

*Music Performance Anxiety:
An Investigation into the Efficacy of
Cognitive Hypnotherapy and Eye Movement
Desensitisation and Reprocessing when
applied to Grade 8 Pianists*

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**Submitted in accordance with the requirements for the
degree of
Doctor of Philosophy**

**The University of Leeds
School of Music**

March 2015

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Acknowledgements

I thank my supervisors Dr. Luke Windsor and Dr. Karen Burland for their help and guidance during the writing of this thesis; and many thanks to all the wonderful musicians who took part and made this research possible.

I wish to express my appreciation to Professor Nicola Dibben at the University of Sheffield and Nico de Villiers at Leeds College of Music, who encouraged students in participating in this research.

Last but not least, grateful thanks to my long-suffering husband John who has given encouragement and support when the road was not always smooth.

I dedicate this PhD thesis to my late parents Muriel and Philip Evans who inspired me during their lifetime to follow my dream. They would have been thrilled with the completion of this work.

Abstract

Music performance anxiety: an investigative study into the efficacy of cognitive hypnotherapy and eye movement desensitisation and reprocessing when applied to Grade 8 pianists

Music performance anxiety (MPA) is widespread and has a detrimental effect on performance affecting amateur and professional musicians alike (Kenny, 2011; Wilson, 2002). Previous approaches for alleviation have focused on the conscious mind; however this research targets both the conscious and unconscious mind through two psychotherapies - cognitive hypnotherapy (CH) and eye movement desensitisation and reprocessing (EMDR). The efficacy of the therapies was investigated with 52 Grade 8 pianists at the Universities of Leeds and Sheffield and at Leeds College of Music, initially a pilot study of 6 followed by 46 in a further study. A multimodal design was adopted using four different measurements: the State-Trait Anxiety Inventory (Spielberger, 1983); a self-report questionnaire (SRQ) testing subjective anxiety; assessments of performance; and subjective perceptions of therapies pre- and post-treatment. To further support the quantitative data, qualitative investigations were conducted through the SRQ and an evaluative log of performance experiences post-research. During the research period participants were randomly assigned to a therapy or control group; the therapy groups received two interventions during a two-week period between two concerts. A significant improvement in performance was found in the therapy groups post-intervention, but not in the control; subjective levels of MPA also decreased significantly in the CH and EMDR groups. Both therapy groups demonstrated a significant reduction in state anxiety which was not evident in the control group, and trait anxiety decreased significantly below baseline levels in the therapy groups. Longitudinal testing of trait levels of anxiety at four months, one year and two years post-intervention demonstrated that significant decreases from baseline were still maintained. This finding, using a large sample, has not been previously reported and has important implications for educators, performers and future research.

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Chapter 1

Introduction

1.1 Conceptualisation of the study

Anxiety appears to be a problem of some magnitude which can exert a negative effect on a variety of human behaviours including performance; the research literature validates this extensively (Eysenck, 1997; Kemp, 1996; Lehrer, Goldman, & Strommen, 1990; Spielberger, Gorsuch, & Lushene, 1970). Music performance anxiety has been the ‘bête noire’ of the artistic world for many years and can lead to musicians abandoning a career in performance (Wesner, Noyes, & Davis, 1990). It affects any age, any instrument and professional and amateur musicians alike (Kenny, 2011). There have been numerous attempts to alleviate this debilitating condition (Brodsky, 1996; Connolly & Williamon, 2004; Craske & Craig, 1984; Osborne, Kenny, & Cooksey, 2007; Steptoe, 2001; Williamon, Aufegger, & Eiholzer, 2014), however the problem still exists.

At the time of conducting this research my two major professional activities are as an instrumental teacher of pianoforte and voice, and as a private practitioner of cognitive hypnotherapy (CH) and eye movement desensitisation and reprocessing (EMDR). My personal background is highly relevant to the conception and development of the present study. During my teaching career, which has spanned more than forty years, I have been aware of the detrimental effect that anxiety can exert on performance and of the consequences of this for musicians. In my clinical practice as a hypnotherapist I am presented with an array of disorders many of which appear to have anxiety as their root cause. In this study I seek to integrate my clinical experience with the findings from the research literature, my therapeutic interests being centred round the most effective and long-lasting interventions for the treatment of anxiety. The causes of anxiety can be deeply embedded in the mind (Alladin, 2010) and as a psychological condition, it may be posited that music performance anxiety (MPA) can be successfully treated by psychotherapeutic interventions that target automated processes in the unconscious mind.

The initial approach to the literature focused on the background of anxiety and performance anxiety, before investigating the phenomenology of anxiety displayed in music performance. The rationale for adopting this approach was the importance of understanding how anxiety

develops and the role that this plays in performance, before investigating seminal works and studies that have been conducted into MPA. A review of the literature reveals that there has been a plethora of research in the field over the last 30-40 years; however in the main the studies have focused on the conscious mind, explicit memories and cognitions. There is a paucity of research for this debilitating condition where interventions focus on implicit processes no longer in conscious awareness. Therefore, anxiety relating to performance, and particularly music performance, is the primary focus of this research, investigating the effects of negative cognitions both in conscious and unconscious memory. This research considers the impact of the cognitive, physiological, and somatic symptoms of anxiety and how these multi-dimensional aspects affect music performance, both pre- and post-application of therapy. To date there have been surprisingly few studies that have investigated MPA using these interventions as both treatments have the potential to alleviate performance anxiety, enabling musicians to look forward to the performance experience. Only one large-scale study to date has assessed the effect of hypnotherapy on MPA (Stanton, 1994) and two studies using EMDR for the alleviation of MPA (Feener, 2005; Plummer, 2007). The current research builds on these investigations exploring scientifically the potential benefits of the psychotherapies (CH and EMDR) to determine the effect on music performance, and through this research to bring these therapies to the attention of the world of performance, specifically music performance.

1.2 Organisation of the chapters

Chapter 2 reviews the background of anxiety and considers the relevant psychological and scientific research, specifically the role that cognition, emotion and memories play in heightening anxiety. This approach was adopted by the author as it was deemed important for the current understanding of how anxiety develops, and the role that this plays in performance. Chapter 3 explores the background of the problem of MPA and its various dimensions, before critically reviewing the literature most pertinent to this problem. It relates this to the therapies currently adopted in the field and provides a table comparing these studies and their effectiveness. An overview of the development of the two interventions used in the study, CH and EMDR, is given in Chapters 4 and 5. The background, protocols and procedures of the therapies is given, examining their effects in clinical studies in various domains before focusing on their use in the field of MPA and concludes with a comparison of both therapies (Chapter 5). Chapter 6 critiques the preceding chapters, considering the main

arguments before outlining the aims, hypotheses and research questions in this study, and general approach of the empirical research. The second section of this chapter focuses on the empirical investigations.

Initially a pilot study concentrated on the experiences of a small group of Grade 8 pianists prior to and during two public performances. Chapters 7, 8 and 9, the method, results and discussion of the small-scale study, provided valuable information about the phenomenology of music performance anxiety (MPA) followed over the following two years by a large-scale study. Similar protocols and procedures were adopted for each investigation and a mainly nomothetic approach was adopted (the study of groups, as opposed to idiographic, the study of the individual).

Chapter 10 focuses on the main study method, and allows for comparisons with and reflections on the pilot study and improvements in the design and measures. Chapter 11 reports on the quantitative results of the main study. The next two chapters describe a qualitative approach to this research through self-report measures on subjective experiences of performance anxiety: Chapter 12 through a self-report questionnaire completed post-performance during the main study, and Chapter 13 by means of a log of subjective experiences completed by participants longitudinally after the main data collection period.

As well as nomothetic investigations into MPA this study includes idiographic accounts in the form of three reflexive case studies (Chapter 14). These were conducted by the author and documented during the main research period. It is important to include idiographic research as personal accounts of the performance experience give more detail and sensitivity and greater insight on a personal level into the understanding of the phenomenology of performance anxiety than can be gained from a nomothetic approach alone.

The discussion (Chapter 15) highlights the most important findings and observations from the study, summarising the empirical research and documenting ideas for future directions. Chapter 16 concludes with the implications drawn from this study and the author's recommendations, and considers the contribution that this PhD research has made to current knowledge.

Chapter 2

Exploring Anxiety

2.1 *Cognitive anxiety*

Anxiety can be generated through subjective negative and maladaptive thoughts as part of a continuous loop, suggesting a causal link between low self-esteem, self-concept and high anxiety: low self-esteem exacerbates feelings of inadequacy and provokes anxiety (Burns, 1979). An interpretation of cognitive anxiety has been given as a form of social anxiety aligned to social phobia, a response to threats to social status and reputation (Nesse, 1998) or a persistent fear of particular situations (Crozier & Alden, 2005). It occurs when individuals perceive scrutiny and anticipate that their resultant behaviour will fall short of what is expected, a fear of not matching one's own expectations leading to embarrassment and humiliation (Wilson, 1997). Social anxiety has been described as overestimating the severity of a feared event in conjunction with underestimating the coping resources and rescue factors which could be adopted to aid the situation (Beck & Emery, 1985). Self-focused negative attention on forthcoming events plays a key role in the conceptualisation of social anxiety, the anticipation of a feared event which can cause mental anguish (Coles, Hart, & Heimberg, 2005; Lewis, 2005). It has been described as "anxious apprehension..... a future-orientated mood state in which one is ready or prepared to attempt to cope with upcoming negative events" (Barlow, 2000, p.1249). Social phobia rooted in social anxiety has been summarised by Turner, Beidel and Townsley (1990) as:

- a) Negative cognitions operating in social situations which include fear of negative evaluation, self-consciousness, self-deprecating thoughts and self-blaming attributions for difficulties.
- b) Heightened physiological activity.
- c) A tendency to avoid threatening social situations.

The combination and interplay of three factors (cognitive, physiological and behavioural) appear to be responsible for anxiety. A three-factor model of anxiety based on the interrelationship of these variables has been proposed by Lang, Miller and Levin (1988). The researchers maintain that anxiety is the product of interactions of fearful thoughts, arousal of the autonomic nervous system and overt behavioural responses to perceived threat. However

cognitive anxiety can be categorised into two types, “trait” and “state”, this theory being first conceived by Cattell (1956) and developed in subsequent research (Spielberger, 1972; 1983).

2.1.1 Trait anxiety

Trait anxiety, the propensity of individuals to respond anxiously across a broad range of situations and experiences, is considered to be one of the major dimensions of personality in most contemporary theories of personality (Eysenck, 1997). Traits are developed in early life through an interaction between genetics, temperament and experiences that may be no longer in conscious awareness (LeDoux, 1996). It can be thought of as an individual’s normal level of anxiety when in non-threatening situations and it has been suggested that it is influenced by genetics (Cattell, 1973). Trait theory has caused some controversy, with Mischel (1968) for example, questioning whether personality traits adequately predict behaviour, or whether the idea of traits is meaningless because of the influence that environmental changes exert on individuals. However, the debate between ‘personality theorists’ and ‘environmental theorists’ was resolved by Deary and Matthews (1993, pp. 299-300) who concluded that “behaviour depends on an interaction between qualities of the person and qualities of the environment”. Research indicates that anxious personalities result from an accumulation of certain life experiences and that trait anxiety reflects residues of earlier experiences, and as such belongs to the realm of personality (Kemp, 1996; LeDoux, 1996). Investigations conclude that learned emotions are processed cognitively and result in a cognitive affect creating stable structures which can be thought of as traits (Barlow, 2002b; Izard & Blumberg, 1985).

