

THE ROLE OF EMOTIONAL INTELLIGENCE IN  
MUSIC PERFORMANCE ANXIETY

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ARTICLES SUBMITTED IN FULFILMENT OF THE REQUIREMENTS  
FOR THE DEGREE MAGISTER MUSICAE  
IN THE FACULTY OF THE HUMANITIES, DEPARTMENT OF MUSIC, UNIVERSITY OF  
THE FREE STATE

NOVEMBER 2005

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DECLARATION

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30 NOVEMBER 2005

### Acknowledgements

I would like to express my sincerest gratitude to the following people:

- My supervisor, Dr Martina Viljoen, for her excellent supervision, enthusiasm and encouragement. Her thorough proofreading, availability and friendship made this project a pleasure to complete;
- Dr Adelene Grobler, my co-supervisor, for her subtle way of pushing me to deeper understanding. Without her contribution to the project and the sharing of her disciplinary expertise, the conceptualisation and completion of this study would not have been possible;
- Dr Charles Spielberger, Distinguished Research Professor of Psychology at the University of Florida, for his permission to reproduce the State-Trait Anxiety Inventory (STAI), and for his general support of, and interest in, my research project;
- Prof. Karel Esterhuyse for his thorough work and valuable comments on the statistical analyses;
- The learners who so willingly participated in the 42<sup>nd</sup> Free State Eisteddfod in May 2005, for their co-operation in providing the data;
- Prof. Willie Paulsen for proofreading, editorial comments and encouragement;
- Mr Bernard Dreyer, for his hard work in editing and generally correcting my mistakes;
- Elmarie Kritzinger, my mother, for her unfaltering belief in me;
- My husband, Nico, for his kindness, patience and understanding in having a musician for a wife;
- Elrie and Nicolaas, my children, I love you!

Above all, I thank our Heavenly Father for granting me this opportunity.

ARL 702

THE ROLE OF EMOTIONAL INTELLIGENCE IN MUSIC PERFORMANCE ANXIETY

Article 1: Critical Perspectives on Emotional Intelligence and Music Performance Anxiety

Afrikaans summary

Key terms

Article 2: The Relationship between Emotional Intelligence and Music Performance

Anxiety: an Empirical Study

Afrikaans summary

Key terms

# Critical Perspectives on Emotional Intelligence and Music Performance Anxiety

## Abstract

*The aim of this article is to provide a theoretical frame of reference for Music Performance Anxiety (MPA) and Emotional Intelligence (EI) through an investigation of existing theories concerning the two constructs. The most prominent approaches to the development of MPA are discussed, followed by the different theories concerning EI. Tangential points between MPA and EI are then highlighted. The article is underpinned by the hypothesis that EI is a cognitive-positive way of processing emotions and that it can be used to the advantage of musicians. While the progress of the EI paradigm has been impressive, much remains to be explored.*

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*30 November 2005*

## Critical Perspectives on Emotional Intelligence and Music Performance Anxiety

Music performance anxiety (MPA) severely affects the public performance of many musicians – even in the ranks of top professional artists. While a number of recent scientific studies (Bippus & Daly, 1999; Kokotsaki & Davidson, 2003; Lee, 2002; Montello, 2004; Nagel, 1993; Steptoe, 1989, 2001) have focused on this phenomenon and possible correlates, no research could be found on the predictive value of emotional intelligence (EI) for MPA. Mayer and Cobb (2000) posit that EI may be productively applied with regard to all branches of the creative arts. This however, may be particularly true in the case of MPA, since it involves a chain of intense physiological, behavioural, cognitive and emotional reactions.

This article provides a theoretical frame of reference for the constructs MPA and EI through an exploration of some existing theories. The hypothesis that EI is a cognitive-positive way to process emotions and that it can be used to the advantage of amateur as well as professional musicians, is investigated. Furthermore, critical perspectives on EI and MPA enable the development of an innovative and creative approach to the use of EI as an intervention and management strategy concerning MPA.

### Music Performance Anxiety

Music Performance Anxiety (MPA) forms an intrinsic part of a musical performance from which no musician, amateur or professional is entirely free. Different musicians encounter it to a different extent, and the same individual may experience varying degrees of MPA on different occasions. It is, however, a common occurrence in performance situations (Steptoe, 2001). Anxiety, a component of MPA, has been defined as an unpleasant emotional state or reaction that can be distinguished from other emotional states, such as anger or grief, by a unique combination of experiential qualities and physiological changes. An anxiety state consists of feelings of tension, apprehension, nervousness, worry, and activation of the

autonomic nervous system. The physiological manifestations generally include increased blood pressure, rapid heart rate (palpitations, tachycardia), sweating, dryness of the mouth, nausea, vertigo (dizziness), irregularities in breathing (hyperventilation), and muscular skeletal disturbances (restlessness, tremors, feelings of weakness) (Spielberger & Rickman, 1991).

The presence of anxiety, fear or phobias during a public performance causes many problems for the artist as it has an obstructive and paralysing effect if it is not managed well. According to psychologists, however, anxiety can improve performance, and physical and intellectual achievement are driven and sometimes even enhanced by anxiety (Hamann, 1982). Indeed, Hamann and Sobaje (1983) suggest that anxiety has motivational or drive properties, which can increase levels of performance for subjects, depending on their task mastery. One of the earliest models that attempted to explain the relationship between arousal and performance was the inverted-U hypothesis (Broadhurst, 1957; Hebb, 1955). It stated that as arousal increased, performance would increase as well; but, if arousal became too great, performance would deteriorate. This would differ from individual to individual.

A musical performance however, can be destroyed by acute anxiety symptoms like sweat on the face and hands, shaking limbs and nausea. According to Barlow and Durand (2002), there are only a few sensations less disadvantageous than acute anxiety. They classify excessive MPA as a social phobia.

One of the problems encountered by research on MPA is that researchers have not operationally defined the construct in an adequate way. Instead, terms such as stress, anxiety, arousal, activation and stage fright have been used interchangeably. Furthermore, the development of MPA can be explained in different ways by each of the different schools of thought in psychology; for example, amongst others, the psychoanalytical, phenomenological, behavioural and cognitive-behavioural theories, which will be discussed in this article.

*Psychoanalytical theory:* Nagel (1993) posits that MPA is related to an individual's life history and the symptoms are a manifestation of complex, unconscious processes which relates to the *psychoanalytical theory* of anxiety. According to Okun (2002), psychoanalysts and psychodynamically oriented therapists stress the past (attempting to connect the past to the present), the exploration of causality, and the confrontation of person discrepancies. They emphasize unconscious causes of behaviour and early childhood experiences. They believe that anxiety, the major symptom of distress, is caused by repressed emotions.

The vast majority of musicians (Nagel, 1987 identifies the statistics as 90%) start with their training before the age of 12. Most professional decisions are made in the late adolescent or early adult years, while critical formative years are spent focusing on music lessons and intense training. Young musicians are therefore often isolated and communicate mostly with their musical mentors. This restrictive milieu has decisive implications for personality development and social adaptiveness and breeds fertile ground for the roots of MPA. In comparison with other professional occupations, job opportunities in the musical field are few and salaries are non-competitive. MPA therefore is not only a psychological problem, but also posits a wider question of survival (economical as well as emotional). According to Nagel (1993), MPA is a secondary symptom of underlying, unprocessed issues rather than the primary problem.

