

## Overcoming performance anxiety for piano students – how to apply research findings in your studio

Dr Katie Zhukov, *School of Music, University of Queensland*

*This paper provides a comprehensive overview of research literature on performance anxiety and offers strategies that might be employed to address the physical, behavioural and cognitive symptoms that accompany ‘stage fright’. The most popular approaches for treating the physical symptoms are relaxation techniques, in particular, deep breathing exercises and progressive relaxation. Other methods include biofeedback, Alexander Technique and the use of beta-blockers. The behavioural symptoms manifest themselves in inaccurate performance and could be targeted by developing counter-measures that can give students practical means for managing their anxiety. The cognitive symptoms consist of negative thoughts that could be overcome with self-talk (replacing negative statements with positive ones), goal setting (focusing on the process rather than the outcome) and systematic desensitisation (gradually increasing the levels of situational stress).*

### Background

Piano teachers spend a great deal of lesson time developing students’ technique, overcoming technical problems in repertoire and developing appropriate interpretation and tone. Yet, often student achievements do not translate into successful performance in stressful situations such as examinations, competitions and public recitals. This happens because many musicians experience ‘stage fright’, with more than half being adversely affected by performance anxiety (Shoup, 1995; Wesner *et al.*, 1990). The fear of public embarrassment and humiliation is often at the root of the problem (Wilson & Roland, 2002; Wilson, 1997).

Anxiety is a common psychological reaction to stress, with the body often reacting in the fight-or-flight response. The anxiety manifests itself in a number of well-known physical, behavioural and cognitive symptoms that interact with each other and have a negative effect on the quality of performance. For example, it has been clearly established that stressful performance situations increase the player’s heart rate (LeBlanc *et al.*, 1997; Abel & Larkin, 1990). This is particularly so for female students. A faster heart rate can affect students’ perception of tempo and lead to choosing a faster-than-usual speed for the performance, resulting in a greater number of errors (Lehmann *et al.*, 2007). Similarly, negative thoughts can have a detrimental effect on performance, for example anticipating the approach of a difficult passage may result in errors even though the difficulty had been mastered earlier. At times, congratulating oneself on getting through a difficult place is enough to distract the performer from the task at hand and cause problems in the passages immediately following.

The levels of anxiety experienced by each student will vary depending on how well they usually cope with stress, how stressful they perceive a particular situation and how well they have prepared for this particular performance. Research in this area helps us to categorise and describe the causes of performance anxiety. For example, Evans (1994) proposed a 'Template for Self-Confidence' that allowed monitoring how well one is coping with stress. It consisted of *constant coping qualities* that remain stable or improve (personality traits, musical ability, creative expressiveness, coping strategies and business qualities), and *unstable variables* that can oscillate (anxiety, career and life stresses, motivation problems, interpersonal difficulties, performance variables). Stage fright was accompanied by psychological causes (phobias, panic attacks, defensive tactics) and physical causes (tiredness, inadequate sleep, depression, frustration, disorientation). The template allowed musicians to recognise and confront their fears. LeBlanc (1994) identified 11 factors contributing to performance anxiety: personal characteristics of the performer (age, amount of training and performance experience), difficulty of the music, adequacy of preparation, emotional and physical health, mood, performance environment, self-perceptions, physical and psychological arousal, focus of attention and self-appraisal during playing. Wilson (1994) simplified this theory into three main areas of stress: trait anxiety, task mastery and situational stress. Lehmann *et al.* (2007) divided factors associated with performance anxiety into four categories: the symptoms, the person, the situation, and the musical task.

The level of anxiety felt by students is linked to the amount of performance experience they have accumulated. After testing responses of 90 tertiary music students in a range of instrumental and vocal areas using *enhanced* or *reduced* anxiety performance situations Hamann (1982) found that years of formal study had a significant effect on quality of their performances. Students who studied longer had more performance experience and coped better with stress. Wilson and Roland (2002) considered situational stress and suggested that a public recital is more stressful than a private performance, that solo playing is more traumatic than playing with others and that, surprisingly, not the size but the proximity of the audience triggers greater anxiety. This may account for how a solo piano examination in a small room with the examiner looking over the candidate's shoulder could become an anxiety nightmare!

It is important to remember that 'stage fright' is a complex issue that does not have 'one-size-fits-all' solution. The coping strategies that will work for one student may not help another student. As teachers we need to have a wide range of approaches to this problem, monitor student reactions to our suggestions and adjust our advice until a particular combination of strategies will produce the desired reduction in performance anxiety levels.