Trait anxiety is considered to be the most important moderator of stress reactivity (Creed & Evans, 2002). An individual with high trait anxiety caused by stressful experiences will be more susceptible to stress and more likely to perceive situations as threatening. When in a situation viewed as negative, elevated levels of anxious thoughts may occur compared with someone who has low trait anxiety (Spielberger et al., 1983). It is reported that trait anxiety is responsible for up to 25% of the variance of subjective anxiety experienced during music performance, suggesting that many individuals who suffer from MPA have problems with general anxiety, and may benefit from psychological treatment oriented at changing this basic personality trait (Lehrer et al., 1990). Experiences affect the way people relate to situations and themselves, and can underpin the development of symptoms such as the degree of general anxiety (Kenny, 2001). The higher the general anxiety level the more an individual is

prone to worry and a strong relationship between anxiety and worry has been reported in the literature (Spielberger et al., 1970). Worry results in cognitive inflexibility, feelings of being out of control, decrements in attention, motivation and problem solving, and consequently performance deficits (Nolen-Hoeksema, 2000). Worry is a critical component of anxiety which interferes with emotional processing focusing on the occurrence of possible threats: it manifests itself predominantly as inner speech or catastrophizing and affects both trait and state anxiety (Bentz & Williamson, 1998).

2.1.2 State anxiety

State anxiety has been described as “perceived feelings of apprehension and tension accompanied by the activation of arousal” (Spielberger, 1966, pp. 16-17). It is a temporary condition and changes according to environmental situations and pressures and the degree of threat perceived by the individual (Spielberger, 1972). Research into the relationship between state and trait anxiety culminated in the State-Trait Anxiety Inventory (STAI Y-1 and Y-2). This inventory has been used extensively in research and clinical practice. It comprises separate self-report scales for measuring both state and trait anxiety. The state questionnaire has been found to be a sensitive indicator of changes in transitory anxiety and the trait questionnaire of differences in an individual’s proneness to anxiety (Spielberger, 1985). This self-evaluative questionnaire is based on the premise that individuals with high trait anxiety will experience correspondingly high state anxiety in a situation they perceive to be threatening (Spielberger, Gorsuch, & Lushene, 1977). Susceptible individuals will respond with higher anxiety states, triggering fear reactions regarding failure, accompanied by self-deprecating tendencies (Gaudrey & Spielberger, 1971). A strong relationship between state anxiety and psychological discomfort in situation-dependent states has been reported in the literature (Turner et al., 1990). Kenny (2011) observes that psychological distress varies in individuals, as does their capacity to cope in a performance situation, and this accounts for the variation in the degree of uncomfortable symptoms experienced by musicians. Wilson (2002) investigating the relationship between trait and state anxiety found that a moderate to high level of trait anxiety can exacerbate state anxiety in a threatening situation. More recent investigations have found that state anxiety reflects a combination of both trait anxiety and current environmental influences on mood state (Kenny, 2011). Fear of particular situations and focus on negative concerns and worries are highlighted, and anxious individuals are shown to give enhanced attention to threat-related information (Bishop, 2009). Three studies to date have investigated the relationship between state and trait anxiety

and music performance anxiety (MPA) in professional or advanced musicians (Cooper & Willis, 1989; Kenny, Davis, & Oates, 2004; Steptoe, 1989). The investigation conducted by Cooper and Willis with 70 male singers encompassed different styles of music (jazz, blues, soul, funk, rap, reggae, country and heavy metal). It was found that the most frequent sources of stress related to stressors associated with the lifestyle, travel, separation from family and excessive demands from the music industry. These factors impacted negatively on the performance itself by exacerbating the anxiety experienced in performance. Steptoe (1989a) investigated 65 orchestral musicians and 41 advanced music students which showed that general stress and anxiety regarding career and actual performance anxiety (stage fright) were related. Those musicians having greater levels of stress in careers also experienced greater levels of MPA. However most pertinent to the author's research is the investigation conducted by Kenny et al. (2004) who assessed 32 chorus members from Opera Australia and found that singers had significantly higher trait anxiety scores on the STAI Y-2 questionnaire (Spielberger et al., 1983) than a normative sample of non-performers. However it is not clear from Kenny's research if state anxiety levels were also enhanced significantly. It is therefore difficult to make comparisons of these two components of anxiety. The author's current research extends Kenny et al. (2004) through testing both state and trait levels of anxiety in a performance situation using the STAI Y-1 and Y-2 respectively (Spielberger et al., 1977). Anxious behaviour therefore appears to be dependent on the individual personality and the level of threat perceived in the environment. The cognitive perception of the event would seem to be of prime importance in controlling the level of state anxiety and in determining the outcome.

2.2 The role of cognition in exacerbating anxiety

Negative cognitive assessment of a forthcoming situation can instigate arousal; generated by the autonomic nervous system (ANS), the body's emergency system becomes activated in response to external events. The 'fight, flight or freeze' response prepares the body for appropriate action including the effects of increased adrenalin in the blood stream (Lang et al., 1988). It ensures that the primary subjective needs are met by enhanced physical and psychological energies, the latter being the result of interactions between environmental situations and the generated emotion of fear/anxiety (Fredrikson & Gunnarsson, 1992).

Anxiety can be triggered by cognitive appraisal of significant past events, which include the subjective feelings experienced at that time. This can evoke strong bodily reactions in a

similar present-day situation (Scherer, 1993). In a performance situation arousal can exacerbate anxiety resulting in a variety of unpleasant physiological and somatic symptoms (Shoup, 1995). Irrational thoughts heighten arousal and can generate symptoms of nausea, increased heart rate, muscle tension, agitation, trembling/shaking, dry mouth, sweating and “butterflies” (Friedman & Silver, 2007; Powell & Enright, 1990).

Situational or state anxiety, where the individual is thought to be in the spotlight, may originate from various cognitive processes which exacerbate physiological/somatic symptoms:

- a) A high trait level: subjective characteristics pre-empting susceptibility to stress (Kenny, 2010).
- b) External factors, historical or social. Negative cognitions impacting on internal mechanisms (Sloboda & Juslin, 2001).
- c) Explicit memories of past events (Wills, 2009).
- d) Implicit memories of past experiences which are now no longer in conscious awareness but impact on present day performance (Damasio, 1989; Scherer, 1993).
- e) Cognitive appraisal of significant events (Scherer, 1993).
- f) Aspects of behaviour which are pre-conscious (at a phenomenological level). Every intention is assumed to be describable by a set of physical events (LeDoux, 1989; Neale & Liebert, 1986).

Each component of cognitive processing listed above may have significant implications for the management of performance anxiety before a decrease in the overall fear response to the performance situation can be achieved. However there is a need to understand the aspect of emotional processing regarding performance, as Scherer (1993) argues that the reciprocal influence of the interaction of cognition and emotion can have consequences on the resultant behaviour.

2.3 The cognitive/emotional paradigm

Anxiety has been defined as a complex (learned) emotion in which fear is combined with other emotions such as anger, shame, guilt and excitement. When fear and anxiety are generated in a threatening situation, emotion, which is thought to be an amalgam of cognition, arousal and behaviour, plays an integral part in situational outcome (Izard, 1977). Anxiety places an emotional burden on individuals and their families and can be extremely

disruptive (Bishop, 2009), and it is claimed that tendencies towards emotional instability significantly predispose performing artists to symptoms of panic in situations perceived subjectively as threatening (Marchant-Haycox & Wilson, 1992). Research conducted by Beck (1964) indicates that emotional behaviour in certain circumstances is based on schemas, core beliefs and assumptions and that early experiences shape beliefs, assumptions and consequently behaviour. Beck further proposes that these factors can result in psychological problems and subjective negativity in an environment perceived as threatening. Barlow (2002a) argues that emotion is a multi-component process comprising cognitive appraisal of a situation, and Smith, Maragos, and van Dyke (2000) suggest that it involves assessment of the demands of the situation and the possible consequences. The above observations are consistent with the findings of LeDoux (1993) who reports that if an individual feels threatened an emotional episode will occur.

During an emotional episode different components are processed, synchronised and controlled by the central nervous system (CNS) (Scherer & Zentner, 2001). Emotional episodes are represented by five components which respond to the evaluation of an external or internal stimulus event. Each operates independently in non-emotional states but work in unison during emergency situations (Scherer, 1993):

- cognition (entailing cognitive appraisal of the situational state)
- physiological regulation (the body's reaction to arousal)
- monitoring of feeling (the emotional reaction/outcome)
- motivation (emotional affect leading to action)
- motor expression (the outcome on behaviour).

The components of anxiety, physiological arousal, expressive behaviour and subjective feeling, interact together during emotional episodes, however the exact organisation of these components during emotional arousal is arguable (Scherer & Zentner, 2001).

Performance is said to be based on this complex set of interactions operating in regard to the cognitive/emotional paradigm (Scherer, 1993). Researchers disagree on whether cognitive processing is an antecedent of emotional arousal or whether there is a steady integration of the two. Malan (1979) argues that when emotional learning is permanent adaptive behaviours can replace maladaptive attitudes and behaviours can be generalized to new situations in such a way that the learning becomes self-reinforcing. However LeDoux (1993)

states that emotions and the ensuing behaviour are dependent on cognitive processing, but subsequent studies have noted the importance of considering the context in which the behaviour first occurred: relationships with significant others, determinants of behaviour and the underlying aetiology of the symptoms (Spitzer & Wakefield, 1999). However more recent theories of anxiety highlight the importance of emotion and give primacy to this over associated cognitions relating to present or future threat (Foa et al., 2005).

There is accumulating evidence from the literature that psychodynamic psychotherapy is effective for the treatment of emotional conditions, particularly anxiety, where the primary focus of the therapy session is on affect and the expression of emotion (Shedler, 2010; Westen & Morrison, 2001). In a meta-analysis Shedler (2010) examined the efficacy of psychodynamic therapies for emotional disorders, including anxiety, against cognitive behavioural therapy (CBT) and reported effect sizes¹ (median 0.75) that equalled or exceeded the effects of cognitive behavioural therapy CBT (median 0.62).

However some cognitive components and emotional processing operate outside conscious awareness at a sub-cortical level, such that antecedent information processing is unlikely to be conscious (Lazarus & Smith, 1988). LeDoux (1989) suggests that the precursor to conscious emotional experience operates outside conscious awareness, leaving a negative memory trace connected to a similar experience no longer in conscious awareness, which will impact on the present experience. This is supported by investigative research which shows that emotional processing often occurs outside conscious awareness at a sub-cortical level and produces a fast, involuntary, autonomic response and guides decision making (Dvorak-Bertsch, Curtin, Rubinstein, & Newman, 2007). Processes no longer in conscious awareness produce an automatic response that are not governed by the individual on a conscious level, and are implicit. Unconscious and conscious memories generate implicit and explicit emotions respectively (LeDoux, 1989). The implication of this and the importance of memories are now considered.

¹ Effect size is a measure of the difference in outcome between a treated group and a control group. An effect size of 1.0 means that the average treated patient is one standard deviation healthier on the normal distribution (bell curve) than the average untreated patient (Shedler, 2010).

2.4 The role of implicit and explicit memory as a contributor to anxiety

The study of both conscious and unconscious processes was neglected in psychological research during much of the 20th century as the discipline was more focused on behaviourism and the study of overt behaviour (Locke, 2009). However a cognitive re-awakening in the 1960s influenced a gradual re-emergence of interest in mental processes and the effect that these have on behaviour, particularly in respect of the unconscious mind (Bargh & Morsella, 2008), unconscious memories (Greenwald, 1992) and positive illusions (Taylor & Brown, 1994). Some memories lie outside the area of consciousness (implicit memories) and can be accessed and changed only through psychotherapies which operate outside conscious awareness (Greenwald, 1992). It has been argued (Cramer, 1998) that individuals use intentional (conscious) and unintentional (unconscious) coping strategies and defence mechanisms which equally determine the outcome of response to stress. As such they should be given equal status demonstrating the important role that implicit mental processes play in governing human behaviour. Scherer (1993, p.13) refers to “unconscious feelings” and posits that “they might be accessible to awareness with proper attention deployment”; however he does not state what this might be. He theorises that during emotional states the experiences are stored in memory as being distinctive, and as such would be expected to leave a memory trace, as opposed to non-emotional states which leave no memory trace (cf. Damasio, 1989). This has important implications for the recall of implicit memory concerned with negative or positive emotional experiences; beliefs regarding past events will give rise to implicit and explicit feelings/emotions connected to the experience (Doidge, 2008). Implicit and explicit negative memories of past experiences can trigger latent patterns of thoughts, emotions and behaviour, resulting in a vicious cycle which maintains and exacerbates the non-helpful behaviour (Young, Klosko, & Weishaar, 2003). Implicit memories are accompanied by specific remembered events and if negative thoughts have been encoded, implicit feelings are brought into conscious awareness causing both physiological and psychological symptoms (Baddeley, 1999). Implicit memories are highly pertinent to performance; an emotional feeling perceived implicitly affects subsequent behaviour (Niedenthal & Showers, 1991). It follows that the lynchpin of subjective emotional feelings may hinge on the extent and negativity of past implicit and explicit memories, which may instigate and exacerbate performance anxiety.

