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Treatment Approaches for Music Performance Anxiety: What works?

Dianna Kenny

Australian Centre for Applied Research in Music Performance

Conservatorium of Music

The University of Sydney

Australia

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INTRODUCTION

In the first of two articles on music performance anxiety for *Music Forum* (May-July, 2004, 10, 4, 38-43), I discussed the problem of music performance anxiety, how it develops, what makes some musicians more vulnerable than others, and how anxiety affects performance. A large number of treatments (e.g., behavioural, cognitive, pharmacological and complementary) have been devised to treat music performance anxiety. In this article, I will explore some of the available interventions for music performance anxiety and the research exploring their effectiveness.

A systematic review of all available treatment studies for music performance anxiety was undertaken. Although the field is not well developed and much more work needs to be done, we can draw some conclusions about which treatments are more likely to have a beneficial effect on anxious musicians.

THE TREATMENTS

I will examine each of the major treatments in turn and then assess the research evidence related to their effectiveness.

Cognitive, Behavioural and Cognitive-Behavioural Interventions

What is Cognitive Behavioural Therapy?

Behaviour in any situation is determined by a combination of thoughts, feelings and past and present behaviours. Three groups of therapies - behavioural, cognitive and cognitive-behavioural - are all based on the same principles, but use the available therapeutic techniques in different amounts. Behavioural therapies focus primarily on changing the dysfunctional behaviours that arise when people feel anxious. One of the main targets of behavioural therapies for anxiety disorders is excessive muscle tension, which is treated with deep muscle relaxation

training and systematic desensitisation, a procedure in which the person is encouraged to imagine the feared or anxiety provoking situation in graded steps, called the fear hierarchy, until they can visualise the situation without experiencing the muscle tension that used to accompany the visualisations. Once the fear hierarchy has been mastered in the therapist's office (imaginal desensitization), people are encouraged to apply their new skills in the actual, anxiety-provoking situation (called 'in vivo' desensitization).

Cognitive therapy is more concerned with changing faulty thinking patterns that give rise to maladaptive behaviours, such as excessive muscle tension, avoidance of the feared situation, or impaired performance. In this therapy, people learn a skill called cognitive restructuring, which is a process whereby people replace negative, unproductive, catastrophic thinking with more rational, useful ways of understanding their problem situations. Based on changed thinking patterns, people are often able to re-assess or re-appraise their feared situations in ways that make dealing with those situations more manageable.

Cognitive Behavioural Therapy (CBT) is a combination of behavioural and cognitive interventions. CBT is a combination of educational and psychological interventions that are based on the idea that changing negative thinking patterns and behaviours can have a powerful effect on a person's emotions, which in turn can change people's behaviour in situations in which the negative emotions arose. It helps people to identify, analyze and change counter-productive thoughts and behaviours, thereby alleviating feelings of depression and anxiety. Once these counterproductive patterns are identified, the therapist instructs the patient how to challenge and restructure their behaviour and thinking. Behaviour becomes based on rational, reality-based thinking, rather than on negative, catastrophic thinking that impairs people's capacity to function effectively. Essentially, individuals embark on a new learning process that is guided by a

qualified psychologist, but which puts the individual in charge of their own change process. Like all new learning, CBT requires commitment, practice and application in situations outside the therapy office. CBT is focused and directive, usually of short duration and is action-oriented, that is, it is not solely a “talking therapy” - it relies on the client’s record-keeping, active participation, application and evaluation. Behaviour therapy (BT) and CBT are the most researched of all psychological interventions, and to date, are considered the most effective treatments for a range of psychological disorders, especially depression and anxiety.

Now let us examine the research evidence for the effectiveness of each of these three interventions for music performance anxiety.