*Phenomenological theory* focuses on the uniqueness of each person's internal perspective, which determines one's reality. This theory emphasizes the here and now rather than what was or what will be, and how people perceive and feel about themselves and their environment rather than their adjustment to prevailing cultural norms. A disinterested or reserved audience (MacIntyre, Thivierge, and Macdonald, 1997) or an unknown audience (Proctor, Douglas, Garera-Izquiero, and Wartman, 1994) can therefore cause anxiety in a performer, while insecurity in connection with work, irregular work hours, competition with colleagues and poor financial reward can cause added stress (Steptoe, 1989).



Phenomenological theory also emphasizes affective rather than cognitive or behavioural domains (Okun, 2002). Regarding this theory, MPA can also be the result of the following related emotions and experiences:

- scared that the audience's expectations will not be satisfied; (Ayes, 1986);
- scared of evaluation (Daly, Vangelisti, & Lawrence, 1989);
- scrutiny by audience (Daly & Buss, 1984);
- contagious affect where other people's anxiety is carried over (Behnke, Sawyer, & King, 1994);
- public attention and isolation (Proctor et al., 1994).

A third major theory, *behaviourism*, offers a very different perspective on human experience. According to behavioural theory, all behaviour is learned, and thus can be unlearned. Difficulties occur when learned, maladaptive behaviour results in anxiety. Today, behaviour therapies are often integrated with cognitive therapies into cognitive-behavioural theories.

*Cognitive and cognitive-behavioural theories* deal with rationality, the thinking processes, and problem solving. They focus on the appraisals, attributions, belief systems, and expectancies of the person and on the effects of those cognitive processes on emotions and behaviours. The major philosophical assumption of cognitive-behavioural theory is that by changing peoples' thinking, one can change their belief system, which in turn changes their behaviour (Okun, 2002).

The approaches of the cognitive-behavioural therapies combine the learning theories of behaviourism with a new emphasis on constructs such as thinking, feelings, motives, plans, purposes, images and knowledge. Closely related to these theories are the nine thinking patterns as identified by Whitaker and Tanner (1987). These thinking patterns can have harmful effects on the performer's behaviour and include, for example, tunnel vision. That is when an individual

concentrates on only one element of a situation and forgets all other aspects; for example, a music student who sees an audition as the only thing that matters in his or her life. Other thinking patterns include polarised thoughts, when an anxious performer thinks he or she is either very good or very bad. There is no room for an average performance.

Other related reasons why people experience MPA according to the cognitive-behavioural theories are:

- raised self-focus (Daly et al., 1989);
- the belief that you are different from and inferior to the audience (Buss, 1980);
- perception of shortfall in ability (Chesebro et al., 1992);
- lack of experience (Buss, 1980);
- insufficient preparation (Daly, Vangelisti, & Weber, 1995);
- limited hours for social and family life (Cooper & Wills, 1989).

These types of thoughts and circumstantial conditions occur spontaneously and, if they are not recognized and handled in a systematic way, the performer can easily find himself or herself in a chain reaction model which can cause excessive MPA (Whitaker, 1984; Whitaker & Tanner, 1987).

According to Steptoe (2001), the simplest component of MPA is the result of heightened physiological stimulation with symptoms like, for example, shortness of breath, shakiness, increase in heartbeat and sweatiness. For MPA, a *physiological component* is also applicable as it plays an important role in the course that the anxiety is going to take. Physiological arousal and the performers' reaction to somatic symptoms can influence performance as a result of individuals' interpretation of their physiological symptoms. Chappell (2004) asserts that many musicians suffer from varying degrees of anxiety, some of which are physically crippling. Steptoe (2001) maintains that physiological arousal is positively correlated with MPA and

musicians with problems in this area are characterized by excessive arousal. It is the interplay between cognitive processes and physiological activation that is central to MPA.

As seen in the above discussion, it is clear that MPA cannot be explained fully by any single theoretical perspective. Traditionally it seemed appropriate to base MPA upon the three-systems model of anxiety (combination of cognitive, behavioural and physiological theories) as it proved useful to combine and integrate ideas from different theoretical traditions (Nagel, Himle & Papsdorf, 1989). Currently, however, instead of focusing primarily on overt behaviour, thinking or emotions, theorists seek to understand the interrelationships among behaviour, thoughts and feelings. It is therefore important to add the affective theory to the management of MPA.

This theory correlates well with Steptoe's point of view (2001), who posits that MPA consists of four components, namely affect (feelings of anxiety, stress, worry, fear or panic), cognition (decreasing ability to concentrate, attention deficits, loss of memory, maladjusted cognitions, wrong reading of music notes), behaviour (trembling, shakiness, problems to keep the correct posture and to move naturally, mistakes in technique) and physiology (upset of the breathing pattern, sweat, dry mouth, faster heartbeat, the release of adrenalin and cortisol in the system and the upset of the gastro-intestinal system).

According to Steptoe (2001), these four components are not necessarily all present at the same time.

From the above descriptions, one can conclude the following regarding MPA:

- Studies by Craske and Craig (1984) and Fogle (1982) have shown that MPA is similar to other types of performance anxiety such as public speaking anxiety, sexual performance disorders, and sleep disorders.
- MPA has proved to be too complex to be explained by any one general theory.
- MPA is an affective-cognitive-behavioural-physiological problem.

- If excessive MPA is present, it proves to have a negative influence on the performance.
- The ability to cope with pressure and anxiety is an integral part of being a public performer.
- It is important for musicians to be able to control their anxiety if they are to produce peak performances at important times.

With some of the above-mentioned theories, instruments of measurement have been developed for MPA (Appel, 1974; Craske & Craig, 1984), for example, the *Behavioural Assessment Test (BAT)* and the *Personal Report of Confidence as a Performer (PCRP)*. The most reliable type comprises anxiety scales and is preferable to physiological and projective tests (Hamann, 1982). Hamann and Sobaje (1983) further hold that physiological instruments of measurement and technological appliances, like heart monitor wires, are restrictive factors during a musical performance.

The anxiety scale that is used most often in scientific studies is Spielberger's *State-Trait Anxiety Inventory (STAI)* (Abel & Larkin, 1990; Craske & Craig, 1984; Hamann & Sobaje, 1983; Nagel et al., 1989; Tobacyk & Downs, 1986). An important point that needs to be clarified is the difference between state and trait anxiety (Spielberger, 1966). While state anxiety can be considered to be more situational in nature and often is associated with arousal of the autonomic nervous system, trait anxiety can be thought of as a world view that an individual uses when coping with situations in his or her environment (Spielberger, 1966). Individuals with high trait anxiety who are state anxious attend to threat-related information, while individuals with low trait anxiety who are state anxious will attend away from threat-related information (MacLeod, 1990). According to Fagley (2004), MPA has two reported sources: internal (trait) sources and external (state) sources. Internal traits seem to be predominately more predictive of performance anxiety vulnerability than the external situation.

Within the context of music performance, those individuals who are low trait anxious and experience high state anxiety could therefore find it facilitative to a peak performance; but, those individuals who are high trait anxious and experience state anxiety could find it debilitating to a public performance.

With regard to the previous discussion of the construct MPA, research for this study suggests that MPA has a central affective domain. MPA therefore can prove to have definite tangential points with EI. It is therefore very important to investigate the construct EI as well in order to find these tangential points.