### **Controlling physical symptoms**

Finding the means to control the physical symptoms of performance anxiety such as sweaty hands, tremors, hyperventilation, blurry vision and nausea is often the most immediate goal for many performers. Relaxation techniques are widely popular, including deep breathing and progressive relaxation.

Since many of the physical symptoms of performance anxiety are a direct cause of hyperventilation, it seems logical that control over the rate and depth of breathing will at least reduce, if not totally eliminate, these symptoms. Deep breathing is the most commonly used coping strategy among musicians (Roland, 1994; Shoup, 1995). Other suggestions include relaxation, muscle stretching and yoga (Reubart, 1985). Many meditation techniques such as yoga focus initially on slowing down the breathing and becoming aware of the depth of each breath. This is often followed by progressive relaxation, focusing on one muscle group at a time, tensing and relaxing until total relaxation is achieved. These techniques are often performed with the subject lying on their back on the floor or sitting in a chair. Roland (1997) suggests that musicians should practise these relaxations techniques on a regular basis to be able to implement them at will and achieve a calmer physical state prior to a performance.

The Alexander Technique was developed in the 1930s by E. M. Alexander to help actors overcome performance anxiety, and it has since become popular among performing artists including musicians. The technique concentrates on freeing up the neck and torso, improving body posture, inhibiting bad habits and replacing them with more natural movements. The technique is taught in many leading international conservatoriums (Valentine, 2004) and I have personally experienced its benefits while being a student at the Juilliard School of Music, New York, in the 1980s. Becoming aware of my own body movements when performing simple every day tasks such as walking, sitting, getting up and down from a chair was the starting point. Transferring this bodily awareness to playing the piano and experimenting with adjustments in balance, posture, distance from the keyboard and arm movements was aimed at effectiveness and ease of playing.

An earlier study by Valentine (1994) found that Alexander Technique treatments had beneficial effects in low stress performance situations: it reduced heart rate, improved technical and musical quality, reduced anxiety, and improved concentration and positive thinking. These did not generalise in high stress situations probably due to the limited number of Alexander treatments given. Nielsen (1988) demonstrated that Alexander Technique training was almost as effective as beta-blockers in reducing inappropriate reactions to stress among the members of a symphony orchestra. A recent study by Valentine and Williamon (2003) found that conservatory students showed greater improvement in their posture, thought direction, inhibition and overall poise after Alexander training than after three various biofeedback treatments. The advantage of Alexander Technique lessons is that they are usually given on one-to-one basis and therefore

focus on the individual student's problems and their correction without the aid of complex equipment.

Biofeedback training helps to control physiological symptoms such as increased heart rate, sweating, and muscular tension by feeding back the information about changes in these parameters. This technique has been used for both violin and piano playing. LeVine and Irvine (1984) tested the use of biofeedback in violin teaching. They selected nine string players with tension problems in the left hand and attached electrodes between their left hand and feedback myograph. A sensitivity meter clicked when muscle tension exceeded threshold levels established in relaxed playing state. After initial training session, the subjects used the apparatus themselves in practice and gradually lowered the threshold level until they could play through all their music without sounding the alarm. Follow ups several months later showed a significant and lasting improvement in left hand tension with little or no relapse of symptoms. The amount and speed of improvement was much greater than through use of the typical violin/viola exercises. Biofeedback has been used to help pianists to improve muscle relaxation during trills (Montes *et al.*, 1993). The latest development in this area is neurofeedback, using EEG to monitor brain activity. Gruzelier et al., (2002) have demonstrated the effectiveness of neurofeedback training on conservatory students in improving the overall quality of their musical performance. The difficulty with these training programs is that they require highly specialised equipment and trained staff that puts them out of reach for many studio teachers.

Researchers have examined the effect of diet and various drugs on performance anxiety. Dunkel's (1989) investigation into food, especially the effects of sugar and vitamins on nerves, is particularly interesting. He suggested total abstinence from stimulants like alcohol, nicotine, caffeine and sugar. To regulate sugar level, he suggested eating complex carbohydrates (grains, breads, beans), which help to keep glucose levels balanced. Shortage of B-complex vitamins has been linked to stage fright symptoms such as tremors, anxiety, depression, insomnia, confusion and nervousness. Vitamin C helps with mental strain, physical overexertion and body stress. Minerals are vital for proper function of muscle fibre, nerve endings and brain tissue. Therefore, eating foods rich in vitamins C (citrus fruits), B-complex (grains and legumes) and minerals (green leafy vegetables, fruits, grains) could be useful when trying to overcome stage fright symptoms. While diet modification is yet to be tested in a controlled study with performing musicians, the literature suggests that a healthy lifestyle, regular exercise and sufficient sleep might have beneficial effects on stress reduction (Wilson & Roland, 2002).

