Cohen, & Rickles, 1976). Originated by experimental psychologist Neal Miller in the earlier 1960's, biofeedback allows subjects to identify what triggering thoughts or emotions influence their personal physical responses (Robbins, 2000, p. 76).

*Exposure Therapy* is behavioral therapy involving the subjection to the feared object or context without any danger in order to overcome anxiety (Myers and Davis, 2007, pp. 141-142). Exposure Therapy is similar to *Systematic Desensitization*, a treatment for phobias in which the patient is exposed to progressively more anxiety-provoking stimuli while being coached in maintaining a state of relaxation, and *Counterconditioning*, the method by which a negative response to stimulus is replaced with a positive one.

*Guided Imagery Therapy* is psychotherapeutic method employing a client's own internal imagery to uncover and resolve emotional conflicts (Chinen & Battista, 1996). It

may also be used in place of or paired with Exposure Therapy or in-vivo desensitization to lessen the possibility of inflicting further trauma to the subject. *Mental Practice* is a therapy relative to Guided Imagery but is more self-directed. It is specialized form of imagery involving greater attention to detail, such as mentally simulating the physical execution of a complex task.

*Hypnotherapy.* The term “hypnosis” and “hypnotism” are both derived from “neuro-hypnotism” (or, “nervous sleep”) as originated by surgeon James Braid in 1841. According to Braid (1843), hypnotism is a state of physical relaxation accompanied and induced by mental concentration. A more recent definition as developed by the American Psychological Association describes hypnosis as a procedure “used to encourage and evaluate responses to suggestions for changes in subjective experience, alterations in perception, sensation, emotion, thought, or behavior” (Gerrig & Zimbardo, 2002).

*Meditation* is a form of consciousness alteration designed to enhance self-knowledge and well-being through reduced self-awareness (Gerrig & Zimbardo, 2002).

*Music Therapy* is a therapeutic approach in which music is used to address physical, emotional, cognitive, and social needs of an individual (“Definitions and quotes,” American Music Therapy Association, 2011).

*Progressive Muscular Relaxation (PMR)* is a technique developed by Edmund Jacobson (1929) that requires the tensing and subsequent relaxation of individual muscles so that tension can be better detected and eliminated by the individual.

*Rational Emotive Behavioral Therapy* is a form of cognitive restructuring that involves the interruption and subsequent replacement of negative or irrational thought patterns with more positive, grounded perspective. Rational Emotive Behavioral therapy is closely tied to *Schema Therapy*, a therapeutic combination of Cognitive Therapy, Behavior Therapy, Experiential, Interpersonal and Psychoanalytic therapies into one synthesized model to address self-defeating patterns that are typically established in childhood. Both Rational Emotive Behavioral Therapy and Schema Therapy focus centrally on *Self-Talk*, the internal conversation that influences how an individual feels and behaves.

*Relaxation training.* Relaxation training and relaxation therapies focus on reducing muscle tension and the somatic symptoms of anxiety. Therapists reduce subjective anxiety by targeting many physiological processes, including heart rate, blood pressure, respiration rate, and muscle tension (Bernstein & Borkovec, 1973). Relaxation training involves the following:

1. Distinguishing a state of tension from a state of relaxation;
2. Detecting early signs of tension and changing behavior before a spiral of tension has developed;

3. Acquiring techniques for facilitating relaxation and learning to conduct all activities with less tension.

By completing an extensive, objective survey of the advantages and disadvantages of known Music Performance Anxiety therapies, it is my hope that this document will help to inspire future research on Music Performance Anxiety, in addition to offering a valuable reference for musicians, music teachers, and performing artists currently affected by its symptoms. Before therapies are discussed, predicting factors or predispositions for Music Performance Anxiety, including perfectionism, social phobia, family dynamics, and unrealistic audience standards are addressed in Chapter Two. Chapter Three focuses on Cognitive-Behavioral Therapies, including rational-emotive behavioral therapy, Progressive Muscular Relaxation, Meditation, Electromyographic Biofeedback, Cue-Controlled Relaxation, Alexander Technique, and Hypnotherapy. Research relating to the negative thought patterns and habits of performing musicians will be emphasized.

Chapter Four assesses the research that exists thus far on expressive art therapies, including both Music Therapy and Guided Imagery. Though substantial scholarly investigation is not yet present on the subject, what investigative research has been published is worth considering and is therefore discussed here.

Chapter Five covers Exposure Therapy and its more specialized facet, Systematic Desensitization. Exposure Therapy is a long implemented route of treatment and will be evaluated for ethical antiquation as applied to the performing musician today. Similarly, Chapter Six discusses the effectiveness and ethics of pharmacological treatments for Music Performance Anxiety, including both beta blockers and benzodiazepines.

Chapter Seven reviews self-help books by sports psychologists and professional musicians on performance anxiety. Works that have garnered some critical attention will be discussed, including publications by Kato Havas, Timothy Gallwey, Jon Gorrie, and Don Greene.

The review concludes in Chapter Eight with suggestions for music education and further research projects on the treatment of Music Performance Anxiety.

CHAPTER TWO  
*Predictors of  
Music Performance Anxiety*

Violinist Kato Havas first investigated what initiates the onset of Music Performance Anxiety in her publication *Stage Fright: Its Causes and Cures with Special Reference to Violin Playing* (Havas, 1973). Using violin pedagogy as an example, Havas cited the detrimental repercussions of prioritizing flawless technical execution and critical approval in young musicians, because in doing so, the positive aspect of music making may be at risk. She writes:

With the accumulation of technical difficulties, examinations, international competitions, the positive side of music making, the overriding desire to communicate soon gives way to anxieties and fears. “Will I succeed at the audition?” “Will the great man teach me?” “Will I win the first prize and thus become known overnight?” It is almost inevitable that by the time a student reaches maturity, the importance and constant evaluation of his own self becomes the dominant factors in his career-- and stops him from fulfilling his

potential of the “right divine.” (p. 9)

While performance preparation, mode of performance, and audience demographics may have an impact on one’s level of performance anxiety, the personal contributions of disposition, family dynamics, and mental health have shown to be more influential (Brontons, 1994; Cox & Kenardy, 1993; Eckhardt et al., 1970; Eckhardt & Lüdemann, 1974; Fischbein et al., 1988; Steptoe, 1982; Kemenade van et al., 1995). In addition to demanding pedagogical expectations, unhealthy familial experiences in early childhood such as domestic turmoil have also shown to be predictors of Music Performance Anxiety in adulthood (Nagel, 1988; Nagel, 1990). According to Adler’s (1964) theories of inferiority, the individual’s self-perception is rooted in the family unit, and disparities between their perceptions and self-image result in feelings of inferiority.

At a normal level, claims Adler, inferiority encourages the individual to assume a certain amount of bravery in pursuing his or her personal prosperity. In the emotionally healthy, this summons the amount of nervousness necessary for an engaging, energetic performance, while in the discouraged, apprehension is more likely a reflection of the individual’s lack of confidence in handling performance pressure or in their ability to receive favorable response. Beliefs of this nature may give way to the destructive attitudes present in adult Music Performance Anxiety (Gabbard, 1979; Nagel, 1990; Plaut, 1990).

Cognitive-Behavioral psychology theorizes that the sources of Music Performance Anxiety are largely attributed to an individual's recurring thought patterns and the cognitive attitudes they frequently assume. Individuals who regularly rehearse negative thoughts and discouraging self-statements such as "I must be approved by the audience in order to feel good," debilitate self-confidence and may render hours of preparation useless. Tobacyck and Downs (1986) found that music students who believed the outcome of a performance jury examination would result in a change in self-perception subsequently reported the most anxiety as the date of their juries approached. Similarly, Dews and Williams (1989) discovered that from a pool of student musicians almost 80% of the subjects reported that their self-esteem was significantly influenced by how well they performed. When under evaluation and subject to audience scrutiny, self-esteem and self-validation arise as issues that tell of deeper conflicts related to object idealization, separation, narcissism, and exhibitionism (Brontons, 1994, p. 27). Furthermore, individuals who rely heavily on others' opinions and approval compared to those with stronger senses of self-identity may experience greater levels of Music Performance Anxiety (Nagel, 1988).

Aspects of Adler's character sketch of the inferior individual is comparative to the American Psychological Association's diagnostic criteria for social phobia. First, the individual experiences a marked fear of social of performance situations in which they might be embarrassed or humiliated, and second, the subsequent anxiety is inevitably

produced by anticipated or actual performance. For any performer, the stage offers the possibility of embarrassment as readily as it does the possibility of artistic triumph; for those who regularly rehearse pessimistic thought patterns, however, the former is a more likely assumed outcome. While the socially phobic individual may recognize that their fear is excessive, that doesn't mean to imply that the courage they were originally lacking is subsequently channeled; on the contrary, the individual typically abstains from the feared situation all together, or when unavoidable, endures it with extreme distress (Brugues, 2001).

For some musicians, the extremity of this fear can be deterred with less individual exposure. For example, in comparing nearly 800 adolescent boys' anxiety in test, sports, and music, Simon and Martens (1979) found the greatest levels of anxiety in boys performing solo on an instrument. The same is true for some professional musicians: in a study of 70 elite professional orchestral musicians by Rife, Blumberg, Lapidus and Shnek (2000), results indicated a significant difference in the levels of Music Performance Anxiety found between musicians who performed frequent solo passages and those who played mostly as a section. Instrumentalists that are often featured individually such as harp, trumpet, keyboard, flute, and French horn report to be more severely impaired by Music Performance Anxiety than other instrumentalists (Middlestadt, 1990; Middlestadt & Fishbein, 1988).

Audience size and performance environment may also influence the extent to which one experiences stage fright (LeBlanc, Jin, Obert & Sivola, 1997). Music Performance Anxiety also increases based on audience demographics and perceived importance of the performance, especially if the performance's outcome could render undesirable ramifications. Of all the performance settings in a study by Steptoe (1982), including a lesson, dress rehearsal, public performance, audition, and practice in private, young classical and opera singers ranked the quality of their performance in an audition being the worst.

Concurrent with Steptoe's findings, Brontons (1994) also found that the peak arousal and performance quality generally coincides with basic public performance. In a pretest-posttest control group experimental model, Brontons set out to determine whether there was a difference in the physiological and psychological responses in anxiety levels between non-jury and jury performance conditions. Data suggested significant increases in heart rate and STAI scores between jury and non-jury conditions, but no such significance was found between either the open or double-blind jury settings. Inferences could then be made that a situation of consequence, regardless of the situational specifics, could be a triggering factor in stimulating Music Performance Anxiety.

Similarly, Ryan (1998) found that when comparing the heart rates of subjects in both a piano lesson and a recital performance condition, notable increases in heart rate

between the lesson setting and recital performance were evidenced and, more specifically, between the moments before performing (sitting stage side, walking onstage) and physically playing the recital work. Correlations between self-esteem (particularly social self-esteem) and both state and trait anxiety were revealed, with many of the subjects (17 of the 22) reporting a fear of making mistakes in front of people as the primary cause of their performance anxiety.

The desire to avoid unfavorable evaluation fuels the issue of perfectionism, a personal attribute whose benefits in the practice room rarely outweigh the catastrophe it influences onstage. As classical musicians rarely deter from the written score to improvise and because they are expected to play free of inaccuracies, many researchers theorize that musicians suffer from Music Performance Anxiety due to the exertion of too much effort (Nagel, 1990). Or, quite the contrary, they may be overwhelmed by the caliber success requires them to maintain and therefore avoid it (Nagel, 1990). In this manner, Music Performance Anxiety becomes a defense mechanism to purposely counteract the development of one's career. Additionally, excess physical effort leads to coordination issues that challenge the dependability of a musician's performance in a stressful situation (Havas, 1973; James, 1988; Nagel, 1990), and may inspire the habit of catastrophizing, a behavior closely related to error count in its emphasis on flawlessness and the disastrous consequences it anticipates should that standard not be upheld.

In conjunction with ruthless competition and the constant subjection to evaluation, it comes as no surprise that musicians experience more job related stress and tend to be more afflicted by performance anxiety than those in other professions. Large percentages of both professional classical instrumentalists and vocalists have reported performance anxiety severe enough to interfere with both their careers and personal lives (James, 1998; Kemenade, 1995), and some have even turned to alcohol or drug abuse in attempt to cope with the symptoms (Brugues, 2001).