### Emotional Intelligence

“Emotional Intelligence” (EI) refers to “the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships” (Goleman, 1998, p. 317).

While several theories associated with the EI paradigm currently exist, the three that have generated the most interest in terms of research and application are the theories of Mayer and Salovey (1997), Bar-On (1988, 2000) and Goleman (1998; Goleman, Boyatzis, & McKee, 2002). While each theory represents a unique set of constructs that represents the theoretical orientation and context in which each of these authors have decided to frame their theory, all share a common desire to understand and measure the abilities and traits related to recognizing and regulating emotions in ourselves and others. As Ciarrochi, Chan and Caputi (2001) point out, although definitions within the field of EI vary, they tend to be complementary rather than contradictory. All theories within the EI paradigm seek to understand how individuals perceive, understand, utilize and manage emotions in an effort to predict and foster personal effectiveness.

Bar-On (2000) defines his model in terms of an array of traits and abilities related to emotional and social knowledge that influence our overall ability to effectively cope with environmental demands. As such, it can be viewed as a model of psychological well-being and

adaptation. The EQ-i (Emotional Intelligence Inventory) is a self-report measure that specifically measures emotionally and socially competent behaviour that estimates an individual's emotional and social intelligence, as opposed to traditional personality traits or cognitive capacity.

The five main domains in this model are intrapersonal skills (self-esteem, emotional self-awareness, assertiveness, independence and self-realisation), interpersonal skills (empathy, social responsibility and interpersonal relationships), adaptability (reality testing, compliancy and problem solving), stress management (stress tolerance and impulse control) and general mood (optimism and happiness) (Bar-On, 1997; Thompson, 2004).

Though other definitions of EI are also available, this article especially focuses on the above-mentioned model.

#### Tangential Points between Music Performance Anxiety and Emotional Intelligence

The constructs MPA and EI have not been brought together in any scientific study that could be located. Keeping in mind all the facets of MPA and EI as discussed in this article, a number of tangential points can be highlighted. In all these tangential points EI can play a proactive role in the management of MPA. In this section, the five main domains of EI, as formulated by Bar-On (2000), will be used as a frame of reference to encompass tangential points between MPA and EI. The framework of Bar-On was selected for this study, because it suits the purpose of this study in the most adequate way to find tangential points between MPA and EI.

#### *Intrapersonal Skills: Self-esteem, Emotional Self-awareness, Assertiveness, Independence, Self-realisation*

The emotions of the musician directly result from his/her emotional self-awareness, the latter being an integral part of the intrapersonal skills of EI. The identification and recognition of emotions, either positive or negative, is extremely important in the preparation for a public

performance, as well as during and after the performance. To be able to work with these emotions, it is very important that they are effectively identified. Pruett (1988), a clinical professor in psychiatry at the Yale Child Study Centre, posits that musicians try to ignore the dilemma of MPA at first, then realize the anxiety and eventually learn to accept it as a creative opportunity. As soon as the individual is able to identify negative emotions, intervention may take place through cognitive positive thinking to generate new thoughts and emotions. This, in turn, may facilitate positive performances.

The individual's experience of threatening situations varies over a wide spectrum. According to Strelau (1989) it includes the following: the life history of the individual; the cognitive processing resources that are used during the analysing of situations; previous experiences with stressful situations; the degree of motivation, and lastly, the potential physiological and psychological activation of the individual. In this context the music teacher plays a very important role. The music teacher should have an in-depth knowledge of the student's background and previous experiences. The individual's mood and emotional processes should be explored so that the music teacher may be able to develop the student's self-confidence. This process entails strategies to improve the independence and self-sufficiency of the student (Kokotsaki, Davidson, & Coimbra, 2001).

A study by Salmon, Schrod, and Wright (1989) recommends positive and realistic self-statements to counteract unrealistic and anticipatory fears before a performance. In Kendrick, Craig, Lawson, and Davidson's approach (1982), individuals were trained to replace negative thoughts with positive task-orientated self-speech. According to Barrell, Medeiros, Barrell, and Price (1985), it is important to focus on self-acceptance rather than doubting oneself. They posit that MPA is closely related to self-esteem and self-acceptance. According to Mor, Day, Flett, and Hewitt (1995), personalities suffering from MPA are frequently perfectionists or individuals

with a feeling of low self-control. In contrast, individuals with a high EI have a good self-control (Goleman, 1998).

According to Goleman (1998), people who are competent in emotional awareness are people who know which emotions they are feeling and why; realize the links between their feelings and what they think, do, and say; recognize how their feelings affect their performance and have a guiding awareness of their values and goals. People with a good self-confidence are people who present themselves with self-assurance, have “presence”; can voice views that are unpopular and go for what is right and are decisive and able to make sound decisions despite uncertainties and pressures.

Individuals’ self-esteem is their positive or negative affective self-evaluation, which is tied to perception of self-worth or value (Leary, 1999a, b; Mruk, 1995). Bednar, Wells, and Peterson (1989) suggest that a stable level of self-esteem is the outcome of a self-evaluative affective process. In other words, when people feel they are doing well, they feel good about themselves and have higher self-esteem. Research has focused on the beneficial aspects of self-esteem and has found that high self-esteem is related to a variety of positive mental health indices, such as less depression, less anxiety, less loneliness, less social anxiety, and less alcohol and drug abuse (Leary, 1999b). Smith and Petty (1995) found that high self-esteem was related to positive thinking in an unpleasant situation. According to Schutte, Malouff, Simunek, McKenley and Hollander (2002), one might expect that individuals with higher EI would use their ability to understand and regulate emotions to maintain more positive mood and higher self-esteem. They also posit that individuals higher in EI would be better able to resist situational threats to positive mood and self-esteem.

*Interpersonal Skills: Empathy, Social Responsibility, Interpersonal Relationships*

A musician with a high emotional self-awareness and self-control (intrapersonal skills) will be able to communicate better with the audience, will be able to recognize the audience’s



emotions and work through these emotions and will be able to have a good interpersonal relationship with individuals, peers and the audience. According to Goleman (1998), empathy involves reading the feelings of others.

According to Lee (2002), young children go through a narcissistic development stage where they are full of self-confidence, self-centred and even boastful. Public performances at this stage come quite naturally. As they develop through the adolescent stage, the acceptance and criticism of their peers become more important to them than self-acceptance. The conflict between the self and the other, one of the major reasons for MPA, starts in this development stage. If the young performer could realize that the audience is not necessarily “the other”, but that “the other” and I are part of “us”, it could assist him or her in dealing with MPA. The development of a positive attitude towards the audience becomes a realistic aim, which is again part of having a good ability towards interpersonal relationships. Many individuals believe that they have to satisfy external standards and expectations of others. They experience anxiety, because they create it themselves (Barrell et al., 1985).

*Adaptability: Reality Testing, Compliancy, Problem-solving*

In recent decades, MPA has been viewed as a normal phenomenon which is present amongst most performers and that it should be addressed in the preparation phase of the public performance (Lee, 2002). If musicians can work on MPA during preparation, the positive aspects of MPA can be stressed and intervention strategies can be put into place. According to Wolfe (1989), the acknowledgement of MPA, the will to change old habits and a step-by-step pattern of discipline can help to enhance a musical performance.