Behavioral Interventions

Several studies have investigated the therapeutic effect of behavioural treatments on MPA, although only four studies have done so with samples specifically selected because they were high in MPA. Reitman (1997) examined the therapeutic effect of two systematic desensitisation procedures, and found that the treatment groups did not differ significantly to a waiting list control group on any of the anxiety, heart rate, or performance quality outcome measures employed. This was a small study and we cannot rely too heavily on its findings. Kendrick, Craig, Lawson, and Davidson (1982) used a much larger sample, and compared behaviour rehearsal and cognitive-behavioural treatments for MPA. The behaviour rehearsal group did not show improvements in anxiety or subjective stress, but they did show significant improvements before and after treatment in performance quality and subjective anxiety. The behaviour rehearsal group also showed greater improvements in the visual signs of anxiety than controls, although the cognitive-behavioural group showed an even greater improvement than the behaviour rehearsal group. Kendrick’s study suggests that behaviour rehearsal may be an

effective form of treatment for MPA for some outcome measures (anxiety, subjective stress scale) but not others (self-efficacy and visual signs of anxiety) for which a CBT intervention was superior. Similarly, Sweeney and Horan (1982) found that the behavioural technique of cue-controlled relaxation led to improvements in anxiety, MPA, heart rate, and performance quality in students suffering from MPA, and that CBT was not significantly more effective for these outcome measures than this simple behavioural treatment. Richard (1992) failed to find a therapeutic effect with cue-controlled relaxation but he had very small sample. Four other studies have assessed behavioural treatments for MPA on music students; Grishman (1989) and Mansberger (1988) used standard muscle relaxation techniques; Wardle (1969) compared insight/relaxation and systematic desensitisation techniques; and Deen (1999) used awareness and breathing techniques. These studies indicated improvements on self-report measures of performance anxiety (Deen, 1999; Grishman, 1989; Mansberger, 1988) and heart rate (Grishman, 1989; Wardle, 1969), but not performance quality (Deen, 1999; Mansberger, 1988; Wardle, 1969).

In summary, **behavioural treatments do appear to be at least minimally effective in the treatment of MPA, but currently there is no consistent evidence indicating the superiority of any one type of behavioural intervention.**

Cognitive Interventions

Two studies have assessed the therapeutic effect of cognitive techniques alone on MPA. Patston (1996) reported a comparison of cognitive strategies such as positive self-talk, and physiological strategies in the treatment of MPA in 17 opera students who were not specifically selected on the basis of their MPA severity. No significant improvements on vocal and visual manifestations of performance anxiety were found for either treated or untreated groups. In a

methodologically superior study, Sweeney and Horan (1982) found that cognitive restructuring techniques may be effective in treating music students suffering from MPA. They found that a treated group showed significantly greater improvements on MPA, anxiety, performance quality, and heart rate than an untreated group. Roland (1994) suggests that self-instruction alone may be useful in reducing MPA, although his failure to include a control group is a major methodological weakness of his study.

In summary, **no conclusions can be drawn at this time about the usefulness of cognitive interventions alone in the management of MPA.**

Cognitive-behavioural Interventions

Three studies have assessed the therapeutic effect of cognitive-behavioral strategies on MPA. Harris (1987), Roland (1994), and Kendrick et al. (1982) all reported that standard CBT techniques were effective in the treatment of MPA in students specifically selected for study because of the severity of their MPA. Kendrick et al. (1982) also found that CBT improved performance quality in students suffering from MPA, and that CBT was superior to behavioural rehearsal in terms of improvements in expectations of personal efficacy and visual signs of anxiety. Harris (1987) and Roland (1994) reported that CBT also led to reductions in anxiety, although Kendrick et al. (1982) failed to find a significant difference between treatment and control groups on levels of anxiety.

The evidence for improvements in MPA following CBT is quite consistent, although further studies with larger samples and less reliance on self-report measures would be useful. While CBT may be superior to drug therapy in treating MPA (see Clark & Agras, 1991), there is little evidence as yet to suggest that it is superior to either standard behavioral or cognitive techniques alone. One should also remember that treated

performers may not achieve a level of anxiety similar to that experienced by those who do not suffer from the condition.