Interestingly, however, some musicians with high levels of apprehension and nervousness related to performing tend to avoid coping strategies that may help alleviate their anxiety (Lehrer, Goldman, & Strommen, 1990). Considering the opprobrium often associated with mental and emotional disturbances, perhaps this avoidance behavior could be best ascribed to the discomfort posed by discussing such issues. As previously mentioned, some musicians view performance anxiety as an indication of personal weakness or, as Park (2010) cites, a qualifier of “bad musicianship” (p. 87). Participants in Park’s study agreed that, although stage nerves seem to be a natural occurrence in many performers, the stigma of Music Performance Anxiety persists. One commented:

I don’t think MPA [Music Performance Anxiety] is formally addressed in the curriculum within a conservatory environment. It is as if there is a certain stigma about suggesting that there is some weakness in a person as a performer or

musician if they feel affected by it. So much of the pre-performance aspect is left in the hands of the individual. (p. 87)

Another of Park's (2010) participants attributed the problem's pertinacity to a lack of teacher and mentor intervention, concluding that the issue of performance anxiety was simply not something administrations wanted to bother themselves with, or acknowledge it as being an issue worthy of their attention. Given the competitive nature of the field, some music teachers and professors might simply consider Music Performance Anxiety a necessary component of the evolutionary applicable "survival of the fittest," by which those who are most capable of success will naturally adjust their mentalities to the pressure and demands of the profession. Other music faculty may have been exposed to high-pressure performance situations so often and at such an early age that the idea of inferiority-based anxiety has become somewhat foreign. Those musicians with longer performance history tend to report less anxiety than those with less experience (Steptoe & Fidler, 1987; Wolfe, 1989).

In any case, the prioritization of equipping music majors with performance skills is an educational mission on which conservatories are founded, and therefore anxiety management should be more highly emphasized. As another participant in Park's (2010) study suggested, the inclusion of specialized counselors on the staff of music

institutions solely for the sake of performance anxiety counseling would be a valuable means of ensuring each student's potential is rightfully realized.

Since the physiological symptoms of anxiety are initially triggered by psychological upset, therapies based on cognitive and behavioral restructuring constitute an appropriate starting point in the discussion of available Music Performance Anxiety treatments. The following chapter outlines the therapeutic approaches that focus on counteracting and eliminating detrimental thought patterns and behaviors that may be the most significant factors in identifying and treating Music Performance Anxiety, social phobia, or a combination of the two.

## CHAPTER THREE

### *Cognitive-Behavioral Therapies*

The goal of Cognitive-Behavioral Therapy (CBT) is to address dysfunctional emotions, behaviors, and cognitions through a goal-oriented, systematic therapeutic procedure. An increasing interest in the patterns of thought as determinants of problematic behavior has inspired the development of Cognitive-Behavioral interventions designed to change faulty styles of thinking (Kendrick et. al., 1982). It is a psychotherapeutic approach (also referred to as a “talking therapy”), and has evidenced itself as more effective in treating a variety of issues than traditional communicative-based therapies, including mood, anxiety, personality, eating, substance abuse, and psychotic disorders. Cognitive-Behavioral Therapy emphasizes self-instruction and attention-focusing techniques in an effort to eradicate faulty thinking patterns and behaviors. The success of doing so can have a profound effect on one’s self-efficacy belief, which in turn can alter behavioral and cognitive responses to future situations in

which negative emotions typically manifest (Bandura, 1977; Bruges, 2001; Meichenbaum, 1977).

Cognitive-Behavioral Therapy is used in individual as well as group settings, with specific therapies drawn from its core treatment structure that are either more cognitive oriented (e.g. Rational Emotive Behavioral Therapy, or cognitive restructuring), more behavioral based (e.g. Exposure Therapy), or a combination of the two (e.g. Guided Imagery Therapy). In the case of Music Performance Anxiety, cognitive assessments primarily focus on the irrelevant thoughts that serve as both distractions and prompts to further increase one's anxiety, such as the fear of memory lapses, the fear of becoming anxious, the fear of being criticized by others, or the fear of possessing inadequate musical abilities (Salmon, 2000). Behavioral-based inventories center more on addressing the observational characteristics of a performance such as the stiffening of shoulders, shallow breathing, and distressful facial expressions.

In addressing Music Performance Anxiety specifically, there is no consistent evidence from current research about the usefulness of either behavioral or cognitive interventions as independent treatments. However, studies such as one conducted by Kendrick, Craig, Lawson, & Davidson (1982) have documented significant benefits in pairing Cognitive Therapy with behavioral therapy, as combined approaches assess the effectiveness of both self-instruction and Attentional Training with behavior rehearsal in addressing Music Performance Anxiety. In their study of 53 pianists, participants met

three times for 1.5-2 hours in a small group setting in addition to individual homework assignments over a span of three weeks. Multivariate analyses revealed that both the Cognitive-Behavioral Therapy and the behavioral rehearsal programs were effective in reducing Music Performance Anxiety in comparison to the wait list control group, and that the Cognitive Therapy was more effective than the behavioral rehearsal program on multiple accounts.

Kendrick et al. (1982) prefaced their investigation by citing the ineffectiveness of verbal communication psychotherapies in addressing negative thought patterns that only worsen the symptoms of Music Performance Anxiety (see also Rachman & Wilson, 1980). They cite earlier research to suggest that in high levels of performance anxiety, task-irrelevant thoughts overpower the task-specific as individuals (a) worry about their performance and how well others are doing; (b) ruminate over alternative responses; (c) become preoccupied with feelings of inadequacy, anticipation of punishment, loss of status, and self-esteem; and (d) become distracted by heightened somatic and autonomic arousal (Mandler & Sarason, 1952; Marlett & Watson, 1968). Even excessive emotional reaction was found to be less likely an interference with performance in highly anxious people than the actual worry over their performance (Doctor and Altman, 1969; Morris and Liebert, 1970; Wine, 1971).

After an initial videotaped performance to assess indicators of Music Performance Anxiety, the subjects in Kendrick et al.'s (1982) cognitive-therapy

experimental group reviewed the footage in small groups and discussed the task-irrelevant and negative self-talk that was occurring simultaneous to their performances. Participants were encouraged to challenge negative thoughts with four types of positive self-statements: comforting, task focusing, technique oriented, and self-rewarding. At the conclusion of each session, subjects were asked to perform for increasingly larger groups, rehearsing the cognitive protocol discussed in the group therapy, and, after the final session, to walk themselves through imaginary sequences (examination and recital) and to perform as part of the exercise.

The behavior rehearsal group followed a similar therapy schedule as the cognitive-based group, but the procedure was more demonstration-based. The therapist leading the sessions stressed the importance of regularly performing for an audience, which paralleled the cognitive-therapy group in its daily homework assignment, but did not focus on any cognitive thought pattern that may have disrupted the execution of each rehearsed performance. Consequently, although both the cognitive and behavioral groups indicated progress in comparison to the wait-listed control, the Cognitive Therapy group's integration of Attentional Training was superior to behavior rehearsal in reducing visual signs of anxiety and in enhancing expectations of personal efficacy. The findings of two early studies by Meichenbaum (1977) and Wilson (1978) agree, further impressing the idea that directly addressing behavior change may be the most effective means of altering cognitive patterns.

In an early randomized study led by Harris (1987) addressing the Music Performance Anxiety of 17 music students, participants received six two-hour weekly sessions on cognitive self-instruction, relaxation training, and behavior rehearsal with a wait list control. The treatment group showed pre-test to post-test improvement teacher anxiety ratings (not reported for controls). In a like-modeled experiment, Roland and Wilson (1993) worked with 25 student pianists on self-instruction, Progressive Muscular Relaxation and a combined treatment of the two in six one-hour weekly sessions for the individual treatments and two-hour sessions for the combined. Performance quality was evaluated at a pre-test recital approximately one week before treatment and at a post-test recital one week after treatment, as well as at a six-week post-experiment follow up. Results suggested that the combination group evidenced the most significant pre-post test improvement based on the MPASS (Music Performance Anxiety Scale), which was designed for this experiment.

As stated by Fogle (2010), the most successful procedures include cognitive desensitization, redirection of task-irrelevant worry, the shift of attention from catastrophized expectations and signs of nervousness toward task-relevant or performance-relevant cues. In his work with one undergraduate piano major, Fogle discovered that persistent motivational interventions disengage overly perfectionistic mindsets. According to Kanfer (1979), the success of this intervention-based approach

is only further supported by the enthusiasm of subjects in exercising newly acquired skills.

In a later study by Sweeney (1998), 30 music students underwent a combination Cognitive-Behavioral treatment to address their Music Performance Anxiety. Subjects were assigned to one of three treatment-coaching groups: Cue-Controlled Relaxation, cognitive restructuring, or a combination of both techniques. There was also a no-training control group. Research findings suggested a universal effectiveness across all three treatments, although no approach stood out from the others as having significantly better results. The cognitive restructuring and Cue-Controlled Relaxation training did, however, produce lower pulse rates.

Many of the studies examined herein are used in conjunction with each other, or contain aspects of many therapies combined. Systematic Desensitization, for example, is often paired with Guided Imagery, as is Progressive Muscular Relaxation. Some therapies serve the individual best when ordered in a particular fashion, or combined to personalize the treatment to best fit the subjects' particular anxieties and conditioned responses to perceived threats. The following treatments have been organized in accordance to the primary therapy being evaluated in each study.

*Rational Emotive Behavior Therapy:*  
Interrupting the Cycle of Negative Thinking

Rational Emotive Behavior Therapy (also called simply Rational Emotive Therapy) is an active-directive psychotherapy developed by Albert Ellis that equips individuals with the tools to challenge, dispute, and rationalize groundless beliefs and negative Self-Talk that instigate emotional disorder (Ellis, 1997). Ellis explains how a person is more emotionally affected by his internal thought processes and attitudes than anything external. Further, he claims that people's mood states are influenced by what they believe or tell themselves: if they adopt hopeful, cheerful, optimistic mindsets, their mood improves, and if they believe in the pessimistic, cynical, or hopeless predictions of certain doom, the opposite effect of pessimism and depression ensues.

In addition to his own experimental research supporting this fundamental theory, Ellis cites what he refers to as the "pioneering study" by Velten (1968). In this study, 60 college students practiced focusing on either positive or negative self-statements, and in post-activity assessments, significant alterations of mood were evident in all three groups. Velten draws the following conclusion: "Post-experimental questionnaire data strongly supported the conclusion that elation and depression treatments had indeed respectively induced elation and depression" (Ellis, 1977, p. 4). Ellis cites supporting similarly modeled studies to Velten including Aderman (1972), Blue (1975), Coleman (1975) and Hale and Strickland (1976).

The habitual rehearsal of self-defeating mantras and negative evaluation not only influences the cultivation of anxiety in an individual, but may also contribute to the manifestation of perfectionistic tendencies. Perfectionism, according to Besser, Flett, and Hewitt (2004), is “a vulnerability factor involving negative cognitive and affective reactions following failure experiences that reflect poorly on the self” (p. 301). More pointedly, Hewitt and Flett (2002) describe perfectionism as simply “a striving for flawlessness” (p. 5).

In their 2002 article, Hewitt and Flett outline three multidimensional models of perfectionism: other-oriented perfectionism, self-oriented perfectionism, and socially prescribed perfectionism. Socially prescribed perfectionism involves individuals feeling particularly pressured by excessively high standards significant others set for them (Hewitt & Flett, 1991b). Socially prescribed perfectionism has been evidenced to influence depression (Hewitt & Flett, 1991a, 1993), anxiety (Antony, Purdon, Huta & Swinson, 1998), eating disorders (Hewitt, Flett & Ediger, 1995), and maladaptive cognitions (Blankstein & Winkworth, 2004). One study found that individuals with socially prescribed perfectionism have a fear of negative evaluation (Neumeister, 2004). Self-oriented perfectionism involves the individual’s propensity to set unattainable standards for themselves to achieve faultless performance in an effort to evade failure and humiliation (Hewitt & Flett, 1991b). Self-oriented perfectionism has been linked to similar disorders and maladaptive behaviors to socially-prescribed perfectionism, but

may additionally result in performance dissatisfaction (Besser et. al., 2004; Mor, Day, Flett, & Hewitt, 1995) and burnout (Gould, Tuffey, Udry, & Loehr, 1997).

In an experimental study by Besser, Flett, and Hewitt (2004), 200 students with varied severity of perfectionism performed a laboratory task of varying levels of motor difficulty for which they were given either negative or positive performance feedback, regardless of how well they performed the task. Results showed that participants with high self-oriented perfectionism experienced an increase in negative cognitions upon receiving negative feedback on their performance, and also were especially prone to decreases in positive affect. Similarly, Conroy, Kaye, and Fifer (2007) investigated the cognitive links between fear of failure, perfectionism, and negative self-beliefs. 372 college students enrolled in physical activity classes completed the Multidimensional Perfectionism Scale and Performance Failure Appraisal Inventory in one session. Socially prescribed perfectionism was found to be strongly associated with beliefs that failure led to personally catastrophic consequences, such as upsetting “important others” (p. 237). Consequently, individuals with a history of lengthy exposure to demanding authority figures often reapply the similar unreasonable expectations to their musical performances (Pauls, 1998; Plaut, 1990; Shoup, 1995; Voigt, 1991).