Salmon et al. (1989) maintain that it is important that enough dress rehearsals should be held before the main performance through systematic repetition. It can also be helpful to have the dress rehearsals in different venues to practise adaptability to different situations.

It is very important for the performer to be able to develop self-assessment strategies to be aware of sensations, thoughts and reactions experienced while performing (Wolfe, 1989). This forms part of reality testing which is also a skill associated with a high EI. Different situations will pose different problems and therefore it is important to have a realistic experience of MPA to be efficient in problem solving. Performers should not be put off by external factors such as a concert starting late.

According to Goleman (1998), people with accurate self-assessment are people who are aware of their strengths and weaknesses; reflective, learning from experience; open to candid feedback, new perspectives, continuous learning, and self-development. He also posits that people with a high level of adaptability are people who can smoothly handle multiple demands, shifting priorities and rapid change; adapt their responses and tactics to fit fluid circumstances and are flexible in how they see events.

#### *Stress Management: Stress Tolerance, Impulse Control*

Professional support for MPA focuses on two basic approaches: pharmacological therapy and psychotherapy based on relaxation and cognitive-behavioural stress management. According to Steptoe (2001), beta-blockers help to reduce physiological reactions, but the impact on anxiety, concentration and other aspects are not clear as yet. With psychotherapy, psychodynamic therapies like psychoanalysis are recommended (Nagel, 1993), but the effectiveness of this has not been proven. The best results were achieved by cognitive-behavioural programmes based on a model for stress. Here again an improved EI can help with better stress control and tolerance.

Closely related to impulse control is self-control. According to Goleman (1998), people who are high in self-control are people who can manage their impulsive feelings and distressing emotions well; stay composed, positive, and unflappable even in trying moments. They think

clearly and stay focused under pressure. Musicians with a high level of self-control will be able to work more effectively in preparing for a performance.

*General Mood: Optimism, Happiness*

A general mood of optimism and happiness is a sign of psychological well-being and performers with these traits will have a sense of success even before they play. Mood is a cornerstone of emotional well-being (Ekman & Davidson, 1994; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995; Thayer, 1996). Goleman (1998) is of the opinion that the ultimate act of personal responsibility may be in taking control of one's own state of mind. Moods exert a powerful pull on thought, memory, and perception. He postulates that an optimistic person will be a person who persists in seeking goals despite obstacles and setbacks; operates from hope of success rather than fear of failure and sees setbacks as due to manageable circumstance rather than a personal flaw.

Research indicates that, in addition to having a state component, mood also is a lasting characteristic, similar to a personality trait (Watson & Clark, 1994; Watson, Clark, and Tellegen, 1988). The above-mentioned researchers also indicate that there are two distinct mood characteristics, typical positive and typical negative affect. Positive and negative affect seems to be separate dimensions that do not correlate substantially with each other. High positive affect comprises feelings of enthusiasm and alertness, whereas low positive affect involves feelings of sadness and lethargy; high negative affect comprises aversive feelings such as anger and fear, whereas low negative affect involves feelings of calmness and serenity (Watson et al., 1988). Positive mood seems to support approach behaviour, while negative mood seems to support avoidance behaviour, and the two affect systems appear to follow somewhat different neural processes (Watson, Weise, Vaidya, & Tellegen, 1999). Both low positive affect and high negative affect have been found to relate to general distress and dysfunction, depression, and state anxiety (Watson et al., 1988). It should be noted that, although much research supports

categorizing mood along the dimensions of positive and negative, there are also other useful conceptualisations of the structure of mood, such as pleasant versus unpleasant and aroused versus calm (Mayer, Salovey, Gomber-Kaufman, & Blainy, 1991).

### Conclusion

The foregoing research indicates that anxiety has a considerable impact on performance. Anxiety is an integral part of a successful performance, if used appropriately. Psychologists described the heightened state of arousal as a biologically based motivational power. D.L. Hamann (1982) and Hamann & Sobaje (1983) proved that musicians with the highest level of formal training could use the anxiety factor for positive performance. Wolfe (1989) found that professional musicians could use the positive components of anxiety to improve the performance while Salmon et al. (1989) found that experienced musicians used anxiety to achieve a peak before a performance and then calm control during the performance. It is therefore important for the musician to realise that MPA has very positive qualities and, if used in the right ways, it can be used to the advantage of the performer.

According to Spielberger and Rickman (1991), anxiety is a normal reaction to social-evaluative situations that pose threats to self-esteem or psychological well-being. EI is, according to Bar-On (2000), the measurement of psychological well-being; thus: individuals with uncontrolled MPA would not have a good psychological well-being, which is a measurement of EI. According to Emmerling and Goleman (2003), EI can be developed and therefore psychological well-being and the control of MPA as well.

While the progress of the EI paradigm has been impressive, much remains to be explored. The inclusion of an EI approach in the training of musicians can play a very important role in the management, control and use of MPA. It is important for musicians to learn how they create their own levels of MPA, how they can cope with MPA and use it to achieve an optimal level of functioning. In preparing for a public performance, it is necessary to understand the

process surrounding MPA and to assure a positive outcome. Because of the tangential points between MPA and EI, the improvement of a musician's EI can prove to be extremely helpful.

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## AFRIKAANS SUMMARY

### Kritiese Perspektiewe op Emosionele Intelligensie and Musiekuitvoeringsangs

Die doel van hierdie artikel is om, deur middel van 'n ondersoek na bestaande teorieë aangaande die twee strukture, 'n teoretiese verwysingsraamwerk vir Musiekuitvoeringsangs (MUA) en Emosionele Intelligensie (EI) te bied. Die belangrikste benaderings tot die ontwikkeling van MUA word bespreek, gevolg deur die verskillende teorieë oor EI. Raakpunte tussen MUA en EI word daarna uitgelig. Die artikel word ondersteun deur die teorie dat EI 'n kognitief-positiewe manier is om emosies te verwerk en dat dit tot voordeel van musici aangewend kan word. Die navorser kon geen vorige navorsing oor die moontlike waarde van EI vir MUA opspoor nie. Hoewel die vordering ten opsigte van die EI-paradigma indrukwekkend is, is daar nog heelwat om verken te word.

**KEY TERMS**

Music Performance Anxiety / Emotional Intelligence / Spielberger State-Trait Anxiety

Inventory (STAI) / Bar-On Emotional Intelligence Inventory: Youth Version (Bar-On EQ-i:YV)

/ Tangential Points

# The Relationship between Emotional Intelligence and Music Performance Anxiety: an Empirical Study.

## Abstract

*The aim of this article was to determine the correlation between the constructs music performance anxiety (MPA) and emotional intelligence (EI). The study explored the state-anxiety of participants (N = 47), experienced before a public performance at the 42<sup>nd</sup> Free State Eisteddfod in May 2005. These state-anxiety scores, together with the participants' trait-anxiety scores, were then compared with the subscale scores of their Emotional Intelligence. Measures were obtained by the administration of the Spielberger State-Trait Anxiety Inventory (STAI) and the Bar-On Emotional Intelligence Inventory: Youth Version (Bar-On EQ-i:YV) respectively. Results showed a significant inverse relationship between MPA and EI.*

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*30 November 2005*

## The Relationship between Emotional Intelligence and Music Performance Anxiety: an Empirical Study.

Music Performance Anxiety (MPA) could pose to be one of the most destructive aspects of musical performance. According to Nagel (1989), MPA has manifold effects, ranging from memory disturbances and apprehensive thoughts to physical symptoms such as trembling and nausea. MPA was the most frequently mentioned medical problem in a survey of more than 2000 professional orchestral musicians in the USA, with 16 percent reporting it to be a severe problem (Fishbein & Middlestadt, 1988). The ability to cope with pressure and anxiety forms an integral part of being a performer, as uncontrolled MPA could significantly impair a musical performance. Although many different theories about the construct MPA exist, Brodsky (1996) posits that empirical literature on MPA is sparse and that relatively few investigators have gone beyond investigating the theoretical expositions of this construct.