Combined Interventions

A number of studies have examined the effect of combining treatment approaches. For example, Brodsky and Sloboda (1997) investigated the combination of counseling, counseling + relaxation, and counseling + relaxation + vibro-tactile sensations in the treatment of MPA. Other studies have assessed the combined effect of behavioral, or cognitive-behavioral, and biofeedback techniques in treating MPA. Niemann, Pratt, and Maughan (1993) found that students with MPA showed significantly greater anxiety reduction than untreated subjects when treated with behavioral and biofeedback techniques, a finding consistent with that of Nagel, Himle, and Papsdorf (1989), who employed a combined CBT + biofeedback treatment. Sweeney-Burton (1997) was unsuccessful in reducing anxiety and improving musical performance following a similar behavioral + biofeedback intervention, but this study was conducted with music students who had not specifically been selected for their high MPA. Cognitive-behavioral therapy was superior to drug therapy with buspirone in the treatment of MPA, and also that improvement in performance quality was greater in a CBT + placebo group than in a placebo group alone (Clark & Agras, 1991). However, busipone has been shown to be ineffective in treating social phobia, so it may not be better than placebo for MPA. Finally, Sweeney and Horan (1982) found that behavioral, cognitive, and cognitive-behavioral treatments were all effective in treating students suffering from MPA, when compared to a control group, but that no significant differences were apparent between the three types of treatment on measures of general anxiety, MPA, and performance quality. The only difference between

treatments was with respect to heart rate, where the behavioral and cognitive treatments led to greater improvements than the combined CBT treatment.

In summary, **there is little evidence to suggest that combined treatment approaches achieve greater improvements in MPA than single treatments, but further research in this area is needed.**

Other Interventions

Alexander Technique. The Alexander Technique is an educational process in which the student learns a set of skills that result in lessening of the areas of tension in the body, so that movement becomes easier and less effortful. The aim is to cultivate a more natural alignment of head, neck and spine that has associated with it qualities of balance, strength and coordination. The method aims to teach conscious and voluntary control over posture and movement and to undo involuntary muscle tension. The Alexander Technique is a method for eliminating unwanted muscular patterns or habits that interfere with smooth performance. For a performer, the technique is a method for using kinaesthetic cues, the sensations of tension, effort, weight, and position in space, in order to organize one's field of awareness in a systematic way.

Despite the enthusiasm with which this technique is marketed to performing artists, only one study to date has assessed the therapeutic effect of the Alexander technique on MPA. Valentine, Fitzgerald, Gorton, Hudson, and Symonds (1995) gave one group of music students 15 lessons in the Alexander technique, while a control group received no lessons in the technique. The treatment group showed improvement in musical and technical quality, and an increase in positive mood scores, whilst controls showed the opposite pattern of results. The treatment group also showed a decrease in anxiety and an increase in positive attitude to performance. These findings suggest that the Alexander technique may improve the quality of

performance and mental state of the performer, and may help to modulate increased variability of heart rate under stress. However, the study had a weak design and we cannot be confident in the findings. Given **the lack of good studies on Alexander technique in treating MPA, any conclusions must at this stage be tentative.**

Biofeedback. There is no good evidence indicating that biofeedback reduces MPA (McKinney, 1984; Richard, 1992).

Music therapy. Montello (1989) and Montello, Coons, and Kantor (1990), assessed the effect of a 12-week music therapy intervention on freelance musicians suffering from MPA in two separate studies. The intervention consisted of musical improvisation, three musical performances in front of an audience, awareness techniques and verbal processing of their anxiety responses. The 10 participants became significantly more confident as performers and less anxious than the 10 waiting-list control subjects after music therapy intervention. Despite the small sample size, there were many methodological strengths in this study, including the choice of subjects with severe MPA. This therapy was designed for mature freelance musicians and included music improvisation as part of the treatment. This approach may not be suitable for younger, less experienced musicians as the expectation to improvise may itself cause additional anxiety in young performers with little or no experience in musical improvisation.

Music therapy warrants further consideration as a treatment for music performance anxiety for professional musicians.