Classical musicians are generally not known for their use of hard drugs, in contrast to well-publicised excesses of popular music performers, yet alcohol has been accepted by many as a means of relaxing the nerves before a performance. However, consumption of alcohol does interfere with fine motor skills and reaction time, affecting co-ordination, memory and muscle control (Chait & Perry, 1994).

These are essential for expert musical performance; therefore other less harmful approaches need to be considered to combat performance anxiety.

Since the 1970s the use of beta-blockers has become popular among orchestral musicians. Beta-blockers work by blocking the excess adrenalin and thus reducing some physical symptoms of anxiety such as increased heart rate and tremors. While research has shown that beta-blockers had improved performance of over-anxious players (Nube, 1991), some authors had warned against their use because of possible side-effects such as sleep disturbance, nausea, tiredness and blunting of affect (Wilson, 1997). Another problem in using beta-blocking drugs is that they do not deal with the underlying psychological problems of the performer (e.g., Wilson, 1985).

### **Identifying behavioural symptoms**

Physical symptoms of performance anxiety often cause behavioural changes that result in deterioration of performance. Identifying inappropriate behaviours and developing counter-measures can give students practical means for managing their anxiety. While there is no research evidence to support the following suggestions, they come from many years of preparing students for examinations and conversations with colleagues.

One of the common symptoms of anxiety is excessive sweating of hands that may cause slippage off the keys during performing. Preventative measures such as wiping hands and the keyboard prior to playing, using talcum powder or alcohol-based wipes can help to dry hands.

Increased heart rate can cause students to choose faster-than-usual tempo, resulting in greater number of errors and even a breakdown in performance. Training students to identify the correct tempo can be done by setting the speed on the metronome and getting students to hum repeatedly the first two bars of the piece to the metronome beat. Within a very short time they will be able to begin the piece at exactly the right tempo without the aid of the metronome.

Misreading notes is not unusual under stress. This tends to happen when students look down at their hands and then cannot find their correct place in music when they look up again or have difficulty focusing their gaze on the score. Teachers can direct students to look up or down at different times during playing to familiarise them with this phenomena and gain confidence in their ability to follow the score even under pressure.

Rhythmic errors are common in live performances and are related to increased heart rate and hyperventilation. Frequently, long notes and rests are cut short. This can be remedied by careful counting (out loud if need be) and breathing between

phrases. Teachers can direct students to breathe and inhale noisily themselves to encourage a sympathetic action.

Pedalling is another casualty of performance anxiety in pianists, with students often forgetting to change in the right places or not pedalling at all. If this happens, teachers can give directions to change or hold pedal down during students' playing and highlight this in the score.

### **Overcoming cognitive symptoms**

In addition to physical symptoms and behavioural changes, negative thoughts often accompany anxiety before, during and after a performance and can intensify the detrimental effect it has on playing.

Inherent predisposition towards anxious behaviour is usually described as trait anxiety. Kemp (1996) showed that musicians as a group have greater tendency towards anxiety than the general population. Research also suggests that performers who are by their nature more anxious and introverted tend to be more affected by performance anxiety than stable extroverts, even when they grow older and gain more experience (Wilson, 1997). Hamann (1982) found that students with high trait anxiety demonstrated greater increases in anxiety levels and perceived performing in front of their teachers and peers as more threatening than in front of a tape recorder, both being consistent with the Trait-State Anxiety Theory.

The habit of making excuses prior to a performance is called self-handicapping (Wilson, 1997). This tends to happen when performers are unduly preoccupied with evaluation of their playing by others. Such players tend to offer explanations for their failures before they even play a note. It is important to intercept such comments before they escalate into a sabotage of a performance.

Perfectionism manifests itself in unrealistically high expectations of oneself and preoccupation with minor flaws and errors. The high degree of self-criticism in perfectionists tends to cause low self-esteem and dissatisfaction with playing, thus perpetuating the performance anxiety (Bourne, 1995). The high standards may be self-imposed (self-oriented perfectionism) or dictated by others (Mor *et al.*, 1995). The combined effect of these two conditions may cause incapacitating anxiety.