Salmon (1990) defined MPA as “the experience of persisting, distressful apprehension and/or actual impairment of performance skills in a public context, to a degree unwarranted given the individual’s musical aptitude, training, and level of preparation” (p. 3). It often has nothing to do with how well the performer knows his music or how well developed his technique is. According to Lee (2002), MPA is a common phenomenon that affects most performers at some time, and can be dealt with during the preparation phase of the performance.

Studies by Craske and Craig (1984) and Fogle (1982) have shown that MPA is similar to other types of anxiety; for example, public speaking anxiety, sexual performance disorders, and sleep disorders. Therefore it seems appropriate to view MPA as a component of the wider classification of the construct anxiety.

Spielberger, Gorsuch, Lushene, Vagg, and Jacobs (1983) posit that the term anxiety is used to refer to at least two related, yet logically quite different, constructs. Firstly it is used to describe an unpleasant emotional state or condition. An emotional state exists at a given moment

in time and at a particular intensity. State-anxiety is defined as a temporal cross-section in the emotional stream of life of a person, consisting of subjective feelings of tension, apprehension, nervousness, worry, and activation (arousal) of the autonomic nervous system (Spielberger, Gorsuch, & Lushene, 1970). Secondly, anxiety is also used to describe relatively stable individual differences in anxiety-proneness as a personality trait. The stronger the anxiety trait, the higher the probability that a person will experience a state-anxiety reaction in a threatening situation, and the more likely that this reaction will be relatively intense. It is further assumed that individual differences in trait-anxiety will be reflected in the frequency and the intensity of anxiety states experienced in the past, and in the probability that state-anxiety reactions might manifest in the future (Spielberger, 1985).

This conceptualisation of anxiety was used in many empirical studies concerning test or mathematics anxiety (Culler & Holahan, 1980; Guidry & Randolph, 1974; Smith, Snyder, & Handelsman, 1982; Tobias, Hedl, & Towle, 1974) and speech anxiety (Jeger & Goldfried, 1976; Lamb, 1972; Lent, Russell, & Zamostny, 1981; Slutsky & Allen, 1978). In these studies anxiety was seen as a general trait combined with an emotional state experienced by students while they were addressing an audience or working on mathematics problems (Spielberger, 1985).

Concerning MPA, studies by Kokotsaki, Davidson and Coimbra (2001), as well as Kokotsaki and Davidson (2003), investigated the construct as a combination of state- and trait-anxiety. According to Ayres (1986), as well as McCroskey and Beatty (1986) MPA has two reported sources: internal (trait) sources and external (state) sources. Hamann (1982) specifically states that state-anxiety can enhance or facilitate performance in activities where participants possess high levels of training or ability. This is also supported by studies by Kemp (1996) as well as Hamann and Sobaje (1983).

Nagel (1989) maintains that anxiety is composed of cognitive, behavioural and physiological components. He posits that this three-systems model of anxiety is applicable to

MPA as well. According to Steptoe (2001), MPA is a complex phenomenon. He suggests that MPA consists of four domains: cognitive, behavioural, physiological and affective. This author suggests that the primary component of MPA is affect or feeling, which forms the central experience of MPA. This is a relatively new and underexplored domain that has been added by Steptoe to the three existing domains of MPA. He further postulates that it is essential for the musician to acquire self-assessment skills. These skills include an awareness of the sensations, thoughts, and reactions to audiences that they experience when they are playing in public. Steptoe also claims that without this self-awareness, progress in developing coping skills is likely to be limited.

Consequently, the question arises as to which theoretical frame of reference would lend itself most adequately to addressing this affective component of MPA, comprising of self-awareness and self-assessment skills. With the growing interest in emotions since 1980, a wide range of subdisciplines within psychology enjoyed a robust resurgence - especially the renewed focus on positive psychology and emotional well-being. Closely related to emotional well-being is the increasingly popular theory of Emotional Intelligence (EI). According to Schutte, Malouff, Simunek, McKenley and Hollander (2002), both theory and previous research (Bar-On, 1997, Goleman, 1995; Saarni, 1999; Salovey & Mayer, 1990; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) suggest a link between EI and emotional well-being. EI has been defined as the ability to adaptively perceive, understand, regulate, and harness emotions in the self and others (Mayer, Salovey & Caruso, 2000; Schutte et al, 1998). According to Bar-On and Parker (2000), EI pertains to the emotional, personal, and social dimensions of intelligence. Some of the aspects mentioned by Steptoe (2001) with regard to self-assessment skills are strongly related to the dimensions of the three mainstream theories of EI, as posited by Bar-On and Parker (2000), Mayer, Salovey and Caruso (2000) and Goleman (1998). While Bar-On and Parker seek to develop a general measure of social and emotional intelligence predictive of emotional well-

being and adaptation, and Mayer, Salovey and Caruso (2000) seek to establish the validity and utility of a new form of intelligence, the model of Goleman (1998) seeks to develop a theory of work performance based on social and emotional competencies. Goleman (1995) suggested that successful life outcomes are more a function of emotional rather than of cognitive intelligence.

For the purpose of this study, the model of Bar-On and Parker (2000) will be used, because it has a youth version especially developed for young adolescents. Bar-On defines his model in terms of an array of traits and abilities related to emotional and social knowledge that influence our overall ability to effectively cope with environmental demands. The five dimensions in this model are intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood (Bar-On & Parker, 2000). These different dimensions, as posited by Bar-On (1997), have tangential points with MPA. The first dimension, the intrapersonal dimension, implies a person with a strong, realistic and positive self-image. A musician should be able to identify and challenge negative thinking, to create personal affirmations, and to develop positive visualization skills. The intrapersonal dimension of EI plays an important role during a performance as it can facilitate the musician to perform with confidence and to communicate with the audience effectively. If problems exist in this area, a performer might not be able to achieve optimally. According to Barrell, Medeiros, Barrell and Price (1985), MPA is integrally related to issues of self-esteem and self-acceptance.

Another dimension is stress management. Between stress management and music performance anxiety, there are a few tangential points as well. It can be assumed that musicians scoring low on stress management could find themselves in an anxious state before and during performances. It is important for a performer to explore relaxation techniques, to avoid self-defeating thought patterns, to prepare for stress, and to deal with stress effectively.

The other two dimensions, namely the interpersonal and adaptability dimensions, could be facilitative to a performance. Both of these subscales could affect a person's general



behaviour on stage, in front of an audience. The fifth dimension, general mood, is an important motivational variable that facilitates the various other factorial components of EI.