Ericksonian resource retrieval. This technique refers to the use of unconscious mechanisms within the individual's personal history to adapt to a current life challenge. Resources are defined as "automated patterns of feeling, perceiving and behaving" (Lankton & Lankton, 1983, p. 121). Resource retrieval assists the person to access their existing strengths

rather than teaching him/her new skills. Richard (1992) compared Ericksonian resource retrieval, cue-controlled relaxation and a wait list control. He found that Ericksonian resource retrieval reduced MPA at about the same rate as that of cue-controlled relaxation. However, all three groups improved over time on measures of anxiety and confidence as a performer. Treatment and control groups did not differ on self-reported MPA, performance quality, or performer confidence. **Small subject numbers and attrition from the treatment conditions make the results difficult to interpret, and a larger replication with better compliance is needed to fully assess the potential of Ericksonian resource retrieval in reducing MPA and in improving jury performances.**

Hypnotherapy. Only one study (Stanton, 1994) has assessed the therapeutic effect of two 50-minute sessions of hypnotherapy on music performance anxiety (MPA). A significant reduction in MPA was found for the treatment group, but not the control group, and a further significant reduction was found at 6-month follow-up. Stanton's findings suggest that **hypnotherapy may be effective in the treatment of MPA, but further methodologically superior studies are required.**

Meditation. Only one study (Chang, 2001) examined the effects of meditation [ie "a self-regulatory practice designed to "train attention in order to bring mental processes under greater voluntary control" (Walsh, 1995, p. 388)] on music performance anxiety. There was only very modest support for the role of meditation in reducing performance anxiety. Interestingly, there were no significant differences between the groups on measures of cognitive interference (mind wandering, intrusive thoughts) that the meditation intervention specifically addressed. Currently, **there is no evidence indicating the use of meditation in the treatment of MPA.**

Drug Interventions

Lehrer (1987) and Nubé (1991) have published comprehensive reviews of the impact of beta-blockers on music performance anxiety and a brief overview of other drugs, such as anxiolytics (ie anti-anxiety) and antidepressants has been provided by Sataloff, Rosen, and Levy (1999). Accordingly, only a brief summary of drug interventions will be provided in this paper and the interested reader is referred to these earlier papers for a more comprehensive review.

Beta-blockers have become increasingly popular among performers in recent years. For example, Lockwood (1989), in a survey of 2,122 orchestral musicians, found that 27% used propranolol to manage their anxiety prior to a performance; 19% of this group used the drug on a daily basis. Performers prefer beta-adrenoceptor blocking agents to anxiolytic drugs (eg diazepam) because of their reduced impact on central functions such as mental alertness and cognitive function. Beta blockers appear to be most effective for those musicians who report primarily somatic manifestations of their anxiety (eg palpitations, hyperventilation, tremor, trembling lips, sweating palms etc) (Gates et al., 1985; James & Savage, 1984) and less effective for those experiencing more cognitive or psychological effects, such as low self-esteem, social phobias, or generalised “free floating” anxiety (Lehrer, 1987). However, there is no clear indication that such drugs improve judge ratings of quality of performance (Brantigan et al., 1982; Gates et al., 1985; James et al., 1983), although a more recent study found it did improve performance quality (Berens & Ostrosky, 1988), but not self-reported anxiety (Brantigan et al., 1982; Gates et al., 1985), or stage fright ratings (Neftel et al., 1982). There are potential difficulties with drug withdrawal and unwanted side effects. Symptoms that have been reported in at least 10% of users include bradycardia, hypotension, cold extremities, gastrointestinal upset, sleep disturbance and muscle fatigue.

There are not likely to be any further studies of drug effects on MPA because ethical standards for research are much more rigorous than they were thirty years ago when these studies were conducted. This is a pity given the high usage of drug therapies by anxious musicians.

DISCUSSION

This systematic review of treatment for music performance anxiety indicates that there is considerable scope for the development and evaluation of appropriate interventions. Many of the studies reported in this review constitute the only study of its kind for the treatment genre (hypnotherapy, biofeedback, meditation, Alexander Technique, Ericksonian resource retrieval, and music therapy).