Physiological reaction patterns to emotion-inducing events are stored in memory together with the experiential content (Lang, 1979) and negative cognitions and feelings need to be addressed and brought into full conscious awareness (Alladin, 2010). It is documented in the literature that when fears and maladaptive thoughts are targeted in therapy, during an altered state of consciousness, these can be desensitised and reprocessed (Rossi & Cheek, 1994). Clinical evidence of this has been given in the area of post-traumatic stress disorder where implicit memories of negative cognitions and somatic experiences of trauma were targeted (Cvetek, 2008; Mol. et al., 2005; van der Kolk, 1997; 2002), documented in Chapter 5.

Neuroscience has shown that the amygdala (associated with affective functions, primarily fear processing) is involved in processing cognitive functions and emotional information (Pessoa, 2008). More recent research has shown that the amygdala is capable of storing and retrieving memories for specific fears (Debiec, Diaz-Mataix, Bush, Doyere, & LeDoux, 2010). The amygdala can discriminate between different fearful experiences, such that when one memory is reactivated through exposure and modified, a different fearful experience will be retained and stored unchanged, and will be reacted to as in the original fear-learning situation. Thus, disruption to one type of fear memory will not reduce other fear memories. Their research substantiates the reasons for the adoption of psychotherapeutic interventions that target implicit processes as these automated processes are highlighted and targeted during therapy.

Damasio (1989) found that during emotional states distinctive emotional experiences are stored in memory as different components of memory contents, distributed in fragmented form over many different brain sites. Damasio's research revealed that retrieval of the memory content is achieved through the synchronisation and activity of the multiple sites involved. In investigations conducted by Kirchner (2003) it was revealed that the emotional reactions of individuals can be substantially different in the same situation resulting in different degrees of anxious behaviour. Evidence from the literature describes how conscious memories are stored in the hippocampus, and activation of the hippocampus alone results in anxious rumination (Baddeley, 1999). LeDoux (1996) reports that the parallel memory systems of the amygdala and hippocampus operate simultaneously when there are stimuli connected to the original trauma or memory trace, resulting in anxious behaviour. Considering this in relation to performance anxiety where trauma may have been experienced in a similar situation, it can be posited that there will be varying degrees of subjective reaction dependent on the subjective memory trace, together with the degree of emotion

generated relating to a particular situation. Therefore for the alleviation of MPA it is necessary that the original trauma or traumas are targeted. The research conducted by Doidge (2008) has shown that beliefs regarding past events will give rise to implicit and explicit feelings/emotions connected to the experience. This has important implications for the use of psychodynamic psychotherapy as the favoured approach for performance anxiety, as the procedures used are specifically aimed at recall of implicit memories no longer in conscious awareness.

2.5 Psychotherapy and memories

Neuroscientists recognise two major memory systems, both plastically altered by psychotherapy: “procedural” or implicit, and “declarative” or explicit (LeDoux, 1996). Procedural memories are generally unconscious and of emotional interactions whereas declarative memories consciously recollect specific facts, events and episodes (Baddeley, 1999; Baddeley, Eysenck & Anderson, 2009). Emotions and patterns displayed in relationships are part of the procedural memory system. When such patterns are triggered in psychotherapy it gives the individual the opportunity to revisit and change the maladaptive memory as the underlying neuronal networks and associated memories can be re-transcribed and changed (Doidge, 2008). This change in maladaptive memories is supported by LeDoux (2002) who argues that cognitive disorders can be thought of as mal-connection syndromes that occur between the various synaptic regions of the brain. He further argues that maladaptive experiences/memories which disassemble the connections can be reassembled by experiences that establish change. Investigations conducted by Tomarken, Davidson, Wheeler, and Doss (1992) suggest that through changing negative cognitions, emotions and memories by different forms of psychotherapy, changes in the brain occur which affect the structure of the brain itself. This research was extended in a study conducted by Harper, Rasolkhani-Kalhorn, & Drozd (2009) using a quantitative electroencephalogram (qEEG) which supported depotentiation (weakening) of fear memory synapses in the amygdala, disrupting the fear memory circuits and leading to modification or extinction of the fear memory traces.

As early as 1896 Freud observed that memories are not written down to be ‘engraved’ or to remain unchanged forever but can be altered by subsequent events and re-transcribed. He further observed that subjective events could take on an altered meaning years after they had occurred, and during and after treatment patients experienced altered subjective memories of

those events. Memories of negative experiences or events changed and had new meaning. To be changed, however, he argued that memories had to be conscious and become the focus of conscious attention. Those memories not easily accessible to the conscious mind were ‘relived’ rather than ‘remembered’: Freud’s complete letters can be found in Masson (1985). These early ideas of brain plasticity are now being established as a fact of mainstream science.

Evidence from the literature documents the powerful effect of the mind in altering the structure of the brain, and how emotions and fears are changed by psychodynamic therapies which treat the underlying root cause of the problem (Schwartz & Begley, 2002). Individuals are not always aware of the source of their fears and emotions. The author’s personal experience in therapeutic practice over several years supports Schwartz & Begley regarding emotional experiences and fear reactions and the changes that psychodynamic therapy can make in this area of treatment.

2.6 Summary

This chapter has shown that cognitive anxiety is a complex, learned emotion, having components of fears and memories which act as contributors to anxiety, exerting multifarious effects on performance. A public performance of any kind may heighten the degree of anxiety, embracing a gamut of mental, emotional and physical feelings. Chapter 3 of this study now critically reviews the literature most relevant to the phenomenon of MPA.

Chapter 3

Music Performance Anxiety

Seneca, 1st century AD, said “There are more things to alarm us than to harm us, and we suffer more in apprehension than in reality” (Wolfe, 2005, p.13). Two thousand years later the phenomenon of anxiety and its many complexities relating to the cognitive, emotional and behavioural aspects of human performance illustrate the wisdom of these words. The effect that anxiety exerts on music performance is widespread; it affects musicians of any age, any instrument, and amateur and professional musicians alike (Kenny, 2011). Pablo Casals, Enrico Caruso, Maria Callas and the renowned pianists, Artur Schnabel and Vladimir Horowitz, all suffered from this phenomenon (Otswald, 1994; Schonberg, 1963; Valentine, 2002). Musicians affected by performance anxiety may abandon a career in performance as a result of their inability to cope with the stress (Wesner et al., 1990). MPA has been documented as affecting over 60 % of all performing musicians (Brodsky & Sloboda, 1997) and even though it has been investigated widely over many years, the problem still exists (Chan, 2011; Huang, 2011; Kirchner, 2003; Lã, Marinho, Pereira, & Santos, 2011; Osborne et al., 2007; Plaut, 1998; Shoup, 1995; Wesner et al., 1990; Xu, 2010). Lying within the broader context of stress-related problems, the phenomenon of MPA has attracted a large body of research (Brodsky, 1996; Clark & Agras, 1991; Cox & Kenardy, 1993; McGinnis & Milling, 2005; Sareen & Stein, 2000; Steptoe, 2001), yet MPA continues to be a significant problem for both professional and student musicians (Kenny, 2005; Plummer, 2007; Williamon, 2004).

3.1 What is the current understanding of the problem?

Performance anxiety lies within the broad domain of social anxiety, which occurs when psychological discomfort in situation-dependent states leads to anxiety (Crozier & Alden, 2005). MPA has been described in the research literature in different ways; however, the most widely held description, reported by Salmon (1990), is the model of anxiety presented by Lang et al. (1988). Their research demonstrated that the combination and interplay of three factors - physiological, cognitive and behavioural - appear to be responsible for anxiety, and proposed a model based on the correlation of these variables. Craske and Craig (1984) drew heavily on the three-systems model of Lang et al. when it was tested with 40 advanced pianists divided into anxious and non-anxious groups. During solo performance, self-report

measures of cognitive anxiety, behavioural and physiological factors were obtained. The results indicated support for Lang's theory. The anxious group showed greatly increased anxiety in all three systems, and in contrast the non-anxious group showed increases in physiological arousal but not in the other two systems. Miller and Chesky (2004) added to Lang's variables when they identified a complexity of components which included affective, cognitive, physiological and behavioural factors. Their investigative research corroborates the findings of previous work in this field:

- affective subjective experiences generate arousal of pleasure or displeasure (Oatley & Jenkins, 1996).
- cognitive processes are generated in a situational state such as a music performance, both prior to and during the performance, and have effects which lead to either negative or positive appraisal (Steptoe, 2001).
- physiological adjustments to cognitive processes activate arousal causing uncomfortable somatic symptoms which are unhelpful in performance (Fredrickson & Gunnarsson, 1992).
- behaviour which is not always goal-directed can have a negative outcome on performance (Salmon, 1990).

Evidence from the literature emphasises the multi-dimensional aspects of anxiety, and the affective role that experiences have on primary emotions such as fear and apprehension. This can affect the degree to which cognitive processes influence assumptions, expectations, physiological symptoms and behaviour (Beck, 1964; 1970; Kenny, 2010; Kirchner, 2003, McCraty, 2003a; 2003b). It could be argued that the component of anxiety affecting cognitive processes is key to the outcome of performance.

3.1.1 Cognitive arousal and performance

An important relationship appears to exist between cognitive arousal and performance quality in that the degree of arousal experienced before and during performance can directly affect performance quality (Craske & Craig, 1984). The Yerkes-Dodson Law (Yerkes & Dodson, 1908, cited in Williamon, 2004, p.12) describes performance quality as an inverted U-shape and demonstrates the relationship between arousal and performance, the peak of the curve representing the optimal level of arousal. It further demonstrates that the highest point on the curve will be reached earlier for difficult tasks and that more complex tasks will deteriorate more easily under stress than simpler ones. However subsequent research into music

performance conducted by Wilson (2002) shows that the relationship between arousal and performance is not straightforward; emotional arousal is dependent on the interaction of a number of related factors which include intrapersonal, situational and the degree of task mastery. A three-dimensional model extending the Yerkes-Dodson Law was proposed by Wilson where sources of stress are grouped into three major categories:

- a) Trait anxiety: any personality characteristics, constitutional or learned, that mediate susceptibility to stress.
- b) Situational stress (state anxiety): environmental pressures such as public performances, audition or competition.
- c) Task mastery: ranging from performances of simple, well-rehearsed works to those of complex, underprepared material.

It has been suggested that a 'catastrophe model' is more appropriate than the Yerkes-Dodson Law in describing the sudden plunge in performance quality once cognitive arousal has passed a certain stress level (Hardy & Parfitt, 1991). Hardy and Parfitt noted that it is necessary to distinguish cognitive anxiety from somatic or bodily agitation, both caused by excessive arousal. Cognitive anxiety is related to performance outcome and somatic anxiety is a conditioned fear response associated with the performance venue. Martens, Burton, Vealey, Bump, & Smith (1990) argue that cognitive anxiety can be associated with the perceived probability of success or failure. However, although high levels of anxiety in performance can be detrimental (Taylor, 1956), A-State (state anxiety) is thought to have motivational or drive properties and low degrees of arousal can be as detrimental to performance as over-arousal, leading to insufficient motivation which can result in a lacklustre performance (Wilson & Roland, 2002). However when excessive arousal interferes with performance, concentration is interrupted and memory blocks and somatic symptoms of anxiety occur (ibid). A number of different theories have been suggested regarding the degree of arousal appropriate in performance. Hanin (1986) termed this as an individual zone of optimal functioning (IZOF). Personality factors play a role in attaining optimal arousal levels; however these levels vary for different individuals depending on the personality and characteristics (Salmon, 1990). When arousal is low to moderate, attentional focus on the subjective performance is greater; however focus decreases as the levels of arousal are raised (Mather et al., 2006). The levels of state and trait anxiety and task mastery have an effect on the degree of arousal (Kokotsaki & Davidson, 2003). A moderate to high level of trait anxiety can exacerbate state anxiety in a threatening situation (Spielberger et al., 1983). This

in turn may impact negatively on the performance outcome. The situation is not straightforward; task mastery, the complexity of the task, peer pressure and audience effect are different factors that can affect arousal (Craske & Craig, 1984; Wilson, 2002).