In studies by O'Connor, Raymond and Little (2003), as well as Newsome, Day, and Catano, (2000), an inverse relationship was found to exist between anxiety as measured by the Sixteen Personality Factor Questionnaire (16PF), and EI as measured by the Bar-On EQ-i. While substantial research exists on MPA and EI respectively, and correlational studies exist on EI and the wider construct anxiety, no research could be found on the possible relationship between MPA, specifically, and EI.

EI is a construct that can be developed and improved through training and remedial programs as well as through therapeutic interventions (Bar-On & Parker, 2000). If the areas where an individual is weak can be improved, it could help considerably in coping with MPA.

In the current study it is hypothesized that an inverse relationship exists between MPA and EI.

## Method

### *Participants*

The research sample consisted of 47 female participants who had entered for the 42<sup>nd</sup> Free State Eisteddfod in May 2005. Each participant had at least three years of musical training. Permission to administer the tests and questionnaires was obtained from the Head of the Free State Musicon and the chair of the Free State Eisteddfod. Participants were assured of total anonymity. The questionnaires were administered under the supervision of a registered counselling psychologist. All participants gave their informed consent. Participants ranged between the ages of 15 and 18.

### *Measuring instruments*

For the purpose of this study, the *State-Trait Anxiety Inventory* (STAI, Spielberger et al., 1983) was used to measure state- and trait-anxiety as indicators of MPA. This anxiety scale has

been employed in a number of studies of musicians (Abel & Larkin, 1990; Hamann, 1982; Nagel et al., 1989) and has also been shown to be sensitive to cognitive-behavioural interventions for stage fright (Kendrick et al., 1982). In a study by Steptoe and Fidler (1987), MPA was assessed by a modified version of the STAI. Fagley (2004) also tested MPA with the STAI in his study of the effects of performance anxiety on the perception of tempo. The STAI can also be effective in helping to separate the state and trait characteristics of the performing musician measured under differing conditions of stress (Kemp, 1996).

This inventory provides reliable, relatively brief, self-report scales for assessing state-anxiety and trait-anxiety in research and clinical practice. The scale is a sensitive indicator of transitory anxiety and was selected for its long-standing reliability and validity of state- and trait-anxiety.

Internal reliability refers to the degree to which all the items on a particular scale consistently measure the same construct. Internal reliability for this scale was measured with Cronbach's alpha, which is an overall summary coefficient that varies between 0.00 (poor reliability) and 1.00 (perfect reliability). Alpha coefficients were reported by Spielberger et al. (1983) as 0.94 for state-anxiety and 0.90 for trait-anxiety (high school learners). In the current study, the sample group's alpha coefficients for state-anxiety were 0.93 and for trait-anxiety 0.87.

The key words in most of the STAI (Form Y) items are at or below the sixth-grade reading level. Therefore, the inventory can be readily administered to high school learners and younger adolescents (Spielberger & Reheiser, 2003).

EI was measured by the *Bar-On Emotional Quotient Inventory: Youth Version* (Bar-On EQ-i:YV) (Bar-On & Parker, 2000). This inventory is an easily administered self-report instrument designed to measure EI in young people aged 7 to 18 years. This instrument is based on the Bar-On model of emotional and social intelligence, which also formed the theoretical

basis of the Bar-On Emotional Quotient Inventory (Bar-On, 1997), the most widely used measure of EI for adult respondents.

Psychometric analyses of the EQ-i:YV reported in the technical manual (Bar-On & Parker, 2000) indicate that it has good internal reliability and test-retest reliability. Internal reliability coefficients (norm group) for the respective dimensions are: intrapersonal 0.87, interpersonal 0.82, adaptability 0.87 and stress management 0.89. For the current study, Cronbach's alphas were calculated as: intrapersonal 0.7, interpersonal 0.8, adaptability 0.86 and stress management 0.85.

Due to the fact that these instruments have not been standardized for a South African population, raw scores were used for all measures.

#### *Procedure*

The type of research used to execute this study is non-experimental (correlational). A stratified sampling technique was employed to recruit the participants. Participants identified in this manner were interviewed regarding their willingness to participate in the project. They were informed that the research was an attempt to investigate a possible relationship between the two constructs EI and MPA. It was emphasized that there were no correct or incorrect answers and that only their personal views were relevant to the study.

This empirical study was conducted in three phases. Data collected in the first phase concerned the construct MPA (state-anxiety), the second phase entailed data collection for the construct EI and trait-anxiety, whilst the third phase consisted of statistical analyses and a critical discussion and interpretation of the results. It was recommended by Spielberger et al. (1983) that the state-anxiety questionnaire be administered prior to the trait-anxiety questionnaire. Since the state-anxiety scale was designed to be sensitive to the conditions under which the test is administered, scores on this scale can be influenced by the emotional climate that may be created if the trait-anxiety scale is given first.

Participants were reassured that their responses would be anonymous. Two potential participants did not consent to participation. The questionnaires were then administered for self-report and participants who experienced difficulties were assisted.

The State-Trait Anxiety Inventory (STAI) Form Y-1 (state-anxiety) and Y-2 (trait-anxiety) were administered to obtain measures of the criterion variable. Both of these indicators of anxiety were used as criterion variables. The predictor variables that were used in this study were the subscale scores of the Bar-On EQ-i:YV (Bar-On & Parker, 2000), giving an indication of four aspects of EI, namely intrapersonal dimension, interpersonal dimension, stress management and adaptability. These four variables were used as the predictors of both state- and trait-anxiety. Three responses to the Bar-On EQ-i:YV could not be included in this study. They scored more than two standard deviations above the mean ( $>130$ ) of the Positive Impression Scale (subscale of the Bar-On EQ-i:YV). This may be considered as a strong indicator of overly positive responses. It can also indicate self-deception, or a lack of self-awareness, or an attempt to make a positive impression (Bar-On & Parker, 2000). The Inconsistency Index revealed no random responses; all scores here were below 10.

In this study, two criteria (state- and trait-anxiety) are under discussion. To determine to what extent the variance in these two criteria can be explained by the sample's EI (intrapersonal dimension, interpersonal dimension, stress management and adaptability), a hierarchical regression analysis was performed. The aim was to determine the total variance of all predictor variables (complete model) with regard to the criterion variables. Following this, each of the predictor variables were omitted to determine that specific variable's contribution to the overall variance. The variance percentage, as defined by the predictors, is denoted by  $R^2$  (squared multiple correlation coefficient). Investigation by means of the hierarchical  $F$ -test determined whether a specific variable's contribution to the value of  $R^2$  was statistically significant. It is for

this reason that the overall EI score was not used in the analysis, as it is comprised of the four subscale scores and therefore cannot be used in the hierarchical regression analysis.

Bar-On and Parker (2000) documented that EI and general mood are strongly related. For this reason, and to restrict contamination between scales, general mood was omitted.

When the significance of an increase in  $R^2$  was investigated, it was also necessary to calculate the effect size of the contribution of each specific predictor. The effect size gives an indication of the contribution to  $R^2$  in terms of the proportion of unaccounted variance of the previous model. According to Van der Westhuizen, Monteith and Steyn (1989), the effect size of the individual contributions can be calculated in terms of  $f^2$  and with the formula:

$$f^2 = \frac{R^2 - R^2_1}{1 - R^2}$$

where:

$R^2$  = proportion of the variance explained by the previous model

$R^2_1$  = proportion of the variance explained by the smaller number of independent variables

The directive values that can be used according to Steyn (1999) are the following:

$f^2 = 0.01$ : small effect

$f^2 = 0.15$ : medium effect

$f^2 = 0.35$ : large effect

These effect sizes provide information about the practical importance of the possible inverse relationship that could be found to exist between the variables.