Interventions leading to an improvement in performance quality are most desirable, since they will have a self-reinforcing, confidence-enhancing effect on future performances, obviating the need for further treatment. Behaviour rehearsal, cognitive restructuring, combined self-instruction and progressive muscle relaxation and combined self-instruction and attentional training all had significant positive effects on performance quality. Systematic desensitization, deep muscle relaxation, visual rehearsal and awareness and breathing interventions alone did not affect performance quality.

With respect to the other treatments reviewed, even fewer conclusions can be drawn. Tentative support is demonstrated for Alexander Technique and hypnotherapy although more methodologically robust studies are needed to confirm their potential effectiveness. Not everyone is suitable for hypnotherapy. There was no support for meditation, biofeedback training, or Ericksonian resource retrieval. The music therapy model proposed and tested by Montello appears to have real promise in the management of MPA in professional musicians. The central musical focus of this intervention and the secondary focus on psychological processes may be

the underlying factor contributing to the positive outcomes of this intervention. Once again, further research is needed before such an approach can be recommended.

In conclusion, the literature on treatment approaches for MPA is fragmented, inconsistent, and methodologically weak. These limitations make it difficult to reach any firm conclusions about the effectiveness of the various treatment approaches reviewed. For significant progress to be made, future research will require consistency and strength in methodology, a clear definition of MPA, and the development of robust and appropriate outcome measures. Only then will firm conclusions about the effectiveness of various treatment approaches for MPA be possible.

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References

- Appel, S. S. (1976). Modifying solo performance anxiety in adult pianists. *Journal of Music Therapy, 13*, 2-16.
- Berens, P. L., & Ostrosky J. D. (1988). Use of beta-blocking agents in musical performance induced anxiety. *Drug Intelligence and Clinical Pharmacy, 22*, 148-149.
- Brantigan, C. O., Brantigan, T. A., & Joseph, N. (1982). Effect of beta blockade and beta stimulation on stage fright. *The American Journal of Medicine, 72*, 88-94.
- Brodsky, W., & Sloboda, J. A. (1997). Clinical trial of a music generated vibrotactile therapeutic environment for musicians: main effects and outcome differences between therapy subgroups. *Journal of Music Therapy, 34*, 2-32.
- Brodsky, W. (1996). Music performance anxiety reconceptualised: A critique of current research practices and findings. *Medical Problems of Performing Artists, 11*, 88-98.
- Brotons, M. (1994). Effects of performing conditions on music performance anxiety and performance quality. *Journal of Music Therapy, 31*, 63-81.
- Chang, J. C-W. (2001). Effect of meditation on music performance anxiety. Doctor of Education Dissertation, Teachers College, Columbia University. *Dissertation Abstracts International*, AAT 3014754.
- Clark, D. B., & W. S. Agras (1991). The assessment and treatment of performance anxiety in musicians. *American Journal of Psychiatry, 148*, 598-605.

- Craske, M., & Craig, K. (1984). Musical-performance anxiety: The three-systems model and self-efficacy theory. *Behavior Research and Therapy*, 22, 267-280.
- Deen, D. R. (1999). *Awareness and breathing: Keys to the moderation of musical performance anxiety*. Unpublished doctoral dissertation, University of Kentucky.
- Gates, G. A., Saegert, J., Wilson, N., Johnson, L., Shepherd, A., & Hearne, E. (1985). Effect of beta blockade on singing performance. *Annals of Otolaryngology, Rhinology and Laryngology*, 94, 570-574.
- Goleman, D. J., & Schwartz, G. E. (1976). Meditation as an intervention in stress reactivity. *Journal of Consulting & Clinical Psychology*, 44, 456-465.
- Grishman, A. (1989). Musicians' performance anxiety: The effectiveness of modified progressive muscle relaxation in reducing physiological, cognitive, and behavioral symptoms of anxiety. *Dissertation Abstracts International* 50(6-B), 2622.
- Hamilton, L., & Kella, J. (1992, August). *Personality and occupational stress in elite performers*. Paper presented at the Annual Convention of the American Psychological Association, Washington, DC.
- Harris, S. R. (1987). Brief cognitive-behavioral group counselling for musical performance anxiety. *Journal of The International Society for the Study of Tension in Performance*, 4, 3-10.
- Huston, J. L. (2001). Familial antecedents of musical performance anxiety: A comparison with social anxiety. *Dissertation Abstracts International: Section B: the Sciences & Engineering*, 62(1-B), 551.