To overcome cognitive symptoms and change negative thought processes Nagel *et al.* (1989) applied cognitive restructuring approaches to music setting. Their treatment included working through a performance anxiety hierarchy and substituting positive statements for negative thoughts. For example, "I know this piece very well" instead of "I could have a memory lapse". Similarly, Steptoe and Fidler (1987) suggested replacing catastrophising statements (e.g., "This will be a disaster") with realistic appraisals (e.g., "Everyone makes a few mistakes").

Goal-setting is a vital part of successful performance and can be aimed at the process or the outcome. Wilson and Roland (2002) suggested that process-oriented goals are more achievable than outcome-oriented goals. Research has shown that parents who focus solely on performance outcomes (e.g., grades in examinations and prizes in competitions) tend to promote performance anxiety in their children (Ablard & Parker, 1997). A better way for parents and teachers to encourage positive attitudes towards performing is to set learning (process-oriented) goals. Constructive self-talk that focuses on a particular task, e.g., “I need to keep the tempo steady”, is a useful strategy (Lehmann *et al.*, 2007). However, outcome-oriented goals could also be used as a positive motivational tool. For example, Caldwell (1990) developed the ‘Action Outcome Grid’ to prepare musicians for performance. This involved planning, rehearsal, performance and evaluation and raised issues such as what kind of musician and performer the student wants to be; what the student wants in performing, e.g. what should happen in this particular performance, at each individual part of the performance, in the subsections of parts and the feeling after the performance. The Grid proved to be a valuable tool for confronting performers’ fears.

Systematic desensitisation techniques have been suggested by a number of researchers to combat negative thoughts that often accompany performance anxiety. These strategies tend to involve imagining oneself performing, beginning from distant events and leading up to and including the actual performance, gradually exposing oneself to more ‘stress’ while maintaining the relaxed state (Lehmann *et al.*, 2007). This type of mental rehearsal can have a positive effect on actual performance as it pre-programs the muscles to behave in the desired manner (Rolland, 1997).

### Summary

Many authors suggested combining behavioural techniques with cognitive therapy (e.g., Evans, 1994; Wilson & Roland, 2002; Wilson, 1997). This means a blend of progressive relaxation and cognitive restructuring (replacing of inappropriate thoughts with positive statements and success imagery). Green and Gallwey (1986) applied the principles of the *Inner Game* developed by Gallwey for sport to music, describing the internal obstacles in learning and performing music and providing a series of exercises to overcome these. They suggested that a relaxed concentration together with body awareness, good posture and positive mental imagery could lead to a good performance. The role of the teacher is to assist students in mastering these fundamentals. Student’s practice should consist of repetitions done with specific goals in mind and include a warm up, building, interpreting, and performing, with some of it achieved by mental practice.

Salmon and Meyer (1992) were experienced therapists and amateur musicians and therefore, well aware of the performance anxiety problems and their possible solutions. They suggested that ‘a coping style that emphasises working productively

when under stress is an attractive alternative to expending one's energy denying stress and related feelings of anxiety' (p. 164). The main techniques discussed were relaxation, mental imagery, and cognitive monitoring. Similarly, Stanton (1994) suggested a combination approach of relaxation, positive suggestion, and symbolic success imagery to reduce performance anxiety. His study reported impressive results achieved in relatively short training sessions.

The many studies discussed in this paper illustrate the wealth of coping strategies available today for anxious piano students. It is the teacher's task to select the most appropriate combination of techniques for each student to help them achieve their optimal performance.

#### About the author

Dr Zhukov has established a reputation in Australia as a fine performer, educator and researcher. Her solo CD *Ragtime, Dreams and Visions* of recent Australian piano music was released by Wirripang Publications in 2008. Dr Zhukov has taught a wide range of subjects at the Sydney, Queensland and Western Australian Conservatoriums. She has published on instrumental music teaching in *Music Education Research*, *Research Studies in Music Education*, *British Journal of Music Education* and *International Journal of Music Education*, and presented papers at ASME, ISME, ICMPC and APPC Conferences. Dr Zhukov is now researching teaching of sight-reading to pianists at the University of Queensland.

#### Contact details

Dr Katie Zhukov, Postdoctoral Research Fellow in Performance, School of Music, The University of Queensland, ph: 07-3365-4949, fax: 07-3365-4488, email: [k.zhukov@uq.edu.au](mailto:k.zhukov@uq.edu.au)

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