Perfectionism occupies a unique niche in the classical music world, as both job competition and recording technology have dually contributed to the fantastical illusion that even the slightest performance error indicates technical incompetence. The

relentlessness of self-directed perfectionistic standards invariably fosters a tendency towards catastrophizing, the use of extreme language (e.g. “should,” “have to,” “must”), and other similarly defeating cognitions (Curtis, Kimball, & Stroup, 2004; Dews & Williams, 1989; Mord, Day, Flett, & Hewitt, 1995; Steptoe & Fidler, 1982).

In theory, perfectionistic strivings (Kobori, 1997) are healthy pursuits for self-improvement. In a 2007 qualitative study by Stoeber and Eisemann on perfectionism, motivation, effort, achievement, and distress of 146 young high school musicians, perfectionism was tied to intrinsic motivation, higher effort, and higher achievement. However, negative responses to imperfection were positively influenced by extrinsic motivation and higher levels of distress.

According to Ellis’s model of Rational-Emotive Behavioral Therapy, anxiety-inducing thoughts or negative cognitions are interrupted the moment they occur. The individual then disputes the thought, challenges its reasoning, and subscribes a more constructive and positive perspective to the situation. Emotional disturbance is fueled by the cognitive distortions that people make when handling life experiences in the form of negative interpretations and predictions. Ellis asserts that as people accept that their emotional disturbances are only partially related to the outside events that caused them to surface; the true core is better attributed to irrational beliefs, or what is referred to as an individual’s “schema.”

## *Schema Therapy*

Schema Therapy, designed by Dr. Jeffrey Young, is a psychotherapy that draws and expands on the theories and techniques of other therapies (especially Cognitive-Behavioral Therapy) but draws even more on revisiting earlier life experiences. According to Dr. Young, schemas are “self-defeating life patterns of perception, emotion, and physical sensation (Young, 2003, p. 6). It is an extremely enduring pattern that develops during childhood and manifests itself in many areas of an individual’s life (Bricker & Young, 1999, p. 72).” Bricker identifies 18 specific schemas, including emotional deprivation, abandonment, social isolation, mistrust, defectiveness, failure, incompetence, self-sacrifice, and unrelenting standards/hypercriticalness. Bricker asserts that schemas influence human behavior by means of habitual negativity, avoidance of situations or emotions that might cause the schema to react, and by acting in a manner that appears to be the opposite of the schema.

Several schemas with a particular relevance to Music Performance Anxiety include:

1. *Defectiveness/Shame*. The belief that one is internally flawed and that, if others get close, they will realize this and withdraw from the relationship. In the case of performance, the analogy could be made to an audience walking out on a performer if they evidence incompetence.

2. *Failure*. The belief that one is incapable of performing as well as one's peer in areas such as career, school, or sports.

3. *Unrelenting Standards/Hypercriticalness*. The belief that whatever one does is not good enough, that they must always strive harder, and/or there is an excessive emphasis on values such as status, wealth, and power at the expense of other values such as social interaction, health, or happiness.

In schema maintenance, a musician with the Defectiveness/Shame schema might approach the concert stage thinking, "No one will enjoy my performance," or "No one really wants to hear me play." Behaviorally, the individual reaffirms their belief that rejection is inevitable. Similarly, a musician with the Unrelenting Standards/Hypercriticalness schema (may also be considered a "Perfectionist" schema) might excel onstage due in part to the excessive expectations they put on themselves in practice. Usually these individuals come from childhoods with parents whose love or approval was dependent on achievement (Bricker, 1999).

Schema Therapy is often effectively paired with Rational Emotive Behavioral Therapy or other forms of Cognitive-Behavioral Therapy. In a pilot study of group Schema Therapy, Farrell, Shaw & Webber (2009) tested the effectiveness of adding an eight-month, 30 session Schema Therapy group to treatment for bipolar disorder. Results indicated that 94% of the subjects who received group Schema Therapy in addition to traditional treatment evidenced significant reduction of symptoms and no

longer qualified for bipolar disorder diagnosis, compared to the 16% of patients who received only traditional treatment.

Although not all musicians suffering from Music Performance Anxiety are afflicted with severe emotional disturbances, Schema Therapy is worth considering when attempting to pinpoint the possible underlying psychological causes for performance distress. However, sufficient research has not yet been conducted to test Schema Therapy for its direct application to the treatment of Music Performance Anxiety.

As with many Cognitive-Behavioral Therapies, Rational Emotive Behavior Therapy calls for a conscious intervention by the individual in addressing destructive thought patterns. Acknowledging the issue is not enough; through homework assignments and therapist assisted intervention of negative cognitive processes, the effectiveness of Rational Emotive Behavioral Therapy depends on the patient's efforts to indoctrinate a more positive, rational perspective in their entire life experience. Ellis (1977) writes:

There is usually no way to get better and stay better but by continual work and practice in looking for, and finding, one's core irrational beliefs; actively, energetically, and scientifically disputing them; replacing one's unhealthy feelings to healthy, self-helping emotions; and firmly acting against one's dysfunctional fears and compulsions. Only by a combined cognitive, emotive,

and behavioral [approach], as well as a quite persistent and forceful attack on one's serious emotional problems, is one likely to significantly ameliorate or remove them-- and keep them removed. (p. 4)

*A Rehearsed Response to Tension:  
Progressive Muscular Relaxation, Meditation, and Biofeedback*

According to Jackson (1992) and many sports psychologists, being relaxed is one of the chief characteristics of peak performance (Sisterhen, 2005, p. 50). However, the levels of arousal at which one performs their best is rather subjective: for athletes or musicians who necessitate an increase in arousal to perform at their full potential, autogenic training and biofeedback to increase pulse rate may be effective, while for those who require a greater sense of relaxation while performing, various relaxation exercises such as Progressive Muscular Relaxation (PMR), Yoga, or Meditation may be more beneficial. According to Harris (1986), relaxation techniques are either "mind to muscle" or "muscle to mind": in the former, a cognitive approach to relaxation such as Meditation and imagery makes relaxation the consequence of mental command, while in the latter, "muscle to mind" are more centered on the physical aspects of relaxation, such as stretching.

The effectiveness of either category of techniques is dependent upon the type of anxiety it is addressing, as suggested by the "matching hypothesis" (Sisterhen, 2005, p.

54). As the root of psychological anxiety is in emotional response, relaxation techniques that integrate cognitive cues (such as hypnosis, Meditation) are more fitting, whereas for those suffering from more somatic manifestations of anxiety (e.g. shallow breathing, shaking hands, sweating) physiological practices such as Progressive Muscular Relaxation are better suited.

Deep breathing is a rudimentary part of nearly every relaxation therapy, as it calms the body and prepares the mind for both imagery exercises and performance. Diaphragmatic breathing increases the amount of oxygen in the blood and feeds more energy to the muscles, but shallow breathing, a common detrimental habit of performers under stress, impairs the body's ability to lower arousal level to one of optimal functioning. For this reason, the regular implementation of deep breathing could potentially benefit all aspects of performance by eliminating shallow breathing as a routine behavior altogether (Sisterhen, 2005).

Progressive Muscular Relaxation (PMR) is a technique developed by Edmund Jacobson (1929) that involves the tensing and subsequent relaxation of individual muscles. Defining tension as "the effort that is manifested in the shortening of muscle fibers" (Jacobson, 1957, p. vi), Jacobson encourages a regiment of relaxation therapy that progressively eases the tension sequentially from each muscle group in the hopes that, eventually, individuals will maintain only the minimum tension needed for each task. This theory is also referred to as "differential relaxation" (Jacobson, 1957).

Based on this theory, Whitaker (1984) designed a relaxation-based therapy experiment to observe the elimination of stress responses in pianists. The experimental group included 18 pianists divided into two groups, each receiving identical relaxation training. Whitaker used three relaxation tapes to be used daily by participants, consisting of a combination of both Progressive Muscular Relaxation and autogenic training. Results from the study suggested that performers participating in a joint muscle relaxation and Cognitive-Behavioral Therapy evidenced a notable decrease in both psychological and somatic anxiety and an increase in self-efficacy belief as measured by their individual scores on the Personal Report of Confidence as a Performer. Participants also demonstrated significantly lower levels of anxiety than the wait-list control groups.

Grishman (1989) also investigated the effectiveness of modified Progressive Muscular Relaxation in reducing physiological, cognitive, and behavioral symptoms of anxiety. A mix of 41 advanced music students and professionals underwent six two-hour sessions over three weeks of Progressive Muscular Relaxation training while a control group received no treatment. The treatment group, relative to group controls, exhibited improvement on the state portion of Spilberg's State Anxiety Inventory (STAI-S), Music Performance Anxiety Questionnaire (MPAQ), and baseline heart rate.

Likewise, in a nonrandomized study by Kim (2005), significant decreases in Music Performance Anxiety levels were also reported in the STAI-S after six female

college pianists participated in six weekly sessions that involved rhythmic breathing exercises, free improvisation, and desensitization exercises. Furthermore, another study on the effects of Meditation on performance anxiety in singers found that almost 70% of participants reported that Meditation is an effective way of dealing with their performance anxiety (Taylor, 2002).

As supported by the previous studies, deep breathing is evidently effective in restoring a sense of calmness and control in those experiencing heightened arousal. The integration of exercises and routines incorporating deep breathing as well as the mental and physical control skills gained by practicing deep breathing and Meditation have exhibited an advantage to those learning to counteract their body's natural response to fear, both psychologically and somatically. Conceivably, integrating deep breathing into pre-performance routines could help an individual to attain a favorable mental and physical condition in which to perform.

Schwarz (1976) agrees, claiming that the mental and physical state of being relaxed but alert attained in Meditation is ideal for performance as it allows the performer to focus on the technical without disengaging from the artistic. While there is substantial research cautioning against the reliance on one's "muscle memory," Schwarz (1976) insists that most technical errors result by analyzing what one is physically doing. Through Meditation, students find a balance between being physically aware

versus physically distracted by virtue of relaxation techniques that target both large and smaller muscle groups, respectively.

Meditational practices focus on the physiological as it benefits the psychological balance so essential to a rewarding performance experience. Meditation follows a self-regulatory routine designed to “train attention in order to bring mental processes under greater voluntary control” (Walsh, 1995, p. 388). Deen (1999) examined the effect of an awareness/breathing exercise on the musical performance anxiety of 39 college vocal students in an experimental pretest-posttest control group design. The study outlined two categories of four independent variables: treatment, years of study, trait anxiety, and gender, as well as three dependent variables: performance anxiety, performance quality, and performance expectation. Deen observed two experimental groups (one using the exercise only as a warm-up before lessons, and the other using the exercise as both a warm-up before lessons and before practice sessions) and a no-treatment control group.

According to findings from this study, performers frequently used breathing exercises to slow the heartbeat and calm the nerves. However, according to Deen, the purpose of her study was not to achieve relaxation but to make participants aware of the process of breathing and conscious of any excessive feelings of tension in the body (Deen, 1999). Post-experiment data analysis revealed a significant reduction in the

performance anxiety for those students using the exercise, while no significant difference was reported in the control group.

## *Yoga*

Studies like Deen's bring to light the importance of a performer's awareness of their physical state so when undesirable tension or physiological reactions to heightened arousal occur, they can be counteracted with the same level of knowledge and preparedness as a diligently practiced concerto. Yoga further expounds on these principles, incorporating breathing and Meditation with physical movements known to alleviate stress, anxiety, mood disturbance, and musculoskeletal problems. As music performance is largely based on the physical execution of motor skills, Yoga offers the possibility of a particularly applicable mode of therapy for those with Music Performance Anxiety due to its emphasis on physical balance and stretching (Khalsa, Shorter, Cope, Wyshak & Sklar, 2009, p. 279).

In 2009, Khalsa and colleagues published an investigation of the benefits of Yoga and Meditation musicians in a controlled study. Participants were young adult professional musicians who voluntarily agreed to participate in a two-month program of Yoga and Meditation and were randomly assigned to either a Yoga lifestyle intervention group (approximately 15 subjects) or to a group practicing Yoga and

Meditation only (also with 15 subjects). Other volunteer musicians were appointed to a no-treatment control group.

Participants in the two treatment groups attended three Kripalu Yoga or Meditation classes each week. The Yoga lifestyle group also included weekly group practice and discussion sessions to supplement the weekly classes. All participants completed baseline and end-program self-report questionnaires that evaluated Music Performance Anxiety, mood, stress, and sleep quality. In the end, both Yoga groups demonstrated less Music Performance Anxiety and significantly less general anxiety, tension, depression, and anger at the conclusion of the study in comparison to controls, but no change was documented in stress or sleep. Still, the similar trend between the two treatment groups proposes that Yoga and Meditation could be helpful in ameliorating some of the symptoms of Music Performance Anxiety.