- James, I. (1998). Western orchestral musicians are highly stressed. *Resonance: International Music Council* [France], 26, 19-20.
- James, I., Griffith, D. N., Pearson, R. M., & Newbury, P. (1977). Effect of Oxprenolol on stage-fright in musicians. *The Lancet*, 2, 952-954.
- James, I. M., Burgoyne, W., & Savage, I. T. (1983). Effect of pindolol on stress-related disturbances of musical performance: Preliminary communication. *Journal of the Royal Society of Medicine*, 76, 194-196.
- James, I., & Savage, I. (1984). Beneficial effect of nadolol on anxiety-induced disturbances of performance in musicians: a comparison with diazepam and placebo. *American Heart Journal*, 108, 1150-1155.
- Kendrick, M. J., Craig, K. D., Lawson, D. M., & Davidson, P. O. (1982). Cognitive and Behavioral Therapy for Musical-Performance Anxiety. *Journal of Consulting & Clinical Psychology*, 50, 353-62.
- Lankton, S.R., & Lankton, C. H. (1983). *The answer within: The clinical framework of Ericksonian resource retrieval*. New York: W.W. Norton.
- Lehrer, P. M. (1987). A review of the approaches to the management of tension and stage fright in music performance. *Journal of Research in Music Education*, 35, 143-53.
- Lehrer, P., Goldman, N., & Strommen, E. (1990). A principal components assessment of performance anxiety among musicians. *Medical Problems of Performing Artists*, 5, 12-18.

- Lewinsohn, P.M., Gotlib, I. H., Lewinsohn, M., Seeley, J. R., & Allen, N. B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of Abnormal Psychology, 107*, 109-117.
- Lidén, S., & Gottfries, C.-G. (1974). Beta-blocking agents in the treatment of catecholamine-induced symptoms in musicians. *The Lancet, 2*, 529.
- Lockwood, A. H. (1989). Medical problems of musicians. *New England Journal of Medicine, 320*, 221-227.
- Mansberger, N. B. (1988). *The effects of performance anxiety management training on musicians' self-efficacy, state anxiety and musical performance quality*. Unpublished doctoral dissertation, Western Michigan University.
- McKinney, H. V. (1984). *The effects of thermal biofeedback training on musical performance and performance anxiety*. Unpublished doctoral dissertation, University of Northern Colorado.
- Montello, L. (1989). Utilizing music therapy as a mode of treatment for performance stress of professional musicians. *Dissertation Abstracts International: Section A: Humanities and Social Sciences (I-A)*, 50/10.
- Montello, L., Coons E. E., & Kantor, J. (1990). The use of group music therapy as a treatment for musical performance stress. *Medical Problems of Performing Artists, 5*, 49-57.
- Nagel, J. J., Himle, D. P., & Papsdorf, J. D. (1989). Cognitive-behavioral treatment of musical performance anxiety. *Psychology of Music, 17*, 12-21.