3.2 *Aspects that affect performance*

3.2.1 *Trait anxiety*

Research conducted by Kaspersen and Gotestam (2002) showed that high levels of negative affectivity (trait anxiety) were positively associated with higher state anxiety in individuals, prior to and during a music performance. Previous studies have noted that when the general level of anxiety is high then the strategies for coping in performance become more difficult to execute; personalities and coping strategies are closely related concepts (Eysenck, 1988). Recent research found that correlations between MPA and non-productive coping were significantly accounted for by trait anxiety (Thomas & Nettelbeck, 2014). Because of the high level of cognitive and behavioural requirements in playing an instrument, a music performance requires a controllable level of anxiety to give an optimum level of performance (Milton, Solodkina, Hlušík, & Smalla, 2007). The level of trait anxiety is expected to influence a musician's vulnerability to MPA (Liston, Frost, & Mohr, 2003). Investigating music performance anxiety Kokotsaki and Davidson (2003) confirmed the suggestion that a proportional relationship exists between the trait and state aspects of anxiety. A study conducted into MPA found that tertiary music students with higher trait anxiety reported higher levels of state anxiety across different performance situations, including music practice, than those students with lower trait levels (Cox & Kenardy, 1993). It could therefore be hypothesised that trait anxiety is a major factor in the causation of MPA and that a reduction in the general level of anxiety would result in a lowering of state anxiety.

3.2.2 *Solo performance*

It has been found that solo performance generates higher anxiety states than ensemble performance (Brugués, 2011) and that gender differences are apparent, with females generally exhibiting higher degrees of state anxiety than males (Wesner et al., 1990). Research conducted with young musicians indicates that the causative factors are diverse (Osborne & Kenny, 2008) and that performance anxiety is best predicted by subjective levels of trait anxiety and gender anxiety, as well as dysfunctional cognitions regarding the forthcoming event, emotional feelings of distress and uncomfortable somatic symptoms

(physiological reactions to arousal). Solo piano performance was highlighted in research conducted by Kirchner (2003) investigating the psychological and physiological processes involved in performance. Six pianists were studied by means of a survey questionnaire and individual interview. The data indicated that MPA is manifested through a combination of thought processes, feelings and physiological responses that are activated by the threat of performance. The strength of negative cognitions and emotions were seen to undermine the self-confidence level of the performer, as was the individual's self-perception of how they were viewed by others. Kirchner highlighted that cognitive anxiety begins hours before performance and is exacerbated during performance and this results in uncomfortable physiological symptoms. However six pianists is a small sample and this research would have been strengthened if the qualitative data from the questionnaires had been independently assessed.

The experience of solo performance is daunting and pianists have to get used to a strange instrument often without having had any previous rehearsal. However the piano is only one of a variety of instruments, each having different cohesive features and requiring different skills and demands from the performer. A variety of strategies (mental training, attentional focus, positive imagery, relaxed breathing) have therefore been developed as an aid to performance.

3.2.3 Performance strategies

Performance strategies and teaching techniques to enhance music performance and reduce performance anxiety are advocated by a number of researchers (Brotons, 1994; Buswell, 2006; Connolly & Williamon, 2004). Interventions used for music performance anxiety should promote sufficient relaxation to counteract the negative symptoms of excessive arousal while maintaining sufficient arousal and concentration needed for an optimal music performance (Brotons, 1994). The belief is that the mind, body and emotions are inextricably linked, and that the mind is a powerful determinant of how the body performs (Buswell, 2006). This is similar in essence to the main tenets of hypnotherapy, neuro-linguistic programming (NLP), cognitive behavioural therapy (CBT), mindfulness and meditation. Mental skills training (MST), which has evolved from sports psychology, offers performers a range of techniques to attain their optimum performance through relaxation and mental skills. Strategies are developed which minimise negative thoughts and feelings aimed at enhancing physical and physiological wellbeing (ibid). Connolly and Williamon (2004) suggest a

number of principles for MST the main ones being: high motivation; focus and concentration; calmness and relaxation; control of emotions; and the appropriate level of energy. Instruction is given in the use of these for the enhancement of performance and reduction of MPA.

Although this research is informative and useful, a drawback with this method is the longitudinal nature of the learning programme of these skills which require long periods of practice in their execution. It also requires completion of self-report diaries and logs documenting progress by the participants. Performers are individuals with varying personalities, and although at a professional level of performance MST could be valuable, this method of training would appear to be time-consuming and regimented and may not suit less experienced and less advanced musicians.

Recent investigations with 11 advanced violinists, testing the efficacy of simulated performance environments for the management of stress and anxiety (using the state portion of the STAI anxiety inventory: Spielberger, 1983), showed that this approach was effective in decreasing subjective anxiety in both a simulated and comparative actual performance (Williamon et al., 2014). However, although heart rate was reduced in a simulated performance, there was no reduction in an actual performance. This shows that virtual environments of performance situations may be of value in some respects for preparation for the actual event. Individuals, however, have different levels of skill, performance exposure and personal experiences of MPA. Therefore further research should be conducted into how simulation can cover a broader spectrum by the use of different instruments and levels of expertise and be made more meaningful across these different areas of performance anxiety. Simulated environments offer experiences which gradually desensitise performers to the actual performance. However behavioural therapy offers no such cushion to the performer as the repeated performance experiences are *in vivo*.

3.3 Therapies: Key findings

3.3.1 Behavioural therapy

Music psychology was dominated for much of the 20th century by the behaviourist school, the primary focus being on overt behaviour (Locke, 2009). Behavioural treatments of MPA are based on the classical conditioning of Wolpe (1958) and Eysenck (1960) for the treatment of anxiety. Behavioural therapy focuses on changing the dysfunctional behaviour that occurs when individuals feel anxious. Systematic desensitisation through exposure to the feared

situation and management of physiological symptoms of anxiety are considered to be the main tenets of this therapy (Locke, 2009). The first stage of the therapy uses an imagined feared situation but gradually the individual progresses to the situation *in vivo*, confronting the fear but under controlled conditions, systematically desensitising the fear (Williamson et al., 2014). One of the first published studies assessing exposure-based therapy was conducted by Appel (1976) who found that a desensitisation process occurs when musicians (or other artists) are exposed to the performance situation on a regular basis, the basic principle being that the more exposure that is given to the feared situation the less threatening it appears. Behavioural therapy was further investigated when Reitman (2001) used the addition of two systematic desensitisation procedures: music-assisted coping and verbal coping. This consisted of music performances in front of live audiences, together with verbal processing of the anxiety response experienced by each participant. Studies have used behavioural techniques combining muscle relaxation (Grishman, 1989; Mansberger, 1988) and breathing techniques (Deen, 2000; Su et al., 2010), and these treatments have been shown to have some effects on the reduction of MPA.

3.3.2 Cognitive therapy

Investigations have been conducted into cognitive therapy where the emphasis is on cognitive reconstruction of negative thinking patterns that give rise to maladaptive behaviours (Kenny, 2010; Kirchner, 2003). Cognitive therapy, based on cognitive theory, contrasts with behavioural theory by emphasising the influence that negative thoughts and schemas exert on the personality; this leads to self-perceptions of failure and humiliation (Beck, 1970). Research informs us that the process of replacing negative perceptions and thoughts with more rational ways of understanding problems allows individuals to reassess feared situations so that they become more manageable (Beck, 1964). Cognitive appraisal of a situation is a critical element in defining the subjective stress level of an event or situation (Eysenck, 1997). When cognition is affected in performance the resultant conditions are: loss of concentration, heightened distractibility, memory failure and maladaptive cognitions (Stephoe, 2001, p.295). In research conducted by Kirchner (2003) the strength of negative thoughts and feelings was seen to undermine the self-confidence of the performer, as well as their views about how they were perceived by others. Through self-report questionnaires and interviews, the investigation concentrated on the cognitive thought processes involved in performance which can result in mental anxiety and physiological symptoms. This research has given added insight into the mental cognitions generated in performance from an

idiographic perspective. The role that faulty cognitions and negative emotions play in the maintenance of MPA was considered when Kenny (2010) discussed the importance of positive cognitions and behavioural therapies. She addressed the importance of explicitly identifying the core features of particular therapeutic treatments to clarify which elements of a complex psychological therapy contribute to therapeutic outcome. Investigations with musicians using cognitive therapy found that training the mind in attentional focus of certain aspects of the performance led to increased task absorption which resulted in lower levels of performance anxiety (Wolverton & Salmon, 1991). The research into attentional focus has been supported by the findings of Connolly and Williamon (2004) and Osborne and Franklin (2002).

A number of studies have concluded that because of the nature of MPA a cognitive or behavioural approach may produce the best outcomes. A review of two studies which compared the effect of the therapies follows.

3.3.3 Comparisons of cognitive and behavioural therapy

A seminal study into MPA in pianists compared a cognitive therapy group with a behavioural therapy group (Kendrick, Craig, Lawson, & Davidson, 1982). The investigations suggested that behavioural therapy may be more effective for the treatment of state anxiety, as measured on the State-Trait Anxiety Inventory (Spielberger et al., 1977). However, the cognitive therapy group displayed increased self-efficacy and decreases in visual signs of anxiety which was not the case in the behavioural therapy group. This research was valuable in establishing an effective means of treating MPA and the strengths and the weaknesses of a cognitive as opposed to a behavioural approach.

In a further comparative investigation of behavioural and cognitive treatments for MPA, Sweeney and Horan (1982) found that although both therapy groups showed improvements in MPA, heart rate and performance quality post-therapy, there was no significant difference of effect between the groups. This research would have been more robust if a control group had been included in the investigations so that comparisons could be made across non-therapy and therapy groups.

The methodology of cognitive therapy was integrated with behavioural therapy which became known as cognitive behavioural therapy (Butler, 1999). A number of studies have

adopted a cognitive behavioural approach for the alleviation of MPA and these are now reviewed.

3.3.4 Cognitive behavioural therapy: CBT

In the past three decades a combination of the behavioural and cognitive approaches have been adopted for MPA and these are known as cognitive behavioural therapies (CBT). CBT is widely considered to be the treatment choice for anxiety disorders in general (Rodebaugh, Holaway, & Heimberg, 2004) and for performance anxiety particularly (Birk, 2004; Kenny, 2005). CBT aims to change negative thoughts and behaviours and can be of variable duration (several or many sessions) depending on the presenting issues. It is proactive in that participation is required of the client in the form of record keeping, homework assignments and evaluation.

A seminal study investigating the use of cognitive and behavioural strategies in performance anxiety was conducted by Steptoe and Fidler (1987) in which they examined the questionnaire responses of experienced orchestral players ($n = 65$), members of an amateur orchestra ($n = 40$) and music students ($n = 41$). In all three groups performance anxiety was related to neuroticism, everyday fears and social situations. Catastrophizing (negative thoughts both before and during performance) was positively linked with performance anxiety in all groups while realistic appraisal of the performance situation was used most often by those musicians with moderate levels of stage fright. The researchers identified that MPA was managed most efficiently by a combined use of cognitive and behavioural strategies highlighting the importance of positive thinking and realistic appraisal of the situation. However, the limitations of this study should be noted as data were collected entirely by self-report questionnaire and such reports do not always reflect behaviour prior to and during performance. Although qualitative idiographic information is important, the study would have been more robust if quantitative data had also been incorporated.