A study by Lin, Chang, Zemon, and Midlarsky (2008) investigating the effect of coaching in Chan (Zen) Meditation on music performance supports Khalsa et. al.'s findings. Results from Lin et. al.'s study identified a positive improvement in the quality of performance and the diminution of performance anxiety. Nineteen participants from United States music conservatories were randomly assigned to either an eight-week Meditation group or a wait-list control group. After successfully completing the treatment regiment, all participants performed in a public concert and were assessed per the measurements of self-reported performance anxiety and music

performance quality. The control group demonstrated a significant decrease in performance quality in conjuncture with an increase in performance anxiety, while the treatment groups documented a decrease in performance anxiety. This study, among others, suggests the possibility that the practice of enhanced concentration as cultivated by Chan Meditation, could better equip one to manage anxiety and improve musical performance (Lin et al., 2008).

### *Electromyographic Biofeedback*

According to Deen (1999), “Awareness is a prerequisite to making any physical changes in the body, particularly when the desired action is creating a new habit” (p. 22). In Electromyographic (EMG) Biofeedback, the principles demonstrated in Progressive Muscular Relaxation are visually communicated to further one’s recognition of unnecessary tension in the body. Electromyographic Biofeedback measures a subject’s quantifiable bodily functions such as blood pressure, heart rate, skin temperature, sweat gland activity, and muscle tension by strategically placed sensors and instant on screen readings. The misuse of muscles can easily be regarded as normal or a relaxed state if the behavior is reinforced with enough frequency; Biofeedback immediately makes its user aware of such issues, allowing for the prompt release of tension and subsequent behavior modification.

An early randomized study by McKinney (1984) supports the legitimacy of the application of Biofeedback to Music Performance Anxiety. Thirty-two music students in wind instruments received two 15-minute Biofeedback training sessions a week for five weeks, after which subjects showed a marked increase in Watkins-Famham Performance Scale (WFPS), a standardized method by which to assess performance anxiety. Likewise, a study by Nagel, Himle, and Papsdorf (1989) found both Biofeedback and muscle relaxation treatment to be effective therapeutic approaches as evidenced by the decrease in performance and trait anxiety in treatment groups over the control.

Closely related to Biofeedback is Cue-Controlled Relaxation and Progressive Muscular Relaxation, a behavior rehearsal method in which certain words are employed to prompt the physical act of tension release. A study by Richard (1992) involved the training of 21 music students with Music Performance Anxiety in Cue-Controlled Relaxation and resource retrieval, a method of therapy that assists subjects to access their existing strengths rather than be trained in new skills. Subjects received four 45-minute weekly sessions in resource retrieval and six 45-minute weekly sessions in Cue-Controlled Relaxation. Results rendered significant pre- to post-test improvement on the STAI-S and PRCP.

To be even more musically specific, Electromyographic Biofeedback training has been evaluated in its application to certain instruments. In Kjelland (1985), tone quality

was analyzed in performing cellists before and after sessions of Biofeedback instruction on the upper right and left trapezius (URT and ULT, respectively). Research questions were designed to assess the subjects' ability to reduce and maintain Electromyographic levels in the URT while at peak performance quality, and relationships between Electromyographic readings and self-reported tension, among other variables. Results suggested that URT Electromyographic reductions were present in all experimental subjects, improved tone quality in several subjects, as well as moderate correlations between URT Electromyographic tone quality scores. Control subjects demonstrated increased Electromyographic levels and reported "slightly worse" post-training quality ratings.

Although not significant, the results of Kjelland's study evidenced improved tone and lower muscle tension as a result of EMG Biofeedback training. A sister therapy, EEG (electroencephalograph) Biofeedback, has also been evaluated for its application to tension in music performance under stressful conditions. Where Electromyographic Biofeedback places sensors directly on offending muscle groups, Electroencephalograph Biofeedback sensors are placed along the scalp and follows brain activity and impulses over muscular response. In a single-blind study, expert ratings documented improvement in musical performances in a student group that received training on attention and relaxation related electroencephalograph neurofeedback protocols, and

results showed that improvements to be highly correlated with learning to progressively relax tight muscles (Egner, 2002).

The success of Electromyographic Biofeedback is evidenced to help emotional regularity in the performance anxious, as well. A recent inquiry led by Thurber (2006) studied the effects of heart-rate variability, Biofeedback training and emotional regulation on Music Performance Anxiety in university students. Fourteen student musicians were recruited to participate in this experimental repeated measures research design study and randomly assigned to a treatment or control group based on a pre-experiment unaccompanied baseline performance. Treatment group subjects received four to five HRV training sessions of thirty to fifty minutes each, including the computerized Freeze-Framer 2.0 software, (explain), instruction in the Freeze-Frame and Quick Coherence technique of emotional regulation, as well as the use of an emWave portable heart rate variability training device for independent home use. Measures included the State-Trait Anxiety Inventory (STAI), Performance Anxiety Inventory (PAI), Flow State Scale (FSS), average heart rate (HR), and heart rate variability (HRV). Results indicated significant decreases in mental, emotional, and physiological symptoms of Music Performance Anxiety in university students as a result of software that is accessible, cost efficient, and available for private use.

## *Alexander Technique*

The effectiveness of Biofeedback has often been compared to Alexander Technique, a method of kinesthetic education in which a new postural model is associated with verbal instructions and habits of tension are challenged with intentionally directed action or inhibition. The method stresses economy of effort and the balanced management of tension, both of which contribute towards optimal physical function. In one of the earliest studies conducted on the method (Barlow, 1956), students at the Royal College of Music underwent Alexander Technique training simultaneously with students at the Central School of Speech, who were given conventional training. The music students evidenced marked improvement in postural correctness in comparison to the speech students. Comparably, a study by Jones (1963), found that singing quality was notably improved when the balance of the head was directed according to the Alexander Technique approach. These findings are concurrent with the emphasis similar therapies place on postural and muscle awareness and the potential benefits they pose to anyone executing fine motor skills under heightened states of arousal.

Bearing in mind these heightened mental states, Valentine, Fitzgerald, Gorton, Hudson, and Symonds (1995) sought to investigate the experiential and behavioral effects of lessons in Alexander Technique on managing music performance pressure. Measures of height and peak flow (peak expiratory flow, a measure of the pressure

exerted in forced expiration) were used to test claims that Alexander Technique training increases fulfillment of potential height and enhances breath control. Performances were video-taped and evaluated by Alexander Technique experts to provide objective assessments of music performance quality and misuse. The experimental group received 15 lessons in Alexander Technique and the control group received no training, after which various components were assessed in high and low stress situations prior to and following treatment. The experimental group evidenced improvement relative to the control group on overall music and technical quality, heart rate variance, personally reported anxiety, and optimistic attitude regarding performance. However, on all accounts except heart rate variance, the improvement was limited to the low stress environment. No significant effects were noted by experts in Alexander Technique on height, peak flow, or misuse.

When applied to the secondary choral classroom, a more recent study by Lorenz (2002) mirrors the connection between Music Performance Anxiety and Alexander Technique as documented in Valentine, et. al. Although Lorenz found the results of improved posture and stage presence in treatment group subjects mostly inconclusive, there were, however, also noticeable improvements in some subjects' relaxation, breath control, and vocal technique. Taking into account the evidenced benefits to music performance posed by relaxed physical states and controlled breathing, it seems logical to conclude that Alexander Technique may be advantageous as a therapeutic approach

when combined with another treatment. Further research evaluating its credibility as an independent therapy for Music Performance Anxiety, especially in particularly physically tense subjects, would be of great assistance to the music community.

### *Hypnotherapy*

A rarely pursued or discussed mode of Cognitive-Behavioral treatment is Hypnotherapy. Little research has been conducted evaluating Hypnotherapy as it relates specifically to Music Performance Anxiety. However, a good number of studies have been conducted to evaluate Hypnotherapy as a treatment for other relative types of performance anxiety and therefore merit a place in this review.

Two cases were discussed in Krippner (1970) in which hypnosis was used to treat test anxiety. First, a treatment subject who needed to attain a high grade on his Spanish final exam to pass the class suffered from test anxiety and therefore felt he could not concentrate and prepare amply. Hypnotherapy sessions began a week before the exam, and suggestions included an increase ability to concentrate, heightened self-confidence due to careful preparation, and the dismissal of fear or nervousness. Conclusively, the student increased his ability to study through the hypnosis treatment and scored the highest grade he had earned to date.

In the second case, an engineering student with an admirable IQ (138 on the Wechsler Adult Intelligence Scale) believed that panic attributed to his test scores being

poor reflections of his potential. Hypnotic suggestions were made similar to the previously mentioned case, and after being hypnotized several days prior to important tests, the student was successful in raising his grade.

While these isolated incidents of Hypnotherapy success stories cannot reasonably speak for the general population and were not conducted in a manner scientific enough to validate either the results or the students' credibility, their testimonies are worth considering. An experimental study by Sapp (1990) rendered results concurrent to the aforementioned students' claims in an investigation evaluating the effectiveness of Hypnotherapy on test anxiety. Treatment for the experimental group included four weekly Hypnotherapy sessions with hypnotic suggestions that encouraged positive self-esteem, confidence in addressing their test anxiety, and emphasized that the students would be well prepared for the final exam on which the experimental conclusions were based. Meanwhile, the control group, which received no Hypnotherapy, was simply asked to monitor their daily study habits during a four week period leading to the final exam. Results exhibited a significant reduction in test anxiety for the experimental group, suggesting that Hypnotherapy was a successful treatment in improving performance quality.

The literature evaluating Hypnotherapy as a treatment for stage fright is particularly lacking; however, a notable study by Stanton (1994) stands as reason for continued investigation. In this research, Hypnotherapy was compared to an attention-

control condition in reducing the Music Performance Anxiety of 40 music majors. The hypnotic treatment administered within two 50-minute sessions consisted of hypnotic induction including suggestions for relaxation, competency-based imagery, and confidence. Individuals in the attention-controlled condition received discussion group therapy for the same amount of time as those receiving hypnosis. Conclusions supported that individuals receiving hypnosis treatment reduced self-reported anxiety more than those in group therapy. Furthermore, the benefits of hypnosis treatment were still evidenced by a six-month follow up. Not only had it rendered positive results, but Stanton's study also suggested that the effects of Hypnotherapy were not short lived.

Plott (1987) tested the effects of Hypnotherapy on Music Performance Anxiety in an experimental model similar to Stanton's, though he utilized no control group in his experiment. Seven musicians were treated with hypnosis and received one-hour treatment sessions per week, which were divided among several treatment schedules including an educational period, hypnotic relaxation treatment, individualized hypnotic treatment, and self-hypnosis training, each lasting for approximately one month.

Throughout the study, each subject performed on six different occasions, including two before treatment and one after. Notable differences in anxiety levels were measured after the relaxation period, as well as at the end of the follow-up period. Despite the small sample size and lack of control, this study still gives further weight to

the possibility that Hypnotherapy is not only effective in alleviating some aspects of Music Performance Anxiety, but that its success lasts beyond initial treatment.

Like other treatments, Hypnotherapy may also be beneficial when used in conjunction with other Cognitive-Behavioral Therapies. Stanton (1993) explored the possibility of pairing imagery and Rational-Emotive Therapy (RET) with Hypnotherapy. Three musicians including a symphonic violinist, a music student, and rock band guitarist all suffered from symptoms of performance as indicated by high Performance Anxiety Inventory (PAI) scores. Music Performance Anxiety was evidenced to greatly decrease after hypnotic treatment in all three cases, and a decline in anxiety, like Stanton's study from the following year, was maintained at a six-month follow-up.

Hypnotherapy, like the Electromyographic software for at-home use, also offers a more private therapeutic option. In Helgeson (2002), Hypnotherapy treatment was recorded on a 35-minute audio compact disc, which participants were instructed to listen to before sleep over a period of three weeks. Performances before and after treatment were held at USC one month apart. Based on a decrease of anxiety levels on the Performance Anxiety Inventory (PAI) and the Modified State-Trait Anxiety Inventory (STAI), results indicated that Hypnotherapy was successful in treating Music Performance Anxiety, even despite the absence of a licensed hypnotherapist.

Based on its success, Sanders (2011) suggests that the reason hypnosis is an effective treatment because of its ability to reframe the initial sensitizing event (ISE) that originally caused the performance anxiety. The source of stage fright, he claims, is usually unresolved childhood conflict or negative experience that occurs before the age of 8 when the mind has not fully matured into the conscious and subconscious. The hypnotherapist could, then, potentially reshape the experience into one with more optimism or positivity, and subsequently walk the adult patient through more recent experiences attached to some negativity and handle them in a similar fashion. This is also referred to as regression hypnosis and, according to Sanders, his work with hundreds of musicians suffering from Music Performance Anxiety has suggested this approach was effective. He writes:

In one case, regression hypnosis for a graduate violin student yielded a childhood incident where she played poorly in a recital and had greatly disappointed her overbearing parents. In another case, a Russian piano player witnessed his private teacher get scolded and fired for working him too hard; the student felt responsible for the teacher losing his job and going hungry...