Due to the fact that participants could be divided into two main groups, namely those that performed individually (piano) and those who were playing with an accompanist, it was determined whether there were significant differences regarding the mean scores of the relevant variables for these two groups.

Intercorrelations between the predictor variables and the criterion variables will, apart from the hierarchical regression analysis, also be indicated and discussed. Descriptive statistics (means and standard deviations) of all variables measured on the interval scale will also be calculated and indicated. The 1% as well as the 5% level of significance were used in this study. The SAS software (SAS Institute, 2003) was used to do the analyses.

Descriptive statistics (means, standard deviations and correlations) of all relevant variables for the sample group will be given and discussed before the results of the hierarchical regression analyses are given and discussed.

### Results and Discussion of Results

In table 1 the descriptive statistics (means and standard deviations) are shown with regard to the criterion as well as predictor variables for the total sample group. The means and standard deviations of the norm groups (Bar-On & Parker, 2000; Spielberger et al., 1983) of these variables are also included in table 1.

To determine whether there are any significant differences between the means of the sample group and the means of the norm group, *t*-tests (Howell, 2002) were performed and results are shown in table 1 as well.

Table 1

#### *Means and standard deviations for the total sample group*

Variable	Sample group			Norm group			<i>t</i>
	N	$\bar{X}$	s	N	$\bar{X}$	s	
<b>Criterion variables:</b>							
State-anxiety	47	45.64	10.75	220	40.54	12.86	2.85**
Trait-anxiety	47	38.72	8.26	220	40.97	10.63	-1.61
<b>Predictor variables:</b>							
Intrapersonal	47	15.40	3.59	711	15.26	4.16	0.26
Interpersonal	47	42.45	4.12	711	40.76	4.45	2.71**
Stress Management	47	34.06	5.60	711	34.01	6.90	0.06
Adaptability	47	30.45	4.22	711	28.47	4.83	3.09**

Note: \*\*  $p < .01$

Scores for trait-anxiety ranged between 24 and 58 (possible maximum of 80) and for state-anxiety, scores ranged between 29 and 67 (possible maximum of 80). With the exception of trait-anxiety, the sample group had a higher mean score on the different variables than the norm group. It is clear that there are significant differences (at the 1% level of significance) regarding the mean scores of the sample group and norm group, with regard to state-anxiety and the interpersonal and adaptability dimensions of the EI measure. Concerning state-anxiety, the difference could be explained by the fact that the sample group was in a stressful situation when they completed the STAI Form Y-1, while the norm group (424 tenth-grade students, Florida, United States) completed it during regular class periods (Spielberger et al., 1983). According to Spielberger et al. (1983) state-anxiety scores are higher when this scale is given under stressful conditions and lower when it is given under relaxed circumstances. It could thus be anticipated that the sample group's state-anxiety would be higher than that of the norm group. In this study, the mean state-anxiety score (45.64) for participants was not significantly different to the mean pre-performance state-anxiety score (female musicians) of 45.75 in the Craske and Craig (1984) study ( $t = 1.563$ ,  $df = 26$ ).

Concerning the difference in interpersonal and adaptability scores between the norm group and the sample group, it could be explained by the method by which the groups were selected. The Bar-On EQ-i:YV was normed on a large sample of children and teenagers attending several different elementary, junior high, and high schools in the United States and Canada. All of the respondents used in the normative sample were recruited from regular classes. Compared to this, the sample group may be considered to be a select group, consisting of middle- to upper class, white, female, high school learners with at least three years of musical training.

Due to the fact that learners were subjected to different performance conditions with respect to the presence/absence of an accompanist, this nuisance variable was investigated prior

to further analyses. To determine the significance of the differences in means, the *t*-test for independent groups was used. Results showed no significant differences between the mean scores of these two groups. It can be assumed that this factor did not play a significant role in the anxiety levels of the participants. Consequently it was decided to do the statistical analyses on the group as a whole.

The intercorrelations between the predictors, as well as between the predictors and the two criterions, were calculated. For this purpose Pearson's product moment correlation coefficient was calculated and the results appear in table 2.

Table 2

*Intercorrelations for the total sample group (n = 47)*

<b>Variables</b>	<b>TA</b>	<b>IA</b>	<b>IE</b>	<b>SM</b>	<b>AP</b>
State-anxiety (SA)	.41**	-.36*	.01	-.35*	-.12
Trait-anxiety (TA)	-	-.24	-.12	-.68**	-.36*
Intrapersonal (IA)		-	.24	-.04	.19
Interpersonal (IE)			-	.36*	.26
Stress M (SM)				-	.33*
Adaptability (AP)					-

Note: \*\* p <= .01  
\* p <= .05

From table 2 the following is evident:

State- and trait-anxiety show a positive correlation coefficient, which is significant at the 1% level of significance. The published norms for college students (Spielberger et al., 1983) report significant correlations between the two types of anxiety ( $r = .59$  for females). Consequently, this would imply that a participant experiencing a high degree of trait-anxiety would tend to exhibit a high degree of state-anxiety. Research by Kokotsaki and Davidson (2003), proposed that a proportional relationship exists between the trait and state aspects of anxiety, where state-anxiety levels increase as trait-anxiety increases, and the opposite way as well. In general, the Trait-State Anxiety Theory as postulated by Spielberger et al. (1983) predicts higher correlations between state-anxiety and trait-anxiety in social evaluative



situations and lower correlations in physical-danger situations (Spielberger, 1966, 1972). Since correlations between the scales seem to depend upon the amount and kind of stress associated with the conditions under which the state-anxiety scale is administered, they have important implications for the construct validity of the STAI. Changes in state-anxiety evoked by threats of physical danger appear to be unrelated to levels of trait-anxiety (Hodges, 1967, Hodges & Spielberger, 1966, Lamb, 1969).

Considering the trait-state relationship, it can be claimed that this study supports the State-Trait Anxiety Theory as posited by Spielberger et al. (1983), because of the significant positive correlation between state- and trait-anxiety of this sample group.

Two predictors, namely the intrapersonal dimension and stress management, of EI reflect a significant negative correlation with *state*-anxiety (at the 5% level of significance). This implies that participants with a high score on the intrapersonal and stress management dimensions tend to have low scores on state-anxiety. The opposite is also true.

Results reflect a negative correlation between *trait*-anxiety and two predictors, namely stress management (at the 1% level of significance) and adaptability (at the 5% level of significance), which implies that participants with a high score on stress management and adaptability tend to have low scores on trait-anxiety. The opposite is also true.

At this stage, it would appear that especially the stress management predictor explains a significant percentage of the variance in anxiety (state as well as trait). To investigate the specific contributions of the predictors, hierarchical regression analyses were performed, to investigate the contributions of the different EI predictors to the explanation of the variance in state- and trait-anxiety in participants. The results concerning state-anxiety will be given and discussed first, and then trait-anxiety.

The results concerning state-anxiety appear in table 3.