The effectiveness of a CBT treatment package for the reduction of MPA was proposed by Tarrant and Leathem (2007). This incorporated a range of strategies for performers including understanding the nature of MPA, the development of insight through looking at past subjective performances, the role of technical preparation for performance, and the role of focus during the performance itself. It was shown that the strategies were helpful in overcoming negativity and in the understanding of achieving positive outcomes. A further valuable CBT programme to reduce MPA was tested with 23 adolescent musicians with high

performance anxiety in a seven-session intervention (Osborne et al., 2007). The programme consisted of goal setting, cognitive restructuring, relaxation training and behavioural exposure through two solo performances with audiences. Both state and trait anxiety were tested using the Music Performance Anxiety Inventory (MPAI) together with self-reported anxiety. It was found that there was significant improvement in anxiety as reported on the self-report questionnaires but it is unclear from this report if objective measurements of state and trait anxiety were also reduced significantly. There was no perceptible effect of CBT on the quality of performance. This research was extended looking into the role that sensitizing experiences exert on MPA using 298 music students (Osborne & Kenny, 2008). Descriptions of 'worst' performance experiences were assessed according to six aspects: situational, behavioural, affective, cognitive, somatic and outcome. This study highlighted the strong relationship between negative cognitions and performance anxiety and the role that cognitions play in exacerbating this.

A number of studies have examined the effect of combining various treatments with CBT and these are now briefly reviewed. Over a period of six sessions Nagel, Himle and Papsdorf (1989) used a combination of CBT (systematic desensitisation), muscle relaxation and thermal bio-feedback to increase warmth in the hands of over-anxious pianists. They reported decreases in trait anxiety and self-reported state anxiety compared to a control group. The research conducted by Nagel et al. (1989) into both trait and state anxiety was extended when Brodsky and Sloboda (1997) investigated the longitudinal effects on trait levels of anxiety after eight sessions of therapy. 54 orchestral musicians were each randomly assigned to one of three treatment groups: CBT alone, CBT and listening to music and CBT with music-generated vibrations. The treatments given resulted in a reduction of trait anxiety across all participants during the study but when tested longitudinally at two months post-intervention all levels had returned to baseline. However, research informs us that longitudinally the relapse rate for anxiety-based conditions is cause for concern where the treatment has been symptom-based as in CBT (Paolina, 1981). No reductions were found in state anxiety during the study period, but at a two-month follow-up reductions were noted. This is a surprising result given the lack of effect on state anxiety during the research period. It is not surprising that trait anxiety had returned to pre-treatment levels at a two-month follow-up: prior studies have shown that depending on the nature of the condition there is a high relapse rate in anxiety reduction in individuals who have undergone symptom-based CBT (Kenny, 2011). The research of Brodsky and Sloboda (1997) has several weaknesses:

more credence could be given to the findings from the subjective self-report questionnaires used in this study if these had been substantiated by objective measurements of anxiety. The investigation would also have benefited from a control group to enable comparisons across groups and non-treatment groups. This study indicates that combination therapies are no more effective than those interventions which use one treatment.

In a preliminary study into pianists' anxiety, cognitive behavioural training given over a 12-week period was assessed using the STAI questionnaire and electro-physiological markers; an assessment of both subjective cognitive anxiety and objective anxiety was made (Lã et al., 2011). However a comparison of results showed no significant difference pre- and post-treatment. In this case CBT was ineffectual after 12 sessions.

3.3.5 Evaluations of CBT

McGinnis and Milling (2005) evaluated six studies for MPA against key methodological criteria for psychotherapy outcome research. It was found that although the literature points to the use of the cognitive behavioural therapies for the treatment of MPA there is no clear-cut evidence suggesting the superiority of one approach against another or the benefits of combining several approaches. They conclude that past research is characterised by limitations in methodology and over-reliance on self-report outcome measures, and suggest that future research would benefit from the use of multidimensional outcome measures as well as follow-up data.

Kenny (2010) considered the role of faulty cognitions and negative emotions in experiences of music performance anxiety. She discusses how emotions play a central role in the conceptualisation of music performance and the importance of positive cognitions and behavioural therapies. She notes that cognitive behavioural therapies developed in the last three decades have focused on modifying faulty conditions for problematic behaviours in performance, and indicates that empirical work to date suggests that these approaches may show some positive outcomes for these conditions. Considering the phenomenology of music performance anxiety and the treatments available for this, Kenny (2011) highlights the bias in the research and the clinical communities towards the cognitive behavioural therapies, particularly for anxiety disorders. She illuminates the importance and the contribution of anxiety disorders to the possible maintenance of performance anxiety, and considers that different therapeutic approaches for musicians are needed to effect permanent change in this field.

3.4 Innovative therapies currently adopted for MPA

Currently innovative techniques are being employed for the enhancement of performance and the reduction of MPA: Alexander technique (Valentine, Fitzgerald, Gorton, Hudson, & Symonds, 1995); biofeedback (Egner & Gruzelier, 2004; Thurber, 2007); neuro-linguistic programming (Brugués, 2011; Buswell, 2006); yoga (Khalsa, Shorter, Cope, Wyshak, & Sklar, 2009; Stern, Khalsa, & Hofmann, 2012); a combination treatment of yoga and meditation (Harinath, Malhotra, Pal, Prasad, Kumar, Kain, et al., 2004); meditation (Lin, Chang, Zemon, & Midlarsky, 2008; Xu, 2010); muscle relaxation and visualisation (Huang, 2011); hypnotherapy (Stanton, 1993; 1994); eye movement desensitisation and reprocessing (EMDR) (Feener, 2005; Plummer, 2007).

As the current study adopts hypnotherapy and EMDR for the reduction of MPA, the focus here is on previous research that has adopted these therapies. It is important to note that very little has been found in the literature where hypnotherapy has been used as an intervention for MPA. This was tested initially in a pilot study with a small sample and a positive effect was found (Stanton, 1993). Further investigations were conducted in a more controlled study where pianists were assigned to a hypnotherapy or control group. An assessment of the effects of hypnotherapy as calculated on the Performance Anxiety Inventory (PAI) found a significant pre- to post-decrease in performance anxiety in the treatment group but not the control. The hypnotherapy group, but not the control, also showed further gains six months later (ibid, 1994). This is the only substantial study to date (in the last twenty years) which has assessed the effects of hypnotherapy on MPA. It is somewhat surprising therefore that given the positive results from this study that there has been no follow-up to this research; this is now addressed in the current study. In reviewing the literature little research has been conducted into the effects of EMDR for the reduction of MPA. In research investigating MPA in singers it was found that EMDR was effective in reducing cognitive anxiety regarding the idiosyncrasies in the vocal range which could exacerbate anxiety (Feener, 2005). This research was extended when Plummer (2007) focused on maladaptive memories of situational-states in brass players where it was found that EMDR was helpful in changing dysfunctional memories.

The interaction between the mind and the body and their influence on anxiety is leading to new approaches being employed in the search for long- lasting cures for anxiety-based conditions (Abramowitz, Barak, Ben-Avi, & Knobler, 2008).

3.4.1 Physiological therapies

The intricate balance between cognitive, physiological and emotional states has been highlighted through research conducted into cognitive perceptions and their effect on physiological functions such as heart regulation (McCraty, 2003a; 2003b). In the search for effective cures for MPA, physiological therapies and therapies controlling physical functions are being offered for the management of this condition, including bio-feedback, muscle relaxation, cognitive imagery and Alexander technique. Four studies using the above interventions are evaluated here.

Using a combination of muscle relaxation, breath awareness, bio-feedback and performance coping imagery, MPA was investigated in six sessions with 21 music students (Niemann, Pratt, & Maughan, 1993). The results indicate a reduction in self-reported state anxiety prior to a stressful performance; however this is a small sample and the use of several therapeutic strategies used in combination makes it more difficult to discern which intervention, if any, was more effective. The results from the subjective assessment of anxiety through self-report questionnaires would have been strengthened by corroboration of results through cognitive objective measurements of anxiety, adding more weight and credence to the findings. A further study using a combination of behavioural therapy and bio-feedback for reduction of anxiety and improvement of music performance showed no significant improvement in either performance or reduction of MPA (Sweeney-Burton, 1997).

Working with pianists experiencing MPA caused by negative emotional affect, Kim (2008) investigated the effects of muscle relaxation and cognitive imagery to alleviate physiological symptoms of performance anxiety. It was found that the treatment was successful in reducing MPA, but a comparison of pre- and post-test readings found no significant reduction after six weekly therapy sessions. However her research into the role of negative emotions on anxiety is a valuable contribution to current knowledge.

Only one study to date has assessed the effectiveness of Alexander technique for the reduction of anxiety in musicians (Valentine et al., 1995). Using a control and a treatment group, 15 students in the treatment group were given lessons in the technique. It was found that the treatment group were less anxious in performance than the control, showing an increase in positivity and an improvement in performance technique. These findings are encouraging and suggest that Alexander technique may enhance performance and reduce MPA. However 15 students is a small sample and caution should be exercised when

interpreting the results. To make these findings more robust further studies should be conducted using Alexander technique with a large sample of participants. This is particularly important to research as the other physiological treatments show no evidence of positive effect.

3.4.2 Meditative therapies: Meditation and yoga

Meditation has its roots in the Buddhist tradition in India and is associated with decreases in stress and anxiety (Kemper & Shannon, 2007). Meditative interventions (meditation and yoga) are now being used for the reduction of MPA.

The techniques used in meditation for the reduction of stress were first considered by Davidson, Goleman and Schwartz (1976), who found that meditation reduces stress and anxiety and produces decrements in trait levels of anxiety through lowered autonomic arousal. Davidson, Kabat-Zinn, Schumacher, Rosenkrantz, Muller, & Santorelli (2003) extended this previous research through longitudinal monitoring of the physical effect of meditation on the brain. This showed that left-sided anterior activation in the brain is increased by long-term meditation, a pattern that has been previously associated with positive affect. Further studies have been conducted into the effects of meditation on anxiety looking specifically at music performance (Chang, Midlarsky, & Lin, 2003; Lin et al., 2008); however it is unfortunate that neither study assessed the effects of meditation on trait anxiety given the positive results of Davidson et al. (1976). The literature has shown that mindfulness meditation is a unique form of consciousness and is not merely degrees of a state of relaxation (Dunn, Hartigan, & Mikulas, 1999). It has been described as a mode of mental functioning, the ability to step out of conceptual limitations, identify new solutions and give added insight (Kutz, Borysenko, & Benson, 1985). In addition, by the use of magnetic resonance imaging scans on subjects who have practised the techniques long-term, scientific investigations have shown that by developing these practices mindfulness might be associated with changes in the brain's physical structure (Lazar et al., 2005).

Psychopathological conditions such as anxiety disorders are usually treated by mainstream cognitive-behavioural approaches; however, recent literature suggests that these therapies may have their limitations and may have unintended unfavourable consequences such that the original presenting symptoms are weakened but may be replaced by other uncomfortable symptoms (Romer & Orsillo, 2002). The current literature indicates that meditation may be more effective for these conditions, including performance anxiety. In a study that looked at

the effects of meditation on performance anxiety in singers, 69% of participants reported that meditation was an effective way of dealing with performance anxiety (Taylor, 2002).

However Taylor's study had no control group and therefore did not allow for comparisons and only subjective self-reporting measures of anxiety were taken.

Currently ancient meditation practice has been integrated with modern psychotherapeutic techniques such as dialectical behavioural therapy and mindfulness-based cognitive therapy used in Chan meditation (Lin et al., 2008). However in an eight-week programme of Chan meditation using these techniques with music students, it was found that pre- and post-intervention there was no significant decrease in performance anxiety or increased quality of performance in either the meditation group or the control group (ibid, 2008).

Of the different types of meditation, most involve techniques which focus attention on an image, an idea, a word or a phrase, or controlled breathing. These ideas were expanded when a group of behavioural scientists proposed a two-component model of mindfulness involving the self-regulation of attention allowing focus on the immediate experience. This allows for increased recognition of mental events in the present moment, together with the adoption of certain perceptions of the experience characterized by curiosity, openness and acceptance (Bishop et al., 2004).