Certainly, from an adult perspective, this issue may seem relatively minor.

However, to a child they can be extremely traumatic. The effectiveness of this approach is extremely favorable; 100% of my stage fright clients have reported the complete elimination of their problem (Sanders, 2011, p. 15).

Still, more research must be conducted particularly with musicians to substantiate Sanders' claims. Hypnotherapy, though not the most mainstream therapeutic method, deserves consideration for its evidenced effectiveness and long-lasting results.

The success of Cognitive-Behavioral Therapies in addressing the underlying emotional and mental causes of Music Performance Anxiety is staggering. Because of its many complimentary facets, treatment methods can be selected and grouped together according to the needs of the individual. Regardless of how they are paired, supplemented, or independently administered, Cognitive-Behavioral Therapies offer pertinent treatments options for whom the psychological element of Music Performance Anxiety poses the greatest threat.

## CHAPTER FOUR

### *Expressive Art Therapies*

Expressive therapies are based on the predication that psychological healing can be attained through the creative process. According to the International Expressive Arts Therapy Association, Expressive Arts Therapy can be defined as the practice of using imagery, storytelling, dance, music, drama, poetry, movement, dreamwork, and visual arts together, in an integrated way, to foster human growth, development, and healing (IEATA, 2010). Music Therapy and Guided Imagery Therapy are included among the expressive therapies, and are often paired with Yoga or other Meditational practices in research models for Music Performance Anxiety therapy.

#### *Music Therapy*

Montello, Coons, and Kantor (1990) explores the potential benefits of Music Therapy to Music Performance Anxiety in a group setting. Freelance musicians with Music Performance Anxiety were recruited and divided into two sample treatment

groups, Sample A including 17 subjects and Sample B including 24, who attended twelve group Music Therapy sessions for 1.5 hour sessions. Control groups included a waiting list and a waiting list with attentional control, the latter meeting with a therapist weekly to complete psychological tests and to discuss musical topics. Data analysis revealed that both therapy groups showed a greater increase in score on the Personal Report of Confidence as a Performer (PRCP) evaluation than both control groups. Compared to the attentional controls, the therapy group developed in musicality, decreased stress, and became less self-distracted during performances before and after treatment. Not only did this experiment support the claim that Music Therapy is effective in reducing Music Performance Anxiety, but that it also inspires a greater sense of musicality.

In a second experiment by the same researchers (Montello, Coons & Kantor, 1990), 24 freelance musicians were randomly divided into one experimental and two control groups, with the experimental group receiving weekly instructional sessions of 90 minutes of group Music Therapy, while the two control groups received either psychological testing and weekly individual therapist meetings to discuss musical topics, or no treatment. Findings supported the same results as the first experiment in that those who received group musical therapy became noticeably more musical, more confident, less stressed, and diminished narcissistic tendencies than did either control group.

The results of a more recent study by Ursy (2006), however, conflict with Montello's findings. Sixty subjects were divided evenly into either an experimental or control group, the former participating in a Music-Assisted Relaxation (MAR) session, and the latter participating in a relaxation session with no music. Each session lasted approximately 30 minutes and included 15 minutes at the beginning and at the end of each session to answer pre- and post-test State-Trait Anxiety Inventory (STAI) and Derogatis Stress Profile (DSP) questionnaires. The script used for the study was taken from Lusk's *30 Scripts for Relaxation, Imagery, and Inner Healing* (1992). Results indicated a universally significant decrease of stress in all groups but no significant difference between the music and non-music groups.

Still, in Brodsky and Slaboda (1997), the application of two types of Music Therapy rendered favorable results for the use of Music Therapy in the treatment of Music Performance Anxiety, albeit not as immediate. Fifty-four professional musicians were randomly assigned to one of three treatment conditions: traditional Cognitive-Behavioral treatment including relaxation, imagery, and cognitive restructuring; Music Therapy in which participants received relaxation, imagery, and cognitive restructuring and listened to pre-recorded music; and finally, a condition that combined the first two treatments and included exposure to music-generated vibration sensations. Results suggested that there were no significant differences among the treatment groups and that none rendered a notable decrease in self-reported anxiety; however, at the two-

month follow up, Music Performance Anxiety levels had decreased across all three treatment groups. Perhaps, then, it should be noted that the benefits of some therapies may not be evident until some time past treatment has concluded.

### *Guided Imagery Therapy*

Also an Expressive Therapy, Guided Imagery has received similar scholarly consideration for its potential benefits to anxiety cases, particularly in athletes. Guided Imagery is a psychotherapeutic method employing a client's own internal imagery to uncover and resolve emotional conflicts (Chinen & Battista, 1996). In imagery therapy, the therapist guides the patient through a series of fantasies, Meditations, dreams, and other imaginary scenarios through which to address emotional disturbance. Imagery rehearsal by athletes is usually preceded by relaxation techniques to aid in associating the simulated performance with composure and a sense of calmness.

Visuo-motor behavior rehearsal (VMBR) is an imagery rehearsal procedure combining relaxation and imagery, with relaxation always acting as a precursor to the imagery process. The method can be summarized as follows: relaxation, the practice of imagery, and the use of imagery for strengthening psychological or motor skills. Immediately following an introductory relaxation step, a visualization of both a performance in a specific situation and the performance of a particular skill within the context of stressful circumstance follows (Sisterhen, 2005; Suinn, 1972). In the visuo-

motor behavior rehearsal approach to imagery, perception is exceptionally similar to the actual experience, much like dreams that take place during sleep. In contrast to Mental Practice (a specialized form of imagery involving a more detailed imagery based rehearsal), visuo-motor behavior rehearsal seeks to experience the event to the maximum capabilities of the psyche, including the multisensory.

One study frequently referenced to validate visuo-motor behavior rehearsal was conducted by Suinn in 1972 with skiers at Colorado State University. Two groups of skiers, equally matched for speed in skiing, were assigned either to a treatment group visuo-motor behavior rehearsal or a no-treatment control group. The treatment consisted of an abbreviated version of Jacobson's progressive relaxation followed by the utilization of mental imagery as the skiers mentally rehearsed their athletic skills. The treatment session concluded with the further use of imagery in practicing a skill specific to the skiers, such as racing techniques, course concentration, and the memorization of the course through visuo-motor behavior rehearsal. The improvement was evident enough that the coach chose to race the treatment group of skiers over the control group, despite their fair match in skill.

Suinn (1972) cites the increased ability to relax and the increased ability to concentrate as the skills most often reported by athletes who have been trained in visuo-motor behavior rehearsal, which present an uncanny parallel to the demands of music performance. In 1999, Esplen and Hodnett conducted a pilot study to investigate

musicians' experiences of Guided Imagery as a technique to manage performance anxiety. Twenty-one music students who were assessed as suffering from Music Performance Anxiety participated in an exercise in which the participants imagine themselves performing in a confident, controlled state, to images of a friendly and supportive audience. After a post-exercise performance, research data revealed a significant decrease in the post-intervention levels of reported Music Performance Anxiety. No relationship was determined, however, between post-intervention anxiety levels and overall satisfaction with performance.

Borchert (1991) also designed an introductory systematic model to evaluate mental imagery as applied to music performance. Three groups receiving different instructional training were designated. One received a verbal instructional guide, which gave subjects precise directions on what observations to be made in the music and how to practice it, while another received a more verbal mental image guide that coached participants in creating peaceful mental images to support interpretive development during rehearsal. The control group, by contrast, relied solely on physical practice.

Before and after treatment, each subject was required to sight-read a melody after being allowed three minutes to walk themselves through the passage. Performances were evaluated for accuracy in four categories: notes/articulation, tempo, dynamics, and phrasing. Cumulatively, all groups evidenced improvement from the pre-test to the post-test. However, there was a notable difference in accuracy of notes and articulations

between the verbal instruction group and the image group, with the imagery group leading in least amount of mistakes.

It could be conjectured, based on the success of imagery as a standalone therapy, that if combined with traditional teaching methods or supplemented with other Cognitive-Behavioral Therapies, its effectiveness could be compounded. The findings of Sisterhen (2005) support how Guided Imagery, Mental Practice, and relaxation techniques may be used in a collaborative sense, citing its frequent pairing with Mental Practice and relaxation techniques in the field of sports psychology. In her 2005 study, Sisterhen tests the effectiveness of a combinatorial relaxation-imagery-mental rehearsal therapy on the treatment of Music Performance Anxiety in five graduate piano students.

Over a period of four weeks, Sisterhen met with the research participants for five evenly spaced sessions, during which the subjects were trained in the use of Guided Imagery techniques, modeled after Visuo-Motor Behavior Rehearsal (VMBR) and progressive relaxation. At the conclusion of each session, participants performed one memorized piece for the group in a videotaped performance, after which they were asked to watch the tape and rate the performance for accuracy, concentration, memory, confidence, and overall performance. Additionally, participants were asked to devote 15 to 20 minutes three times a week to specific Mental Practice, imagery, and progressive relaxation assignments.

According to the participants' self-evaluations, overall categorical ratings improved with each subsequent performance. But most importantly, the study examined whether the combined techniques had any effect on the participants' ability to regulate their level of anxiety. by administering the State/Trait Anxiety Inventory (STAI) and the Personal Report of Confidence as a Performer (PRCP), two frequently applied means of evaluation in the field of Music Performance Anxiety (Clark & Agras, 1991; Niemann, Pratt, and Maughan, 1993). Lower scores on both tests, before the first performance and following the last, suggest a reduction in anxiety in all participants, with one subject even decreasing her score 27 points out of a maximum of 80. Four out of five participants scored lower on the post-test of the PRCP. Sisterhen's findings are concurrent with an earlier study Hammer (1996) that also evaluated the effectiveness of Guided Imagery through Music (GIM) and relaxation techniques on the state and trait anxiety levels: of 16 individuals in a substance abuse rehabilitation program, results indicated that those subjected to the Guided Imagery and relaxation therapy evidenced a greater decline in perceived situational stress over those who did not receive the therapy.

As an introductory measure, Miller (1994) recommends that the athlete (or musician) approach the imagery process by envisioning a specific upcoming performance where they hope to operate at optimum level and then envisioning themselves producing the most desirable outcome. Research has shown that positive

Mental Practice was an effective learning procedure that rendered improvement, while pessimistic Mental Practice led to increased levels of performance anxiety and decline in performance quality (Gould, Weinberg, & Jackson, 1980; Powell, 1973; Woolfolk, Parrish, & Murphy, 1985).

In a similar vein, an early book by Bonpensiere (1953) encourages the use of Mental Practice and imagery in music study. He claims that Mental Practice is even more effective than practicing with an actual instrument, as mental rehearsal is free of the distraction of actual physical activity. Bonpensiere theorizes that pianists can overcome fear and tension by mentally singing when they play to prevent the intrusion of irrelevant thoughts. Further, he also suggests the use of both “systematic” and “arbitrary” symbols, such as attaching particular patterns or passages to numbers, which the pianist should recite with completely relaxed hands upon imagining each respective symbol. Freymuth (1999) agrees, citing the importance of alternating between mental and physical practice in daily sessions, following a three-step practice regiment that includes ideal projection, action, and mental recall.

Kato Havas (1973) supports a similar approach to practice in her book *A New Approach to Violin Playing*. She advocated the alternation of thinking about movement or patterns and physically executing them, citing that:

No physical action can take place without an order from the mind... if the mind is disciplined to give orders only to those basic points which are the key

positions of the fundamental balances, these fundamental balances in turn will have the power to motivate a chain of other actions as well. (p. 76)

Benson (1987) speculated that an individual can learn to counteract negative cognitions that originate in the left brain when the body is relaxed. As the left half of the brain is the source of rational thinking and analysis, the creative processes in the right brain are at risk of being interrupted in a performance situation. By focusing on cognitive relaxation techniques, the subjects Sisterhen (2005) were better equipped to reduce anxiety by eliciting positive thought patterns. Rehearsing these relaxation techniques as part of routine practice, Sisterhen advises, could essentially be the most effective type of practice if it leads to enhanced creativity and a greater focus on musicianship.

Visuo-motor behavior rehearsal has also been found reliably transferrable to actual performance, which insinuates its effectiveness in the mental simulation of the physical aspects of performance. As observed by Suinn (1980), members of a 1976 Olympic skiing team used visuo-motor behavior rehearsal to mentally ski themselves through the course just prior to an event. In the musical realm, the same approach could be relevant by imagining oneself performing at a particular venue and/or successfully executing the performance of a challenging piece. Furthermore, the supplemental use of relaxation techniques in Sisterhen's study also helped participants recognize and eliminate physical tension. In summation, the general techniques in which research

participants were instructed cumulatively contributed to the universal attestation of improved self-confidence in all subjects. Any therapeutic method that successfully addresses self-efficacy perception, regardless of future performance outcome, merits consideration.