Table 3

*Contributions of the different predictor variables to R<sup>2</sup> regarding state-anxiety of participants*

Variables in analysis	Variable omitted	R <sup>2</sup>	Contrib to R <sup>2</sup>	F	f <sup>2</sup>
1. ia+ie+sm+ap	-	.3289	-	-	-
2. ia+ie+sm	Ap	.3269	.0020	0.125	
3. ia +ie+ap	Sm	.1435	.1854	11.588**	0.28
4. ia+sm+ap	Ie	.2697	.0592	3.700	
5. ie+sm+ap	Ia	.1449	.1840	11.500**	0.27

Note: Key: [ia=intrapersonal; ie=interpersonal; sm=stress management and ap=adaptability].

\*\* p = .01; \* p = .05

Firstly, it is evident that the four predictors collectively explain 32.89% (R<sup>2</sup> = .3289) of the variance in state-anxiety of the participants [F<sub>[4;42]</sub> = 5.15], which is significant at the 1% level of significance.

When investigating the contribution of the individual variables to R<sup>2</sup>, it is evident that two variables, namely stress management (sm) and the intrapersonal dimension (ia), contribute significantly (at the 1% level of significance) to the variance in state-anxiety of the participants. From table 3 it is evident that stress management explains 18.54% and the intrapersonal dimension 18.40% of the variance in state-anxiety respectively.

Following on the directive values of the different effect sizes (see f<sup>2</sup>), it is evident that the results concerning stress management and the intrapersonal dimension tend to present medium to large effect sizes. The results are thus indicative of significant practical value.

The results concerning trait-anxiety as a criterion are shown in table 4.

Table 4

*Contribution of the different predictor variables to R<sup>2</sup> concerning trait-anxiety of participants*

Variables in analysis	Omitted Variable	R <sup>2</sup>	Contrib to R <sup>2</sup>	F	f <sup>2</sup>
1. ia+ie+sm+ap	-	.5991	-	-	-
2. ia+ie+sm	Ap	.5863	.0128	1.347	
3. ia +ie+ap	Sm	.1598	.4393	46.242**	1.09
4. ia+sm+ap	Ie	.5452	.0539	5.674*	0.13
5. ie+sm+ap	Ia	.5127	.0864	9.095**	0.22

Note: Key: [ia=intrapersonal; ie=interpersonal; sm=stress management and ap=adaptability].

\*\* p = .01

\* p = .05

It is evident from table 4 that the four predictors collectively explain 59.91% (R<sup>2</sup> = .5991) of the variance in trait-anxiety of the participants [F<sub>[4;42]</sub> = 15.69], which is also significant at the 1% level of significance.

Three of the four predictors explain a significant percentage of the variance of trait-anxiety. Two of the predictors, namely stress management (sm) and the intrapersonal dimension (ia) present a significant contribution (at the 1% level of significance) to the explanation of the variance in trait-anxiety. On its own, the third predictor, namely interpersonal dimension (ie), explains (at the 5% level of significance) a significant part of the participants' trait-anxiety. From table 4 it is evident that stress management explains 43.93%, the intrapersonal dimension 8.64% and the interpersonal dimension 5.39% of the variance in trait-anxiety.

Following on the directive values of the different effect sizes (see f<sup>2</sup>); it is evident that results pertaining to the interpersonal and the intrapersonal dimensions are responsible for a medium effect size, while the results of stress management present a large effect size. The results are thus of moderate to significant practical value – especially those concerning stress management.

The current study hypothesised that an inverse relationship exists between the constructs MPA and EI. The results strongly support this claim. More specifically, the data provides evidence that there is a significant inverse relationship between the intrapersonal and stress

management dimensions of EI and state- and trait-anxiety. The highest inverse correlation exists between the stress management dimension of EI and trait-anxiety. Furthermore, because of the high inverse correlation between the stress management dimension and trait-anxiety, it can be suggested that EI might prove to be a valuable domain of an intervention and prevention model to cope with MPA.

The findings of the present study should be viewed in the light of a few methodological limitations. Firstly, the sample group consisted of females only, so the possibility exists that the results might not generalize to males. Secondly, all the assessments of constructs were through self-report questionnaires and only the variables hypothesized to be associated were assessed. It is possible that the results may not reflect the participants' behaviour, since the researcher relied entirely on the participants' honesty and ability to provide accurate descriptions of their psychological state. Thirdly, the sample size is relatively small, which may cause problems where multiple comparisons are concerned. The results are restricted to middle class to upper class white subjects and thus limits the generalizability of results. In the fourth place, it is acknowledged that this research did not attempt to measure all possible variables, which could generate MPA. The final regression model left 40.09% of the variance for trait-anxiety and 67.11% for the variance for state-anxiety unaccounted for. In the fifth place it would be important for future research to attend to criticisms levelled at the Bar-On measuring instrument, concerning the fact that the Bar-On EQ-I:YV (Bar-On & Parker, 2000) is seen by some researchers as a measurement of skills or personality traits rather than a measure of ability. Another obvious limitation (in the sixth place) is the known limitation of an ex-post facto research type. The correlational design of this study is a good example of non-experimental research, and therefore it is not possible to conclude that a low score on EI is necessarily the cause or effect of a high level of MPA, or vice versa.

## Conclusion

The current study served as an initial exploration of the relationship that might exist between MPA (state- and trait-anxiety) and EI (emotional intelligence). Empirical results indicated that a strong inverse relationship exists between MPA and EI and the given hypothesis is therefore supported. Results also showed a strong positive relationship between state- and trait-anxiety. The correlations between state-anxiety and EI subscale scores were lower than the correlations found between trait-anxiety and the subscale scores of EI.

Because of this significant relationship between EI and state- and trait-anxiety, questions arise concerning EI as part of an intervention model for coping with MPA. Given the present findings, future research could provide rather interesting results if experimental research can investigate the effectiveness of an intervention programme to develop and encourage EI skills in musicians.

Future research could study similar samples aimed at examining the relationship across gender, age and race. Furthermore, research should attempt to shed light on the unexplained intrinsic causes of trait- and state-anxiety. MPA is a complex problem that deserves careful analysis and investigation, so that more effective strategies for coping can be developed. The groundbreaking results of this study could thus open doors to new and exciting ways of managing MPA via the domain of EI.

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ARL 702

## AFRIKAANS SUMMARY

Die Verband tussen Emosionele Intelligensie en Musiekuitvoeringsangs:

### ‘n Empiriese Studie

Die doel van hierdie artikel is om die korrelasie tussen die konstruerte musiekuitvoeringsangs (MUA) en emosionele intelligensie (EI) te bepaal. Die studie het die toestand-angs van deelnemers (N = 47) wat voor ‘n openbare uitvoering by die 42ste Vrystaatse Eisteddfod gedurende Mei 2005 ondervind is, ondersoek. Hierdie tellings, tesame met die deelnemers se karaktertrek-angs, is toe vergelyk met die subskaalteellings van hulle emosionele intelligensie. Metings is verkry deur die toepassing van onderskeidelik die *Spielberger State-Trait Anxiety Inventory (STAI)* en die *Bar-On Emotional Intelligence Inventory: Youth Version (Bar-On EQ-i:YV)*. Die resultate het ‘n beduidende omgekeerde verband tussen MUA en EI aangetoon.

**KEY TERMS**

Music Performance Anxiety / Emotional Intelligence / Spielberger State-Trait Anxiety

Inventory (STAI) / Bar-On Emotional Intelligence Inventory: Youth Version (Bar-On EQ-i:YV)

/ Empirical study / Relationship