Research into meditation was extended when Xu (2010) considered physical, mental and behavioural approaches for the treatment of MPA in pianists using Zen techniques (the first study to apply meditation specifically to pianists). Although this research is informative in the application of the technique, the weakness of this research is that it is based on Xu's subjective experience. It would have been more valuable if Xu had conducted the research with a group of pianists and also incorporated longitudinal monitoring.

Innovative investigations have used a combination of therapies for the alleviation of performance anxiety in young professional musicians. Khalsa et al. (2009) used a combination of yoga and meditation techniques with 45 adult professional musicians who were randomized into three groups: a two-month yoga lifestyle group; a group practising yoga and meditation only; and a non-yoga practice control group. Each of the two yoga groups attended three yoga/meditation classes each week. Participants were assessed at the end of treatment and in a one-year follow-up on a number of measures: MPA, mood, performance-related musculoskeletal disorders, perceived stress and sleep quality. It was found that there was significant change over time in both yoga groups at the end of treatment,

but no change in the control group, and no group differences were significant at the long-term assessment. However these findings suggest that the adoption of yoga and meditation were effective in alleviating MPA in young professional musicians in the treatment groups during the study, which was not evident in the control. It would be expected that a joint intervention used for the alleviation of problems in performance would be effective; however the problem with joint interventions is that it is difficult to ‘tease out’ and determine which intervention has been responsible for the enhanced effect. A further problem with both meditation/mindfulness and yoga is the long period of time required for an effective result (8/9 weeks in the studies highlighted here). This approach, although appearing to have some effect on performance anxiety, does not appear to be either time or cost-effective in dealing with this problem.

A pilot study conducted by Stern et al. (2012) into the effects of yoga as a sole intervention examined the effectiveness of a nine-week yoga practice on reducing MPA in undergraduate and graduate music students at a conservatoire. The intervention consisted of 14 one-hour yoga classes twice weekly and a daily home practice. Participants completed measurements pre- and post-intervention in both state and trait anxiety both anxiety states showed large decreases. Improvements were sustained at a 7 to 14-month follow-up; however only eight participants completed the measurements at the longitudinal measurement points and therefore caution should be taken in interpreting these results. Although this study is interesting and suggests that yoga may be a promising intervention for the reduction of MPA, there are weaknesses: there was no control group; the study used a small sample; and a nine-week period of two sessions per week and home practice was required, which is time-consuming for busy musicians. Studies have been conducted across the therapeutic field into the perception of therapeutic change. It was found that individuals anticipate that change can be accomplished in a brief number of sessions, with three being the optimum number (Budman & Gurman, 1988; Garfield, 1986; 1989). The studies used in this investigation use two therapy sessions only to effect positive change.

3.4.3 CH and EMDR: The therapies adopted in the current study

Evidence from the literature strongly suggests that anxiety affecting cognitive processes is key to performance outcome (Beck, 1970; Craske & Craig, 1984; Fredrikson & Gunnarsson, 1992; Hardy & Parfitt, 1991; Kirchner, 2003). Behavioural and psychological responses are

exacerbated by this condition and are leading to different approaches in this field (Andrade, Kavanagh, & Baddeley, 1997).

Both therapies adopted in this study, cognitive hypnotherapy (CH) and eye movement desensitisation and reprocessing (EMDR), focus on the role that implicit and explicit memories exert in exacerbating MPA and are designed to desensitise and reprocess dysfunctional cognitions and memories. They follow principles based on the interrelated components of anxiety identified by Miller and Chesky (2004) outlined on p. 18 of this chapter. By adhering to these components the therapies focus on automated mental processes and address the cognitive and behavioural aspects of performance anxiety.

Figure 3.1 below is based on the four components of anxiety of Miller and Chesky and outlines how the factors of affect, cognition, physiology and behaviour are addressed during the application of therapy in the current research by the use of CH and EMDR.

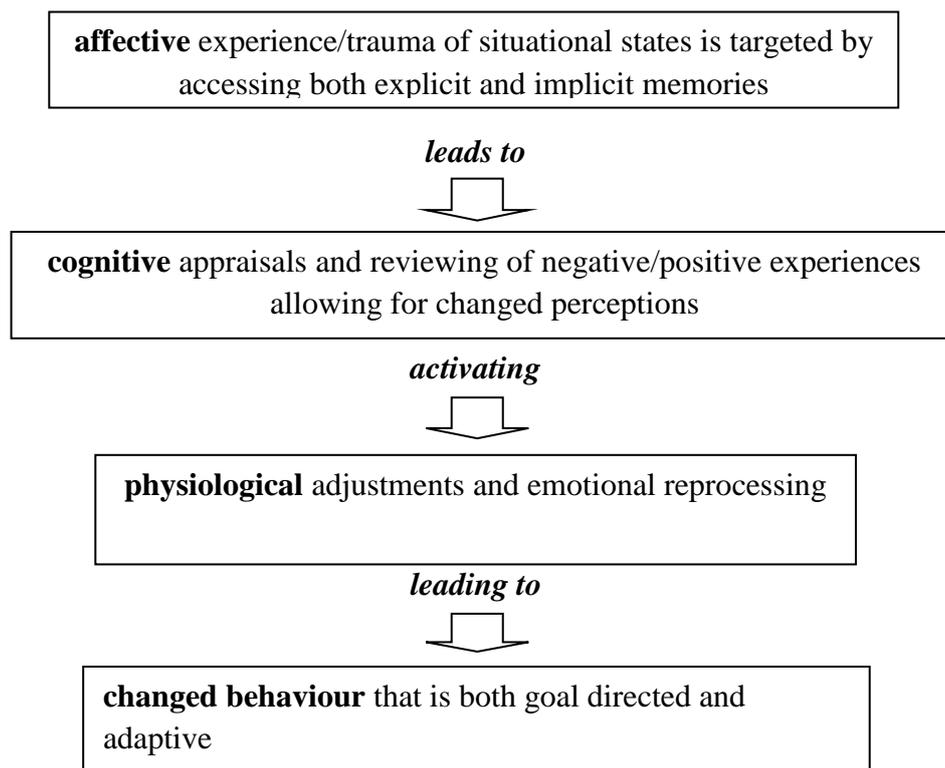


Figure 3.1 Components of anxiety addressed during the therapies used in this study

Table 3.1 below lists recent research for the reduction of MPA. This will enable comparisons to be made with the interventions adopted in the current research where two therapy sessions only will be used of either CH or EMDR.

Table 3.1: Comparison of studies for the reduction of MPA

Researchers	Investigation	Interventions	Measures used (Key: STAI = State/Trait Anxiety Inventory)	No. of sessions/ Duration	Outcome
Nagel et al. (1989)	20 advanced pianists	CBT + biofeedback + muscle relaxation	State and trait anxiety reported through self-report questionnaire (SRQ)	6 weeks of group therapy	Decreases in state and trait anxiety
Brodsky & Sloboda (1997)	54 orchestral musicians	CBT alone CBT + music CBT + music generated vibrations	Self-report questionnaires No control group	8	Trait anxiety reduced below baseline during study but at 2 months longitudinal all scores had returned to baseline levels
Connolly & Williamon (2004)	Principles for advanced performance and management of stress with musicians	Mental skills training	Self-report diaries kept by participants	6 months plus	Has shown positive effects but longitudinal nature of learning programme is time-consuming
Osborne et al. (2007)	23 adolescent musicians High MPA	CBT + muscle relaxation	MPAI and self-report Diagnostic interviews Physiological measurements (heart rate)	7	State anxiety reduced but no effect on performance quality
Khalsa et al. (2009)	45 professional musicians	Yoga and meditation	SRQs completed at baseline and post-intervention	27 (3 classes per week over 9 weeks)	Decreases in MPA and general anxiety post-treatment but not at longitudinal 1 year assessment
Lã et al. (2011)	Pianists	CBT	STAI Questionnaire Electro-physiological markers	12	No significant decreases pre-to post- in state anxiety
Stern et al. (2012)	21 music conservatoire students Longitudinal 8 students only responded	Yoga	STAI Questionnaire Home practice log	14 one-hour yoga classes	Large decreases in state and trait anxiety Longitudinal decrease in trait maintained at 1 year.

3.5 Outcome of studies: Effectiveness

In the therapies reported in this literature review, limitations would appear to be the long-term nature of the therapies adopted before a beneficial effect is achieved and the lack of objective quantitative evidence of anxiety to support the subjective measurements taken from self-report questionnaires.

The current effects of treatment for MPA appear to be mixed. Although some positive effects have been found using the cognitive-based therapies, anxiety conditions are complex with many different causes, and depending on the nature of the condition are not effective for everyone. The literature reveals that there is a paucity of evidence for the physiologically/physically-based treatments for MPA (yoga and Alexander technique). However, although few investigations have been reported, there appear to be some positive outcomes in the reduction of anxiety using these therapies but a large number of sessions are required to achieve this. The meditative interventions also appear to have a beneficial effect on stress and general anxiety levels but the long-term nature of these therapies would seem to be a disadvantage.

The cognitive therapies currently adopted for the reduction of MPA have shown some positive effects in some instances. However it could be said that a drawback to CBT is the number of sessions required to instigate an effect. This is both time-consuming and costly and appears to be the main weakness of the therapy. Cognitive therapies focus on the conscious mind, the explicit presenting problems and physiological symptoms and can be effective in cases where there are no core psychological problems however these therapies do not suit everyone. In fact Paolina (1981) argued that focusing on the conscious mind as opposed to uncovering the deep-seated cause of the problem may not be the most effective method when presented with individuals with anxiety-based emotional conditions. He also showed that therapies that are symptom-based, as in CBT, may be effective at the time of treatment but can lead to re-emergence of these or different symptoms longitudinally. McGinnis and Milling (2005) conclude that past research is characterised by limitations in methodology and over-reliance on self-report outcome measures. They suggest that future research would benefit from the use of multidimensional outcome measures as well as follow-up data, and advocate that clinicians working with musicians should incorporate both cognitive restructuring and exposure in treatment. However Kenny (2011, p.186) argues that although cognitive and behavioural approaches show the best outcome to date for conditions

of performance anxiety “sufferers are rarely cured”. Speaking as a therapist I suggest that to effect positive long-lasting change a radical approach is needed, targeting the core problems, by assessing both explicit processes in conscious awareness alongside implicit processes no longer in conscious awareness.

In the treatment of anxiety the effect of psychodynamic psychotherapy has been shown to be equal to or more effective than CBT, particularly when longitudinal outcomes were examined (Shedler, 2010).

3.5.1 The case for psychodynamic therapies

Recent evidence from clinical outcome studies into mood and anxiety have led to the conclusion that the failure of interventions to attend to the broader issues of the behavioural problem results in sub-optimal outcomes (Brown & Barlow, 2005). The researchers argue that although the treatment may be effective in addressing the symptoms, it does not result in substantial reductions, and individuals can be vulnerable to the emergence of these or other disorders. They further suggest that an approach which identifies not only the presenting symptoms but the psychopathology underlying the symptoms would appear to give the optimum results (ibid, 2005). The literature gives evidence of the importance of a broad multi-dimensional approach to therapy, as it seems that various psychological factors are the causation of anxiety and each needs to be addressed (Alladin, 2008). In fact, Izard (1977) argues that individuals are not always aware of the source of their fears, anxiety being defined as a complex (learned) emotion in which fear is combined with other emotions such as anger, shame, guilt and excitement. Emerging understanding of the cognitive/emotional interface regarding anxiety and stress per se (Damasio, 1989; Scherer, 1993) has led to innovative evidence-based techniques being employed for the enhancement of performance: public speaking anxiety (Schoenberger, Kirsch, Gearan, Montgomery, & Pastymak, 1997), athletic performance (Gracheck, 2011; Oglesby, 1999), and MPA (Feener, 2005; Plummer, 2007; Thurber, 2007).