As with any therapy, learning styles and personality types should be considered when deciding the most effective treatment to pursue. It is the belief of many sports psychologists that some people are better receptors for imagery therapy than others, as some have greater imagery ability and will find the exercises more effective (Sisterhen, 2005). Imagery ability is defined by vividness (the clarity and detail of the image) and controllability (the capacity at which a subject feels able to manipulate the image). When considering either performing externally (mentally watching oneself perform, as if watching a performance on camera) or internally (as if performing as oneself per the norm), internal imagery has been evidenced a more effective exercise than external imagery (Suinn, 2011).

Guided Imagery affords musicians suffering from Music Performance Anxiety the unique opportunity to “experience” an angst-free performance free of the possible psychological harm posed by an actual event. Favorable cognitive patterns can also be rehearsed in conjunction with imagined technical execution and can potentially speed the process of replacing destructive thought patterns. Similarly, when used in conjunction with Music Therapy, imagery exercises have shown to diminish stress and

restore physical calmness to anxious individuals, which can then be applied to both pre-performance and in-performance routines. In addressing stress away from the stage, the individual may have less stress and anxiety to bring back to it, or at the very least, more practical cognitive tools with which to counteract it.

## CHAPTER FIVE

### *Exposure Therapies*

A popularly theorized antidote for Music Performance Anxiety has been to simply perform. Frequent performance, in essence, may hypothetically diminish the foreignness of the performance situations and make even evaluative environments more tolerable. Commonly used to treat anxiety disorders of similar nature, Exposure Therapy involves the subjection to the feared object or context without any danger in order to overcome anxiety (Myers & Davis, 2007, pp. 141-142). Based on the principles of Respondent Conditioning (otherwise referred to as Pavlovian extinction), the exposure therapist determines the cognitions, emotions, and physiological arousal that accompany a fear-inducing stimulus and attempts to break the pattern of undesirable response through measured exposure to progressively stronger stimuli until habituation is reached (De Silva & Rachman, 1981, p.227).

In a study conducted by Kendrick, Craig, Lawson, and Davidson (1982), researchers evaluated behavioral therapy designed to break negative thought patterns

by means of exposure and cognitive therapies. Fifty-three piano students who had been described by their music teachers as suffering from severely debilitating performance anxiety were randomly assigned to one of three treatment conditions: Attentional Training (Cognitive Therapy), in which negative thoughts were counteracted by positive reinforcement; Exposure Therapy (behavioral rehearsal), in which individuals were taken through repeated performance practice in front of an audience; and a wait-list control group. Individuals in both treatment groups reduced negative self-statements and improved manageability of stage anxiety more than control participants. Additionally, Attentional Training was shown to be superior to behavioral rehearsal.

In 1976, a study conducted by Appel sought to reduce performance anxiety by either Exposure Therapy or traditional musical analysis training. Volunteer graduate piano students who claimed to have suffered from stage fright in solo performances were randomly assigned to one of three treatment conditions: Exposure Therapy, musical analysis training, and no-treatment control. The exposure-based therapy (or, more specifically, Systematic Desensitization) involved subjection to performance situations and integrated such approaches as in vivo desensitization (a variation of Systematic Desensitization in which the anxiety-arousing situations to which the person is exposed are real, rather than imagined); Progressive Muscular Relaxation; and Counterconditioning. The musical analysis treatment was based on the intellectual understanding of work to be performed in terms theoretical, structural, and stylistic

aspects. Results showed that those who underwent the Systematic Desensitization treatment reported less anxiety than both the analysis and control groups; cumulatively, both the musical analysis training and exposure-based therapy treatment groups reduced piano recital errors in comparison to the control. Appel's findings were groundbreaking in that they suggested the possibility that Exposure Therapy could be practical in relieving anxiety and the technical errors associated with music performance (Appel, 1976).

Research has found that practicing confronting fearsome situations is the most powerful method of treatment available (Marks, 1978; Mathews, Gelder, & Johnson, 1981). Hamann (1985) argues, however, that even more effectual than Exposure Therapy is proper preparation and proficiency in the task to be performed. As Kenny (2008) stresses, without the proper development of musical skills and performance preparation, success is an unlikely occurrence, and therefore, repeated subjection to performance situations where the individual is likely to endure a negative experience will reinforce, rather than remedy, Music Performance Anxiety. Repertoire should be within the ability and interpretive capacity of the student and the material so familiar it borderlines automaticity (Kenny & Ackermann, 2007). Heinrich and Spielberger (1982) found that the performance of extremely anxious people in stressful situations only improved if they were well prepared to handle the task before them.

Particularly with Music Performance Anxiety, it is recommended that the sources of anxiety and their potential causes be carefully evaluated before assigning Exposure Therapy treatment (Lehrer, 1987). Should individuals' performance impairment be attributed to anxiety and not simply inadequate preparation, then repeated exposure to performance opportunities could be rather helpful. To avoid what is referred to as the "incubation effect" (McAllister & McAllister, 1967), however, exposure must be contained within a shorter amount of time, as performance opportunities with significant time lapses between them run the risk of rendering the opposite result. As Lehrer (1987, p. 49) claims, the infrequency of performances within a reasonable amount of time could be a primary contribution to the persistence of anxiety in some individuals, as there is a natural inclination to avoid stress inducing situations. Infrequency of performance during Exposure Therapy may heighten, rather than lessen, the levels of Music Performance Anxiety in an individual.

Lehrer goes on to caution, however, that approximate successions of exposure treatment must be contoured to the stage-frightened person, as the prospect of participating in some performance experiences too soon might discourage the individual or incline them to give up all together. For some musicians, performing for large crowds multiple times per week might be beneficial; for others, the prospect might be too overwhelming and smaller, more intimate performance settings would serve as a better introductory step. In a case study using this approach (Norton, MacLean, &

Wachna, 1978), a woman suffering from stage fright was successfully treated for her anxiety through this more sensitive incremental approach.

Alternatively, Systematic Desensitization through Guided Imagery allows for a less severe exposure to the anxiety-producing object or situation. In conjunction with relaxation training, the individual simulates “approaching” the feared object in progressive increments until the object no longer prompts an anxiety-based reaction. According to Cognitive-Behavioral psychologist Wolpe (1958), the premise of Systematic Desensitization is rooted in the principle that unadaptive responses due to anxiety are learned responses and can be replaced with more adaptive behavioral responses if the reaction is rehearsed effectively. In a study by Lund (1972), three Cognitive-Behavioral approaches to treating Music Performance Anxiety were compared: psychotherapy, Systematic Desensitization, and progressive relaxation. In psychotherapy, researchers conversed with subjects about the cause of their anxiety. Systematic Desensitization and muscle relaxation were paired to lead subjects through simulated anxiety-inducing scenarios and challenge their reactions with the competing response attained by relaxation therapy. The Systematic Desensitization and relaxation techniques were presented on six taped recordings and assessed for effectiveness by the following measures: self-report measure of experienced feelings of anxiety, a performance evaluation by three judges, and second performance evaluation of total performance error count. Results indicated that all three treatment groups

demonstrated greater anxiety reduction than the no-contact control group, and that this in turn evidenced a connection to lower anxiety levels influencing higher performance success and satisfaction rates.

Lund's (1972) study is reminiscent of a similar investigation led by Appel (1974) that studied the same kind of experimental application but to the solo performance anxiety of adult piano students. Here, both Systematic Desensitization and its derivatives were tested in comparison to music analysis training. Thirty volunteer graduated music students who attested to suffering from or having experienced Music Performance Anxiety in a solo performance setting were randomly assigned to one of three training groups: Systematic Desensitization training, musical analysis, and a no-contact control group. Findings suggested that solo performance anxiety in adult pianists was alterable, with the Systematic Desensitization exercises found to be more effective in reducing the solo performance anxiety in adult pianists than the music analysis training procedure.

When compared to *in vivo* desensitization, which uses the actual fear-inducing stimulus, imagery training was shown to produce similar results (Cooke, 1964). However, *in vivo* desensitization has been considered more effective in speeding the process of anxiety reduction, which inspires many teachers to recommend frequent performance to counteract Music Performance Anxiety.

In any facet, Exposure Therapy in the treatment of Music Performance Anxiety should be a carefully planned implementation. Subjecting an individual to a performance situation without proper preparation, or to a performance situation with components that may be overwhelming or disturbing, may cause more harm than the original source of anxiety. Furthermore, since the effectiveness of this approach is contingent on the frequency of performances, a proper performance schedule with consideration for other anxiety triggering factors (i.e. audience demographics, venue size, situational consequence) should be prioritized. Alternatively, and possibly as a cautionary precursor, Guided Imagery may serve as a less risky form of Exposure Therapy.

## CHAPTER SIX

### *Medicinal Treatments*

Beta blockers, namely Inderal and its generic derivatives, have been used extensively over the past twenty years to ameliorate the somatic symptoms of Music Performance Anxiety, including palpitations, hyperventilation, tremor, and nausea (Dubovsky, 1990; Henehan, 1982; Hingley, 1985). If thought of in two parts, Music Performance Anxiety can be divided into (a) psychological fear and (b) the body's response to the psychological alert with the release of hormones by the adrenal glands, which initiates increased heart beat, blood pressure, perspiration, and muscle tremor. Dread over performance outcome, irritability, lack of concentration, panic, and depersonalization, the feeling of one's self being separated from reality (commonly described as a feeling of "strangeness" and supercharged awareness of the sensations associated with the physiological activity of performing) are also common manifestations of anxiety in stage frightened individuals (Rosenthal, 2000, p. 67), the somatic of which may be treated medicinally.

## *Beta Blockers*

Inderal (also known as nadolol, alprenolol, oxprenolol, or propranolol) is a synthetic medication that competes with beta-adrenergic stimulants like adrenalin. Both benzodiazepines (anti-anxiety medications) and beta-adrenoceptor-blocking drugs affect anxiety, but the latter have shown more success in counteracting anxiety of those not experiencing more cognitive or psychological symptoms, such as low self-esteem, social phobia, or general anxiety (Lehrer, 1987).

The first study investigating the use of beta blockers on musician was conducted in 1974 by Liden and Gottfries. Nineteen professional orchestra musicians with somatic symptoms including tremor, tension, and heart palpitations were treated with either a placebo or the beta blocker alprenolol before a concert performance. According to the self-rated assessment of anxiety as reported by the participants, researchers concluded that alprenolol was successful in relieving the symptoms of tremor, palpitation, and muscle tension, and benefited concentration and focus.

When used to supplement cognitive behavioral therapy, the effectiveness of beta blockers could possibly increase. Clark and Agras (1991) investigated the outcome of four different experimental treatments: (a) exposure and Cognitive Therapy procedures in conjunction with 5mg of buspirone (anti-anxiety medication), (b) the same Cognitive Therapy procedure in conjunction with placebo, (c) buspirone alone, and (d) placebo alone. Thirty-four volunteer musicians who had scored adequately on the a self-

reported measure of Music Performance Anxiety (among other assessments) were selected to participate. Results indicated that those treated with Cognitive-Behavioral Therapy showed the most improvement on subjective reports of in-performance anxiety, and findings were supported at a one-month follow-up. Although there was no comparison documented in the experiment's methodology between the Cognitive-Behavioral with buspirone condition and the Cognitive-Behavioral condition with placebo, based on other published studies, it would be reasonable to conclude that beta blockers are a potentially beneficial compliment to Cognitive-Behavioral treatment for Music Performance Anxiety.

In 1977, James, Griffith, Pearson and Newbury studied the effects of 40mg of oxprenolol on stage fright in 24 musicians in a non-randomized double-blind crossover trial. Musical performances were qualitatively assessed by two professional judges, and improvements were found most notable in those most affected by nervousness. Another study conducted in the following year with a similar sample size administered 40mg of oxprenolol to 12 music student subjects and 40mg of placebo to another 12 participants. Performances were judged on more quantitative data, including heart-rate, blood pressure, and then further evaluated qualitatively by two professional musicians and in self-reports post-performance. Findings suggested that oxprenolol caused a significant improvement in overall music performance, and furthermore, tremor and stiffness were reportedly lessened by the medication in the self-reports of participants after the

performance. Surprisingly, however, there were no recorded differences in heart rate, blood pressure, or nervousness between the pre- and post-tests.

Favorable results were also rendered in a study by Brantigan & Brantigan (1982) in which the effects of terbutaline (a beta agonist, which acts upon beta receptors in the opposite manner as beta blockers) were compared to propranolol in a double blind, non-randomized study of 29 musicians at both the Juilliard School and the music department at the University of Nebraska. Both quantitative and qualitative data were gathered; stage fright symptoms were evaluated by use of the State Trait Anxiety Inventory, and overall quality of the performance was assessed by professional music adjudicators. Results found that the beta-blocking drugs were successful in eliminating the somatic symptoms of Music Performance Anxiety, including dry mouth, which in turn resulted in positive assessments by the adjudicators.