- Neftel, K. Adler, R., Käppeli, L., Rossi, M., Dolder, M., Käser, H., Brugesser, H., & Vorkauf, H. (1982). Stage fright in musicians: a model illustrating the effect of beta blockers. *Psychosomatic Medicine*, *44*, 461-469.
- Niemann, B. K., Pratt, R. R., & Maughan, M. L. (1993). Biofeedback training, selected coping strategies, and music relaxation interventions to reduce debilitating musical performance anxiety. *International Journal of Arts Medicine*, *2*, 7-15.
- Nubé, J. (1991). Beta-blockers: Effects on performing musicians. *Medical Problems of Performing Artists*, *6*, 61-68.
- Osborne, M. S., & Franklin, J. (2002). Cognitive processes in music performance anxiety. *Australian Journal of Psychology*, *54*, 86-93.
- Osipow, S., & Spokane, A. (1983). *Manual for measures of occupational stress, strain, and coping (Form E-2)*. Columbus, OH: Marathon Consulting Press.
- Patston, T. (1996). *Performance anxiety in opera singers*. Unpublished master's thesis, Sydney Conservatorium of Music, University of Sydney, Australia.
- Reitman, A. D. (1997). *The effects of music-assisted coping systematic desensitization on music performance anxiety: A three systems model approach*, Unpublished doctoral dissertation, Temple University.
- Richard, J. J., Jr. (1992). The effects of Ericksonian resource retrieval on musical performance anxiety. *Dissertation Abstracts International: Section B: the Sciences & Engineering* *55*(2-B), 604.
- Roland, D. J. (1994). The development and evaluation of a modified cognitive-behavioral treatment for musical performance anxiety. *Dissertation Abstracts International: Section B: the Sciences & Engineering* *55*(5-B), 2016.

- Salmon, P. (1990). A psychological perspective on musical performance anxiety: a review of the literature. *Medical Problems of Performing Artists*, 5, 2-11.
- Sataloff, R., Rosen, D. C., & Levy, S. (2000). Performance Anxiety: What Singing Teachers Should Know. *Journal of Singing*, 56, 33-40.
- Sinden, L. M. (1999). Music performance anxiety: Contributions of perfectionism, coping style, self-efficacy, and self-esteem. *Dissertation Abstracts International*, 60(3-A), 0590.
- Stanton, H. E. (1994). Reduction of performance anxiety in music students. *Australian Psychologist*, 29, 124-127.
- Stephoe, A. (1989). Stress, coping, and stage fright in professional musicians. *Psychology of Music*, 17, 3-11.
- Stephoe, A. & Fidler, H. (1987). Stage fright in orchestral musicians: A study of cognitive and behavioral strategies in performance anxiety. *British Journal of Psychology*, 78, 241-249.
- Spielberger, C. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists.
- Sternbach, D. J. (1995). Musicians: A neglected working population in crisis. In S. L Sauter & L. R. Murphy (Eds.), *Organizational risk factors for job stress* (pp. 283-302). Washington, DC: American Psychological Association.
- Sweeney-Burton, C. (1997). *Effects of self-relaxation techniques training on performance anxiety and on performance quality in a music performance condition*. Unpublished doctoral dissertation, University of North Carolina, Greensboro.

- Sweeney, G. A., & Horton, J. J. (1982). Separate and combined effects of cue-controlled relaxation and cognitive restructuring in the treatment of musical performance anxiety. *Journal of Counselling Psychology, 29*, 486-497.
- Valentine, E., Fitzgerald, D., Gorton, T., Hudson, J., & Symonds, E. (1995). The effect of lessons in the Alexander technique on music performance in high and low stress situations. *Psychology of Music, 23*, 129-141.
- van Kemenade, J. F. L. M., van Son, M. J. M., & van Heesch, N. C. A. (1995). Performance anxiety among professional musicians in symphonic orchestras: A self-report study. *Psychological Reports, 77*, 555-562.
- Wardle, A. (1969). Behavior modification by reciprocal inhibition of instrumental music performance anxiety. Research in music behavior: modifying music behavior in the classroom. In C. K. Madsen, C. H. Madsen & R. D. Greer (Eds.) (1975), *Research in Music Behavior* (pp. 191-205). New York: Teachers College Press.
- Walsh, R. (1995). Phenomenological mapping: A method for describing and comparing states of consciousness. *Journal of Transpersonal Psychology, 27*, 25-56.
- Wolfe, M. L. (1989). Correlates of adaptive and maladaptive musical performance anxiety. *Medical Problems of Performing Artists, 4*, 49-56.

Author Note

Dianna Kenny, Australian Centre for Applied Research in Music Performance, Conservatorium of Music, University of Sydney.

Correspondence concerning this article should be addressed to Dianna Kenny, Australian Centre for Applied Research in Music Performance, Conservatorium of Music, University of Sydney, NSW, Australia. E-mail: D.Kenny@fhs.usyd.edu.au