Previous research has shown that investigations into non-conscious and conscious thought give new perspectives on the way that anxiety is perceived and generated and guides appropriate treatment targeting underlying causes of the problem (Rossi & Cheek, 1994). However, as there are few studies in the field of MPA adopting methods which access both conscious and unconscious processes, it is therefore difficult to assess their efficacy.

It has been suggested that by changing negative cognitions meditation or other forms of mental training can produce cognitive changes in the brain's neuroplasticity, which in turn affects the structure of the brain so that negative feelings and emotions are reduced (Tomarken et al., 1992). This chapter concludes with a short section on brain plasticity and how this relates to psychodynamic therapies.

3.6 *Neuroscience*

A longitudinal investigation into meditation (Davidson et al., 2003) showed that left-sided anterior activation in the brain is increased through meditation, a pattern previously associated with positive affect. Much of modern neuroscience suggests that meditation or other forms of mental processes can have an effect on neurological structure in the brain, these processes giving rise to a biological effect (Goldapple et al., 2004; Pascual-Leone, Amedi, Fregni, & Merabet, 2005; Schwartz & Begley, 2002). It has been suggested that “psychotherapy works by going deep into the brain and its neurons and changing their structure by turning on the right genes” (Doidge, 2008, p.221). This supports Kandel (1998, p.460) who states that “through learning changes in gene expression alter the strength of synaptic connections and structurally change the anatomical pattern of interconnections between nerve cells of the brain”. It is argued that cognitive disorders might be thought of as mal-connection syndromes that occur between synapses of various regions and functions and that “if the self can be disassembled by experiences that alter connections, presumably it can be reassembled by experiences that establish, change, or renew connections” (LeDoux, 2002, p.307).

An expanding history of research in this field demonstrates that memories are constantly remodelled and that the mind, through changing preconceived ideas and memories, has the power of changing the structure of the brain (Begley, 2009; Beutel, 2006; Debiec et al., 2010; Doidge, 2008; Harper et al., 2009; Herkt et al., 2014; LeDoux, 2002; Schwartz & Begley, 2002). When emotions such as fear or anxiety are changed by psychodynamic therapies which treat the underlying root cause of the problem and not just the presenting symptoms, this exerts a physical effect on the structure of the brain (ibid). This is particularly important for MPA where several fearful learned experiences may be operating simultaneously during performance and each one needs to be recalled and desensitised. There is increasing evidence for the efficacy of psychodynamic-orientated therapies in the field of MPA,

therapies which treat the underlying root cause of the problem and not just the presenting symptoms (Kenny, 2011).

3.7 Summary

The literature reveals that although an array of therapies are offered for the treatment of MPA, few therapies appear to offer any substantial changes in performance anxiety. There is a paucity of research into MPA using psychotherapies that target automated mental processes and this needs to be addressed. Both interventions adopted in this current study, CH and EMDR, have been chosen for the alleviation of MPA as they focus on automated cognitive processes (processes no longer in conscious awareness) and by this means target the core problem, as well as the presenting symptoms, and should enable positive results to be achieved in a short space of time. These therapies can therefore be categorised as intensive short-term dynamic psychotherapies (ISTDP), CH through accessing the unconscious mind whilst the patient is in a state of hypnosis, allowing changes in implicit memories, and EMDR through bilateral stimulation which induces a light trance enabling desensitisation of the fear memory trace.

Chapters 4 and 5 now review the background, protocols and procedures of the interventions which are considered in relation to current research.

Chapter 4

Cognitive Hypnotherapy

4.1 Introduction

Cognitive hypnotherapy (CH), rooted in cognitive behavioural therapy (CBT) with the addition of hypnosis, focuses on the ways in which individuals think and act in specific circumstances, and how emotional and behavioural problems may be overcome. Kazdin (1984, p.163) suggests that the concepts of cognitive psychology ‘deal with meaning of events, underlying processes, and ways of structuring and interpreting experience. They can encompass affect, perception, and behaviour’. Nathanson (2009) proposes that hypnosis is based on the affect theory of human emotion and suggests that, through the use of specific language, hypnosis and cognitive therapy are based on similar ideas of affect. Nathanson argues that cognitions locked to unpleasant emotions can become disturbingly resistant to change until hypnosis alters the affective perceptions of the individual. He suggests that intransigent symptoms of dysfunctional cognitions and emotions are approached and treated in cognitive therapy through a sequence of interactions analogous to hypnosis, as thoughts previously locked to negative affect are processed with positive affect.

The fusion of hypnotic techniques with the cognitive and behavioural therapies was first proposed by Alladin (1994) to strengthen the therapeutic outcome, offering an addition to therapy by facilitating the resolution of resistant symptoms. This integration with hypnosis was termed cognitive hypnotherapy (*ibid*).

This chapter first reviews the nature and efficacy of CBT together with its merits and suitability from a psychological perspective as an appropriate therapy for the addition of hypnosis. The theoretical and empirical approaches in the area of CBT are critiqued together with specific research in this field regarding anxiety and related comorbid conditions. An evaluation of the techniques and protocols of hypnosis is given, together with the rationale for the integration of hypnosis with CBT as an assimilative model for the treatment of debilitating psychological disorders. The impact and added strength of integrating the two disciplines for the maximum therapeutic effect is explored, and recent research investigating the use of cognitive hypnotherapy for a variety of conditions is reviewed.

examples of early experience of anxiety resulting in present-day anxious or traumatic experience.

Early Experiences: Both positive and negative experiences affect core beliefs.

Core Beliefs: Strong subjective thinking which can lead to emotional and behavioural problems. This leads to an unconditional belief of the 'if, then' assumption.

Negative core beliefs can result in negative thoughts concerning present day experience.

Unhelpful Assumptions: "If I have belief in my ability to achieve something then I'll be let down."

Schematic thoughts consist of memories, attitudes, core beliefs and assumptions and are factors which, when occurring in certain circumstances, can result in individuals spiralling into negativity and consequential psychological problems (Beck, 1964). Research informs us that schemas are intrinsically neutral (neither positive nor negative); however "they may become maladjusted and trigger associations of early memories" (Young et al., 2003, pp. 141-143). Implicit and explicit negative memories of past experiences can trigger latent patterns of thoughts, emotions and behaviour, resulting in a vicious cycle which maintains and exacerbates the non-helpful behaviour. Baddeley (1999, p.318) argues that "implicit memory is remembering thoughts that accompanied specific events and if negative thoughts have been encoded, implicit feelings are brought into conscious awareness causing both physiological and psychological symptoms". Cognitive theory advocated by Beck (1970), emphasises the importance of underlying negative cognitive schemas or memories that produce automatic thoughts of failure and humiliation in the drive for perfection in subjective performance. The treatment of anxiety-based emotional disorders were based on the principles of Beck (1976), which were that negative distortions of schemas, images and core beliefs result in dysfunctional behaviour. However the theoretical contributions of Lang (1977) extended the principles of Beck. Lang proposed a three-system model of fear comprising three components of anxiety: cognitive, physiological and behavioural, which he suggested were interactive yet partially independent. This resulted in these components being incorporated into the therapy. The theories and contributions of Beck and Lang

underpin the current study and have influenced the choice of therapies adopted in the current research, as both CH and EMDR address the principles advocated by these thinkers.

4.2.2 Behavioural therapy

Behavioural theory, in contrast to cognitive therapy, is based on the premise that undesirable behaviours are learned and as such can be ‘unlearned’ through a process of systematic desensitisation (Orman, 2003; 2004).

Watson (1924) argued that desired behaviours can be taught and reinforced and undesired behaviours eliminated. Behaviour therapy was expanded when Skinner (1953) postulated the theory of shaping behaviour by a system of rewards and punishment. Behavioural theorists consider that specific phobias and anxiety conditions are acquired through a process of classical conditioning, and that all learned responses derive from innate behavioural patterns, the stimulus/response paradigm (Wolfe, 2005). The basis of behavioural therapy encouraged therapists to use techniques aimed at changing the negative/positive paradigm through the use of language (Wills, 2009).

Whilst behavioural therapy is based primarily on learning theory and cognitive therapy is rooted more in cognitive theory, the two systems have much in common (Beck, 1970). Both behavioural and cognitive therapy focus on changing dysfunctional behaviour that occurs in feared situations and both concentrate on positive visual imagery of the environment and situation in which the maladaptive behaviour occurs. Other commonalities are management of physiological and somatic symptoms of anxiety and music and verbal-assisted coping. However there are differences in the techniques used in each therapy: the behaviourists concentrate on systematic desensitisation and sequencing of negative images (Wolpe & Lazarus, 1966), whereas cognitive therapists target the patient’s unhelpful reported thoughts (Beck, 1967; 1970). A distinctive comparison of behavioural and cognitive therapy illuminates the fact that “conscious cognitions such as beliefs, plans and goals also influence behaviour and emotions, and as such can be changed positively through verbally accessible knowledge” (Brewin, 1996, p.53). The methodologies of behavioural therapists were integrated with the cognitive techniques first introduced by Beck. This involved a heterogeneous set of techniques and procedures that distinguished between conscious beliefs and unconscious representations in memory (Brewin, 1996). This was a new concept developed from behavioural therapy and became known as cognitive behavioural therapy (Butler, 1999).

4.3 Cognitive behavioural therapy (CBT)

Since the 1960s cognitive behavioural theory has gained popularity. The therapy involves a heterogeneous set of techniques and procedures that distinguish between conscious beliefs and unconscious representations in memory (Brewin, 1996). This was a new concept developed from the basis of behavioural therapy which encouraged therapists to use techniques aimed at changing the negative/positive paradigm through the use of language (Wills, 2009).

CBT uses a combination of behavioural and cognitive interventions aimed at changing negative thinking patterns and behaviours and is one of the most researched psychological interventions (Kenny & Osborne, 2006). CBT focuses on the way individuals think and act in specific circumstances and how emotional and behavioural problems may be overcome (Alladin, 2008). It adopts a formulation of protocols and procedures which are used to treat psychological conditions, and enables development of flexible realistic beliefs. Individuals are helped in the pursuit of goals, and emotional problems are aided and overcome by directing cognitions towards memories, images, thoughts and attention (Cooper, 1999). Since the 1970s the cognitive restructuring approach has been found to be an effective form of psychological therapy for emotional disorders such as depression, social phobias and anxiety (Butler, 1999; Rachman, 1998).

There are three main components of anxiety: affect, behaviour and cognition - three separate yet interacting systems (Aigen, 1996). It is estimated that at any one time a third of the general population will suffer from an anxiety disorder; it is one of the most common emotional disturbances in the general population (Wolfe, 1990). Specific patterns of thinking are associated with a range of psychological problems and through its development CBT has adopted treatments for anxiety conditions such as panic disorder, post-traumatic stress, generalized anxiety disorder and specific phobias (Butler, 1999). It is also used for problems associated with social phobia, social anxiety disorder, health related anxiety, Asperger Syndrome, schizophrenia, obsessive compulsive disorder, exposure to feared situations, eating disorders, low self-esteem, sleep disorders, alcohol abuse and drug addiction (discussed below, pp.46-47). Through the adoption of imagery for anxiety and the treatment of such by desensitisation, Beck and Emery (1985) played a crucial role in shaping present day CBT. The ideas which they developed have been expanded, and the effective treatments used for a variety of psychological conditions provide a format for others.

CBT is the application of the cognitive theory of psychopathology applied to individuals, and includes a formal, comprehensive set of principles. It is frequently used in the clinical environment and its practice is evidence-based (Alladin, 2008). There are a number of distinctive dictates and protocols which contribute to an effective model of CBT. Various longitudinal formulations have been devised to aid the management and treatment of problems. However, for the purpose of this review the main features of the philosophy are highlighted and the relationship to the root cause and effect of anxiety discussed. The formulation devised by Persons (1989) is used, as this diagram is most usually associated with CBT and bridges the gap between behavioural and cognitive formulations (Salkovskis, Forrester, Richards, & Morrison, 1998; Wills, 2009).

Persons' Formulation 1989

Early Experience: Negative experience either from teacher, parents or peers.