For string players, the use of beta blockers can be particularly beneficial in counteracting the hand tremor so detrimental to bow control. James and Savage (1984) found that 40mg of nadolol versus 2mg diazepam on the performance anxiety of 33 young music students successfully counteracted the adverse effects of tremor in string players, in addition to the improvement of other functions requiring coordination. Similarly, in Neftel, Adler, Kappeli, Rossi, Dilder, Karer, Bruggesser, and Vorkauf (1982) assigned 22 string players randomly either to beta blocker experimental group or placebo control and had them perform both before an audience and alone. With an

audience present, those not receiving the beta blocking medication appeared seriously technically impaired in comparison to their performance to an empty hall. In contrast, those receiving the beta blocker showed no such impairments when performing for an audience.

Because of the sedative nature of these drugs, their usage does not come without concern for the deterioration of the performance due to the potential deficit of energy. Gates, Saegert, Wilson, Johnson, Shepherd, and Hearne (1985) studied the effects of nadolol on 34 vocal students at end of semester juries in a double-blind, non-randomized study by measure of both cardiac rate and performance quality as assessed by professional music adjudicators. Results suggested that a low dose of nadolol improved performance, but a larger dose led to its deterioration, as higher doses may contribute to bradycardia (abnormally slow heart action) which may then prevent overall performance capability. Specifically, studies assessing the use of beta blockers in performance evidence a particular decline in the areas of rhythmic accuracy and dynamic intensity (James & Savage, 1984).

Other undesirable side effects to beta blockade usage were discovered in a 1988 study by Berens and Ostrosky. While the use of nadolol did improve performance in a nonrandomized study of 150 musicians and singers, 10% reported bradycardia (heart arrhythmia), hypotension (low blood pressure), cold extremities, gastrointestinal upset, sleep disturbance, or muscle fatigue (Brugues, 2009). General fatigue has been a

common concern regarding the regular use of beta blockers, as is their association with depression (Lederman, 1999). Beta blockers have also not been as popular with singers or wind instrumentalists, as it has been evidenced to increase salivation (Brantigan, 1982; Sataloff et. al., 2000).

Despite the scientific evidence that supports the benefits of beta blockers, the question of whether or not it “zombifies” a musician in performance has been long in debate. Nube discussed this in a 1991 article, labeling the numbing effect of beta blockers as “detachment.” She cautions that, however attractive the idea of more reliable physical control may be in the face of stress, musical sensitivity and expression may suffer as a result. Other researchers advised of a similar issue, calling it “inhibited edge” or simply, “lethargy.” (Rosenthal, 2000, p. 70) Further, Nube discovered a decrease in the proficiency of eye-hand coordination as a result of taking beta blockers, a quite serious downside to their use.

It is important to note, however, that these unpleasant side effects (i.e. depression, insomnia, hallucinations) were observed in studies where patients received daily doses of 160 milligrams of beta blocking medication, which is nearly eight times the recommended dose for the treatment performance anxiety. More research with appropriate dosage would be beneficial in further investigating the advantages and disadvantages of beta blocking drugs in the treatment of Music Performance Anxiety.

## *Beta Blockers and Addiction Risk*

The question of if beta blockers are addicting is also common grounds for concern in its treatment of Music Performance Anxiety. Taking into account that the side effects reported in scholarly research have, in most cases, been the result of unnecessarily large doses, the validation of the “addiction warning” should be more fully investigated for validity. Regarding the issues of both addiction and ethics, Rosenthal (2000) offers sound commentary on the risks and moral codes associated with the drug. In response to the concern for addiction to Inderal, Rosenthal contrasts the use of beta blockers to alcohol abuse and opiates (morphine and its derivatives), explaining that addiction to these substances can be broken into three components: episodic intoxication and euphoria, pharmacologic dependence, and the tendency for abusers to relapse after a period of teetotalism. Alcohol and opiates, he argues, produce temporary degrees of excitement and heightened euphoria also referred to as a “high,” whereas beta blockers inspire no such reaction. Moreover, withdrawal from these substances can produce hallucinations, nausea, diarrhea, insomnia, fever, and other unpleasant side effects that can be abated if consumption of the drug is resumed, especially at higher doses. Again, Rosenthal contends, taking higher doses of Inderal or withdrawing from use entirely produces no such parallel experience. The risk of dependence is not included in the drug manufacturer’s description of Inderal because there is no

documented, scientifically proven risk. Those deciding to discontinue use have not been evidenced to react in manner parallel to opiate addicts and "crackheads."

In response to the argument that Inderal may be habit forming, if not addictive, studies have shown that use of the drug may actually reduce the motivation to continue use after subsequent successful performances. Neftel (1982) writes, "[the] psychological dependency on the beneficial effects of single dose beta blockade in regularly performing musicians is not a relevant problem. In contrast, the sometimes striking results seem to reinforce self-confidence for further performances."

### *The Ethics of Inderal*

The ethics of beta blockers and the risk of posing an "unfair advantage" have been frequently considered regarding competition and sports. In a 1986 study of competition pistol shooters by Kruse, Ladefoged, and Nielsen, data evidenced an advantage of shooters who took beta blockers to counteract hand tremor. Justifiably, then, the drug was banned from use in the sport, as performance and success in this context is based entirely on physical aptitude. However, as long as music remains an endeavor of artistic merit, asserts Rosenthal, "objected by subjective standards instead of hitting bulls-eyes, this factors should probably not apply" (2000, p. 70). Considering the perfectionist standard set by the recording industry and the continued progression of producing increasingly "perfect" performance artists, this statement may be outdated

when orchestral auditions and competitions assume Olympic-level rubrics and start awarding medals solely for sake of technical execution.

Rosenthal makes a pointed argument in asking how the accomplishments of distinguished artists would be perceived if their use of beta blockers to manage the pressures of their careers was made public knowledge. He writes:

Many musical giants including [Vladimir] Horowitz and [Arthur] Rubenstein are recognized to have suffered disabling performance anxiety. Does this diminish our respect for their musical accomplishments? The musician who emulates fictional characters incapable of experiencing such fear, such as James Bond, probably suffers more profound problems than performance anxiety.  
(2000, p. 71)

Beta blockers, then, should presumably be accepted as a medicinal means by which performers can alleviate the physiological symptoms of anxiety that may be preventing the realization of their full potential onstage. However, it should be noted that beta blockers should not be prescribed to those with asthma or bronchospasm, and instrumentalists who require more than the occasional medication would be advised to seek treatment alternatives (Neftel, et. al., 1982). It is recommended that musicians take a trial dose to familiarize themselves with the drug's effects and to ensure that the fear of possible side effects does not worsen the symptoms already present. Finally, beta

blockers should not be used without prescription, although statistics reveal that musicians do so by a ratio of seven to one (Rosenthal, 2000, p. 70).

In a survey conducted by Lockwood (1989) of over two thousand orchestral musicians at the International Conference of Symphony and Opera Musicians (ICSOM), 27% used propranolol to manage their anxiety before a performance, with 19% of these admitting to using the drug on a daily basis. It was noted that the performers preferred beta-adrenoceptor blocking agents over anxiolytic drugs because of their reduced affect on mental alertness and optimal cognitive function. In 2001, a review conducted by Harris demonstrates the successful alleviation of orchestral musicians' stage fright through use of beta blockers. Further research investigating both safety and self-efficacy specifically to the orchestral musician population was suggested.

### *Benzodiazepines*

Benzodiazepines are drugs typically used to treat anxiety, dysphoria (severe depression), and muscle tension, but have also been successful in treating general apprehension, muscle tension, and gastrointestinal distress. They are also prescribed for the treatment of epilepsy, alcohol withdrawal, or used as a sedative. Common brand names associated with benzodiazepines include diazepam (Valium), alprazolam (Xanax), and lorazepam (Ativan). The medication communicates with neural receptors in the subcortical areas of the brain to increase the activity of the inhibitory

neurotransmitter, which in turn prevents heightened arousal in some areas of the brain, including the hippocampus, amygdala, cerebellum, and cortex. Benzodiazepines primarily affect the limbic system (the central location for emotional processing), but because of its effect on the cerebellum, the drug also initiates full-body relaxation (see Oliver, 1997).

Benzodiazepines have been criticized for reasons similar to beta blockers. They may cause drowsiness, loss of coordination, and run the risk of dependency from regular use. They have also been largely ineffective in treating the somatic symptoms of Music Performance Anxiety, which cumulatively make them a substandard choice for its treatment (Park, 2010)

The advantages of beta blockers over benzodiazepines seem rather obvious when comparing their benefits and side effects. For the sake of concrete evidence, however, several studies have been conducted to compare the two treatment options, the first dating back to 1974 by Tyrer and Lader. In this study, researchers compared propranolol, diazepam, and placebo in the treatment of twelve anxious participants. Half were more troubled by the somatic symptoms of anxiety while the other half were more bothered by the psychological disturbances of anxiety. Results found that, although diazepam was more effective in relieving subjective psychological anxiety than propranolol or placebo, the beta-blocking drug was more successful in treating the somatic physical side effects of anxiety. This study was mirrored by later findings of

James and Savage (1984) in a study comparing beta blockers and benzodiazepines, where researchers found diazepam to worsen technical accuracy in string musicians, including tempo, rhythm, and intonation.

In summary, experts agree that despite the success of benzodiazepines in treating subjective anxiety, the disadvantages are more detrimental to performing musicians than the symptoms that may originally cause impairment. The specificity of brand names in relation anti-anxiety medications should be considered, however, as the ingredients of each medication differ and could possibly render different results. Buspirone, for instance, is an anti-anxiety medication with few similarities to the aforementioned benzodiazepines or beta blocking drugs. Buspirone has reportedly caused less sedation and does not run the risk of impairing the execution of motor skills. Clinical studies have also found a significantly lower risk of addiction than other anti-depressant medications. Headaches, dizziness, and some gastrointestinal discomfort may accompany the use of the drug, however the severity of these symptoms has been found to be mild in comparison to those of diazepam (James & Savage, 1984).

In attempting to medically treat Music Performance Anxiety, it is important to keep in mind that, while the somatic complaints of stage fright may be temporarily addressed, experts maintain that somatic symptoms are triggered by negative cognitions (Gould, Weinberg, & Jackson, 1980; Powell, 1973; Woolfolk, Parrish, &

Murphy, 1985). If destructive thought patterns are altered, the problematic physical symptoms of Music Performance Anxiety are less likely to occur. Many experts recommend supplementing short-term medicinal therapy with a longer-term Cognitive-Behavioral Therapy, while others contend that short-term drug therapy alone is enough due to the confidence performing free of somatic symptoms will inspire in the individual (see Brandfonbrener, 1986).

CHAPTER SEVEN  
*A Review of  
Self-Help Publications*

In addition to scholarly articles and experimental studies, several notable books have been published as self-help for the stage-frightened musician. Several of the publications are written by practicing professional musicians who have successfully counteracted their own Music Performance Anxiety and have particularly relevant insight relating to specific instruments or performance situations. Jon Gorrie, author of *Performing in the Zone* (Gorrie, 2009), is a professional trumpet player, conductor, composer and mental coach with a boastful track record of success stories. Kato Havas, a violinist child prodigy turned pedagogue, discusses her theories behind the causes and cures behind stage fright with special reference to string playing (Havas, 1973). Barry Green, principal bassist for the Cincinnati Symphony, maintained a faculty position at the Cincinnati Conservatory of Music in addition to a demanding lecture schedule for his book, *The Inner Game of Music* (Green, 1986). Other experts, including Olympic sports psychologist Don Greene, have also published their field experience in the management of performance anxiety (Greene, 2002).

In one of the earliest publications on this topic, Kato Havas's *Stage Fright: Its Causes and Cures With Special Reference to Violin Playing* (1973), Havas expounds on her performance heavy career as a young prodigious violinist and the perfectionist standard that led her to resent her vocation. She writes:

During the subsequent tours and orchestral appearances I also discovered that, with or without stage fright, no praise, no wonderful review on earth could make me feel happy if I myself did not feel happy with my playing. (1973, p. xii).

Havas's eventual work in the music educational world led her to first publish the somewhat controversial *A New Approach to Violin Playing* (Havas, 1961), which focused more on the fundamental principles of coordinated balances than did current conventional teaching. *Stage Fright* focuses specifically on the inhibiting tension facing many violinists and its underlying causes. Havas discusses both the physical aspects of stage fright as experienced by string players and the activating thoughts that instigate them, including the fear of the trembling bow arm, the fear of being out of tune, and the fear of high positions and shifts. For every listed fear, Havas offers personal insight on its origins and subsequent remedies, including physically therapeutic exercises the string player can adopt into regular practice. In similar format, Havas also touches on the mental aspects of stage fright, including the common fear of memory lapses when

reciting music in a pressured performance situation. She concludes with practice implementations and suggestions for examinations, auditions, competitions, and general performances that impress the importance of physical and emotional health.

Barry Green and Timothy Gallwey also stress the imperativeness of tension-free performance through the mastery of mental focus in *The Inner Game of Music* (1986), adapted for musicians from Gallwey's highly successful book, *The Inner Game of Tennis* (Gallwey, 1972). Green and Gallwey walk readers through the steps to practice attaining (and maintaining) cognitive control in a manner reminiscent of basic cognitive restructuring. Green designates the labels of "Self 1" and "Self 2" to mean the individual and the distracting (and often times destructive) mental "chatter" of the left brain during performance. The intervention and replacement of negative thought patterns with positive rationalizations follows a similar model to Rational Emotive Behavioral Therapy, with its therapeutic premises rooted in the proactive involvement of the individual in counteracting and eliminating destructive cognitive habits. Complementary to Havas, Gallwey and Green emphasize the need for more attention to be given to the cognitive and emotional well-being of the musician in conservatories and educational environments.

Don Greene adopts a similar model in both *Audition Success* (2001) and *Performance Success* (2002), two narratives relaying his experience applying sports psychology to music. A significant pre-performance mechanism on which Greene bases

much of his professional views is *centering*, a focusing strategy proven effective with competitive athletes. The beginning of *Performance Success* requires the reader to score themselves according to Greene's "Artist Performance Survey," designed to assess strengths and weaknesses in particular aspects of the individual's performing.

According to Greene, the formula for optimal performance is in developing the ability to dexterously switch between the left and right hemispheres of the brain, according to musical demands (Greene, 2002). In the following chapters of *Performance Success*, Greene assists readers in dissecting their scores by outlining the "Seven Essential Skills for Optimal Performance," including determination, poise, and mental outlook. He goes on to offer specific tactics in not only the technique of centering, but achieving mental calm and positive cognitive outlook as well.

John Gorrie follows a similar format, although his book *Performing in the Zone* (2009) is intended not only for musicians, but public speakers, dancers, actors, and entertainers as well. According to Gorrie, the "zone" is "that mind state where everything clicks, everything is easy, where your actions are effortless, and when your results are up to or even exceed your previous experience" (p. 21). The Zone, Gorrie explains, is the most ideal mentality for a given performing situation, ultimately resulting in optimal performance. *Performing in the Zone* addresses both the science behind states of arousal and to offer tools and techniques to help control personal performance arousal level.

## *High-Pressure Parallels*

Although not written for the sake of musicians or performing artists, publications on the successful management of fear in extreme sports offer relevant advice to treating Music Performance Anxiety. Professional skydivers, for instance, view jumps similar to the manner in which musicians view performance: they are high-pressured, consequential situations that require an optimal level of skill and concentration. Skydivers participate in centering techniques similar to what Greene describes in *Performance Success* (Greene, 2002) in an effort to prevent any cognitive interruptions that could distract from the execution of the jump, as well as to counteract the somatic symptoms of anxiety. The skills to maintain mental clarity in the face of a life-threatening situation are parallel to the manner in which musicians regard performances, as skydivers assert the imperativeness of sustaining an illusion of control over their success and survival, regardless of circumstance (Laurendeau, 2006).

The publications of Greene, Gallwey, Gorrie, Havas, and Green offer treatment options for Music Performance Anxiety through self-reflection and journaling, as well as suggested supplemental activities that may enhance the effectiveness of applying the book's principles. In conjunction with other Cognitive-Behavioral Therapies, these self-help publications could further the effectiveness of treatment by alerting the reader to behaviors that may be contributing to their anxiety.

CHAPTER EIGHT  
*Conclusions and Implications  
for Future Research*

Music Performance Anxiety is an issue scarcely discussed in the music community. Despite the present literature on the effectiveness of psychological and pharmacological treatments, there is a noticeable lack of urgency in the musical community to disseminate these findings, due possibly to the stigma of performance anxiety that is attached to mental illness. The unfounded belief that seeking treatment for Music Performance Anxiety (or any other mental health issue, for that matter) indicates personal weakness may be one issue that keeps those experiencing its symptoms from pursuing professional help (see McGinnis, 2005). The fact that many musicians are also full-time freelancers and may not have access to health insurance could also contribute to non-treatment, substance abuse, or the attainment of pharmaceutical treatments without a proper medical diagnosis (see Park, 2010). The consequence of these and other avoidance factors may compromise and, in severe cases, curtail potentially prosperous careers.

In addition to the perfectionistic standards facing classical musicians, the job market in the United States performing artists does not currently present the same wealth of opportunity typical of other vocations requiring equally skilled and highly educated professionals. For those pursuing careers in the arts, the pressure to properly demonstrate one's competence under pressure intensifies the common fears of loss, rejection, and instability that only exacerbate the potential for psychological conflict (see Nagel, 2010). Undoubtedly, these factors and many others exclusive to the arts make addressing emotional wellness a critical objective in the music community, especially at the conservatory and collegiate level when professional level performance skills are trained and refined.

### *How Collegiate Music Administrations Can Help*

University music departments and conservatories could do a great service to their student base by regularly offering workshops and group classes in particular therapies, such as Yoga, Alexander Technique, and Progressive Muscular Relaxation. Guest lectures by mental coaches similar to Don Greene, Jon Gorrie, and Barry Green would not only expose students to the effectiveness of performance psychology, but may potentially ease the discomfort typically associated with mental and emotional health.

Nagel (2009) suggests courses in the psychology of stage fright, physiology of the performer, and audition strategies as well as professional career guidance. If the mission of conservatories is to equip students with the tools necessary for a successful career in performance, offering courses and guidance of this nature would better ensure its accomplishment. The following look at the Eastman School of Music's method of addressing student wellness offers a valuable model for other institutions.

### *Prioritizing Emotional Health at the Eastman School of Music*

Proactive administrative involvement in monitoring and promoting the wellness of their students may result in greater individual success. This is a practice the Eastman School of Music has been doing for years: a 1978 publication by conservatory administrators Nedeffer and Hessler outlined steps the school was taking to ensure the mental well being and success of their students. Psychologically testing students (by way of an attentional and interpretational style test) to better understand individual coping mechanisms, Nedeffer and Hessler claim, make addressing stage fright a collaboratively preventative measure between the teacher and student. Interestingly, the authors pointed out that the student profile of greatest concern is that of a student who reacts to anxiety by way of withdrawal. They explain:

Often these individuals drift along, performing at an acceptable level, but not achieving their potential and not getting needed feedback from instructors. They

feel too anxious to ask for feedback and interpret the fact that it is not given as either rejection or a lack of concern. They see other (more demanding and vocal) students getting the time and attention. Their anger, resentment, and anxiety build and their confidence decreases... ultimately the blame may be directed inward, accompanied by a feeling of unworthiness, and then the student may drop out entirely. (p.151)

Because of the unique insight psychological testing affords Eastman administrators and studio teachers, students who demonstrate a potential future difficulty are encouraged to communicate more openly with professors regarding their concerns. Nagel (2010) points out that, because of a musician typically begins studying their instrument at an early age (90% before the age of 12 and 46% before the age of 7), critically formative years are often spent in lessons under the supervision of what Nagel (2010) calls “metaphorical parental surrogates,” (p. 142); the emotional need for a student to feel a continued involvement and positive support from their private instructor may be crucial to some students’ success. Nagel (2009) suggests that teachers and administrators would benefit from becoming increasingly sensitized to their role in each student’s development; they must be “emotionally present,” but at the same time, have a clearly defined referral network for helping students beyond the instructor’s professional capabilities.

Nedeffer and Hessler go on to describe the development of several training programs to help in performance situations where careful practice and positive verbal reinforcement are not enough. The programs combine training in relaxation, the development of positive attitudes and images (correspondingly with replacing old negative ones) with Biofeedback, all on the premises that when improvement is noted by the student and reinforced by the teacher, confidence level rises. Researchers at Eastman also specifically modeled the programs to be time efficient; successful results from Biofeedback training and deep breathing were evidenced after four to six sessions.

### *Rejuvenating Self-Belief*

Perhaps one of the most important goals of any Music Performance Anxiety therapy is to recharge the subject's self-esteem and self-efficacy belief. The self-efficacy theory of human behavior change asserts that the effectiveness of many Cognitive-Behavioral approaches to therapy are effective simply because they inspire a greater sense of self-belief and positivity in the individual (Bandura, 1997; Hendricks, 2009), which can be achieved through both actual experience (as in Exposure Therapy) or by simulation (Guided Imagery, Mental Practice). In a study by Salmon, Shook, Lombart, and Berenson (1995), a questionnaire based non-randomized assessment of 154 musicians revealed that those who scored highest in stress tolerance reported the fewest injuries and lowest levels of performance anxiety than did those with lower capacities

for stress. Eastman administrators' focus on tension is advantageous because not only does it motivate the student when improvement is noted, but it serves as a preventative measure against many common physical ailments as a result of overuse of muscles, including carpal tunnel syndrome and tendonitis.

Nedeffer and Hessler conclude their article by impressing the issue of administrative accountability in providing resources for psychological coaching to their students:

We don't intend to imply that we have all the answers for helping people cope with excessive performance anxiety and overuse problems. We think, however, that we do have enough awareness of individual differences to recognize that a number of different training procedures need to be employed if we are to help students and others live up to the ultimate potential... We hope that what we have said serves to generate new and better ideas as well as greater empathy and sensitivity. (p. 153)

It is possible that the attention Eastman Music School administration gives to the whole student has played a role in its consistently prestigious placement in published music school rankings. Recognizing that the skills to approach the stage with confidence should be a collaborative effort between the student, teacher, and music school administration demonstrates an accountability many departments lack. In a

purposely satirical article by Nagel (2009) entitled, “How to Destroy Creativity in Music Students: the Need for Emotional Psychological Support Services in Music Schools,” she pointedly emphasizes the opposite to stress the importance of various issues. “Do not think of a career in music in the context of the whole person,” she writes...

Insist on better technique, winning competitions, and earning awards to enhance the reputation of the teacher and the school... maintain the attitude that more hours spent practicing will eventually pay off in better performances, performance opportunities, and higher earnings. One just has to become ‘good enough.’ (p. 15)

The fear of *not* being good enough, however, only perpetuates anxiety symptoms. As discussed in the introduction, perfectionist tendencies often foster inhumanly flawless standards, which are only encouraged by the sometimes naive but expectant listening public. And as Nagel contends, the relentless “work harder” ethic rarely renders the same results on stage as it does in the practice room.

The therapies evaluated in this review can be applied singularly or in conjunction with each other to maximize effectiveness. Some psychological therapies are evidenced more effective with simultaneous medicinal supplement (Clark & Agras, 1991) and others are best approached in a progressive manner, such as in the case of Progressive Muscular Relaxation, Guided Imagery, and Systematic Desensitization or

Exposure Therapy (Appel, 1976; Hammer, 1996; Sisterhen, 2005). Since Music Performance Anxiety could indicate a social phobia, proper professional evaluation is vitally important before a therapeutic method is selected; as theories in Schema Therapy and Hypnotherapy suggest, the true core of anxious tendencies must be addressed before success can be made more permanent (Bricker & Young, 2003; Ellis, 1996).

### *Recommendation for Future Research*

The current research on Music Performance Anxiety therapies has obvious deficits. In acknowledging that Cognitive-Behavioral Therapy is most effective in identifying the subconscious issues triggering anxiety, further studies regarding Rational Emotive Behavioral Therapy, Schema Therapy, and Hypnotherapy is recommended, as all three address deeply ingrained personality characteristics that could determine the success of possible supplemental treatments. It would be advised, however, that the methodology for such studies include larger sample pools to substantiate their findings.

Since both Biofeedback and Alexander Technique are rather innovative ways to address tension, further research specifically in this area would aid in their accessibility. For music schools to agree to fund the establishment of a Biofeedback lab or to regularly offer courses in Alexander Technique as part of its general curricula, research must be conducted to further attest to the therapies' effectiveness.

## *Conclusion*

The research contained in this review includes many types of therapies that are currently under-evaluated for their ability to treat Music Performance Anxiety. Ahead of Expressive Art, Exposure, and Medicinal Therapies, Cognitive-Behavioral Therapies exhibit the most favorable results in anxiety management while simultaneously posing the lowest risk to the individual. Counteracting negative thought patterns with the integration of more positive, encouraging cognitions, as well as gaining awareness and subsequent control of muscle tension appear to be two of the most significant factors contributing to Cognitive-Behavioral Therapy's effectiveness. It could be theorized that with the elimination of emotional self-sabotage and the adoption of physically and emotionally healthy activities, the need for medicinal intervention may be nullified.

The pursuit of therapeutic counsel and treatment for Music Performance Anxiety should be accepted, encouraged, and openly discussed in the educational environment. If cumulatively, beginning ensembles through conservatory symphonies prioritized the emotional stability of its students as highly as their musical development, performing would resume its rightful connection to artistry over assessment. Creativity, as Nagel puts it, is enhanced by working through its inhibition. Not doing so comes at far greater cost.

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