Schemas: Become maladjusted and lead to mistrust. Mistrusts ability to do things.

Core Beliefs: Negative cognitions result in anxiety leading to behavioural and physiological problems.



Assumptions: I know I will feel anxious because it always happens and then I will
(becomes a self-fulfilling prophecy).



Trigger: Thought of an impending event.



Vicious Cycle:

Negative Automatic Thought (NAT): Negative thoughts of dread, apprehension, failure.



Consequence: The conceptualised belief regarding the event is realised.

Feeling: Hopelessness, worthlessness, depression, shame, withdrawal.



Behaviour: Decision not to (put themselves in that situation again).

CBT combines psychology, philosophy and behaviour into one comprehensive approach for understanding and overcoming psychological problems; it can be an effective treatment for a number of different conditions, anxiety being one of these. Beck and Rush (1985) hypothesised that a precipitating event or series of events elicits or magnifies an underlying attitude of fear. The individual becomes overly vigilant to danger, and when new situations with possibilities of unpleasant outcomes arise, these become magnified in the mind and construed as dangerous (ibid). Working on the supposition that the way an individual thinks and feels largely determines the outcome of the personal experience, CBT helps to redress negative cognitions. It is reported in the literature that CBT is cognitively-orientated to future events, and encourages the association of specific positive thoughts, feelings and behaviour in a particular context (Wills, 2009). Through changing beliefs and self-help, individuals are encouraged to change negativity into positive outcomes (Alladin, 2008). Goal-orientated ideas and suppositions are reiterated, aimed at strengthening the ego, making strong links through visualisation and imaginings. Corrected thoughts enable the handling of situations and feelings in such a way that a positive outcome is achieved and anxiety reduced (Rossi & Cheek, 1994).

However, the literature reports that no theory/therapeutic action is without flaws, and a number of issues have been identified with the CBT approach: the failure to consider experiences in the past in relation to the present in generating anxiety; the effective role that cognition plays on physiological symptoms in the body; the failure to recognise the role of the unconscious mind in overt behaviour; and the failure to recognise that human thought and action are socially embedded (Clark, 2008). New cognitive models are being developed considering the role of cognitions and emotions in generating anxiety including a meta-cognitive model (MCM) (Wells, 2002) and an emotion dysregulation model (EDM) (Mennin, Heimberg, Turk, & Fresco, 2002). However neither of these models takes into account the role of the unconscious mind in the way that anxiety develops.

Having considered the theories of CBT, the next section provides a short overview of key findings from research in relation to social anxiety and social phobia before considering examples of research studies using CBT for anxiety disorders.

4.4 CBT as a treatment for anxiety and related psychological conditions

Freud (1948; 1949; 1955), one of the earliest writers to draw attention to the importance of anxiety, argued that anxiety is a pervasive and critical component of neuroses. According to Freud (1949, p.332) neurotic anxiety is a general apprehensiveness and “expectant dread”; individuals are tormented and anticipate the worst outcomes.

Turner et al. (1990) argue that social anxiety or social phobia is a psychological condition which can heighten feelings of anxiety. In prior studies that have investigated social anxiety and social phobia, Coles, Hart and Heimberg (2001) using a treatment of CBT, observed that a strong relationship was seen to exist between social phobia and avoidance behaviour.

However an interesting finding was that although phobic severity of social situations decreased during treatment, residual symptoms of anxiety were reported post-intervention. A weakness of this study was the use of subjective assessment through self-report questionnaires; the results would have been more robust if quantitative assessment had also been applied. This research was extended when Eng, Coles, Heimberg and Safren (2005) highlighted the importance of negative cognitions in exacerbating anxiety. It was reported that individuals responded well to CBT with a reduction in negative symptoms, and the improvements were maintained several months later. However the findings from this research would have been strengthened by use of a control group enabling comparisons to be made.

An overview and evaluation is given of the most pertinent findings from CBT studies since 2000 regarding the phenomenon of anxiety disorders.

A cognitive behavioural treatment of health-related anxiety was documented in a case study of a nine year old female diagnosed with a fear of vomiting (Kahana & Feeny, 2005).

Treatment was a combination of medication and psychotherapy. A variety of CBT techniques were applied which included relaxation training (consisting of deep breathing and muscle relaxation), cognitive restructuring, exposure-based therapies and parent management training. Baseline and post-treatment outcome data relating to physical symptoms and behaviour were collected from both the child and her mother. Over the course of several weeks (the exact number is not stated) it was found that the methods used were helpful in reducing both symptoms of vomiting and behavioural impairments related to illness phobias. However caution should be applied when reviewing this research as this was a single case

study and others are needed so that comparisons can be made. A weakness of this research is that medication for anxiety was being taken throughout the research period; therefore it is difficult to ascertain whether the improvement was from the CBT treatment, the medication or a combination of both. More research into this condition should be undertaken with a larger sample: a comparison of CBT treatment alone with CBT plus hypnosis would give a clearer estimation of the effects of each therapy.

CBT was also evaluated in children diagnosed with Asperger Syndrome and exhibiting symptoms of anxiety (Sofronoff et al., 2005), and expanded on the research conducted by Kahana and Feeny (2005) as it used both an intervention and a control group. The children in the intervention group showed significant decreases in anxiety symptoms (reported by parents) and a significant increase in the ability to generate positive strategies in an anxiety-provoking situation which was not demonstrated in the control group.

In 2008 Milne summarised the efficacy of behavioural therapy (BT) and CBT in the Cochrane review for the treatment of obsessive compulsive disorder (OCD) in children and adolescents. The evidence from the review suggests that both BT and CBT are promising treatments for OCD, fourteen hours of therapy leading to a reduction in obsessive symptoms. However, fourteen hours of therapy is time-consuming (particularly when this involves homework as an adjunct to the therapy); it can also be costly. It could be suggested that shorter, less time-consuming and more dynamic therapies would be preferable, particularly where the patients are children and possibly needing quick-acting results.

A meta-analysis of CBT was conducted in the treatment of psychosis for schizophrenia targeting persistent psychotic symptoms after an appropriate treatment of antipsychotic medication had been given (Velligan, 2009). It suggested that CBT improved the psychosis and reduced negativity in comparison with individuals in a control group. Research conducted by Lopez and Basco (2011) adopted CBT as an intervention in the treatment of major depression. It was found that forty clients treated with ten therapy sessions experienced a significant reduction in depressive symptoms. Their investigations built on previous work conducted by Alladin (2008) as Lopez and Basco also considered anxiety with depression as a comorbid condition.

From the above studies it would appear that one of the drawbacks with CBT is the number of sessions required to effect positive change. The added impact of hypnosis incorporated with CBT can be a means of enabling a quicker resolution to the clinical condition (Alladin,

2008). Practitioners of hypnosis often employ techniques used by CBT therapists (Golden, 1994). There now follows a brief description of the protocols which form the basis of hypnosis.

4.5 *Hypnosis*

“Hypnosis is the process of communication with the unconscious mind recognisable by an unconscious response to suggestion” (Barnett, 1989, p.220). Hypnotherapy allows individuals to relax deeply so that a hypnotic trance state can be achieved. Trance is a natural state of mind which is entered without realising - as in daydreaming (Tebbetts, 1989). Whilst in trance the therapist attempts to address the subject’s unconscious mind, as during this state the critical faculty of the mind is bypassed. Selective thinking may be established of positive thoughts substituting former judgemental cognitions with helpful ones (Rossi & Cheek, 1994). It is reported that during trance, behaviour may be altered, enabling subjects to re-associate and reorganise inner psychological complexities (Barnett, 1989). Perceptions can be changed whilst in an altered state of consciousness and negative cognitions supplanted by positive ideas. “The unconscious is reprogrammed allowing the conscious mind the freedom to act and carry out subjective ideas” (Rossi & Cheek, 1994, p.14). Rossi and Cheek state that breakthroughs relating to the neurobiology of emotion and the endocrinology of stress are providing new data for conceptualising learning and behaviour as one of the major psychological foundations of therapeutic hypnosis.

Alladin’s article Evidence-based Practice in Clinical Hypnosis (2007) lists 19 strengths of hypnosis which can be easily integrated with CBT.

The following is a brief synopsis of the techniques that are most pertinent for understanding the case for integration and corroboration for these statements is given from the literature:

Hypnosis enhances the effectiveness of therapy and creates the belief of self-efficacy (Brown & Fromm, 1986b). Lazarus (1973) informs us that perceived self-efficacy not only creates a sense of hope but also affects the treatment. Bandura (1977) states that expectation of self-efficacy is central to all forms of therapeutic change.

Hypnosis adds leverage to treatment and shortens treatment time (Dengrove, 1973). It has been reported that rapid positive changes can be observed in patients during therapy which can result in tears of joy or relief (Yapko, 2003). When patients are

fully relaxed positive subjective experiences occur replacing negative ones. Perceptions are changed, which appear to bring great comfort and relief. DePiano and Salzberg (1986) state that rapid changes are attributed to the brisk and profound behavioural, emotional, cognitive and physiological changes brought about by hypnosis.

Hypnosis breaks resistance when indirect hypnotic suggestions are applied in therapy (Erickson & Rossi, 1979). Oppositional statements given by the therapist are used to obtain compliance. An example of this would be ‘and the more you try to open your eyes the more they remain tightly shut’. The word ‘try’ pre-disposes failure, so it is used in therapy whenever the opposite is required.

Hypnosis facilitates rapid transference which reinforces the suggestions given in therapy. During hypnosis there is greater access to fantasies, memories and emotions, allowing the rapid occurrence of full-blown transference manifestations (Brown & Fromm, 1986a). During the hypnotic state the critical faculty of the mind is by-passed. This enables the processing of thoughts in the unconscious mind which are then transferred to the conscious in the waking state (Rossi & Cheek, 1994).

Hypnosis induces deep relaxation, and in this state suggestions can be made that are effective for the reduction of anxiety (Dozois & Westra, 2004). A trance is a special psychological state in which patients can re-associate and reorganise their inner psychological complexities. During therapy an inner resynthesis of the patient’s behaviour is achieved by the patient (Rossi & Cheek, 1994).

Hypnosis strengthens the ego by enhancing self-confidence and self-worth (Heap & Aravind, 2002). Ego strengthening is a belief that when positive suggestions are repeated sufficiently they become embedded in the unconscious mind to be acted upon in the conscious state (Alladin, 2008).

Hypnosis facilitates divergent thinking, maximising awareness, attentional focus and concentration. It minimises distraction and interference from other sources and stimuli increasing the potential for learning alternatives (Tosi & Baisden, 1984). Corroboration from the literature reports that breaking through the limitations of

conscious attitudes frees the unconscious potential for problem solving (Rossi & Cheek, 1994, p.15).

Hypnosis allows engagement of the non-dominant hemisphere in the brain. It provides direct entry into the cognitive processing of the right cerebral hemisphere (in right-handed subjects), which accesses and organises emotional and experiential information. It can be utilised to teach restructuring of cognitive and emotional processes that are influenced by the non-dominant cerebral hemisphere (Alladin, 2008, p.13). Many of the sensory-perceptual languages of the mind (visual, auditory and kinaesthetic information) are encoded like a map over the cerebral cortex of the brain (Pribram, 1971; 1986).

Hypnosis enables access to subconscious processing which allows access to psychological processes, enabling restructuring of subconscious cognitions (Tebbetts, 1987). It is reported that unconscious areas in the brain can be controlled by hypnosis whilst the conscious mind is dormant. During hypnosis the critical faculty of the conscious mind is bypassed allowing the unconscious mind to be accessed (Rossi & Cheek, 1994).

Hypnosis facilitates imagery conditioning. In this state imagery and cognitive restructuring are intensified. The use of the word 'hypnosis' and the application of various hypnotic techniques appear to augment the power of the suggestion (Boutin, 1978). "Under hypnosis there seems to be a greater veridical effect when suggestible clients picture various scenes" (Lazarus, 1999, p.196). Evidence from the literature suggests that when the patient is hypnotised the power of imagination is increased (Ley & Freeman, 1984). Lee and Freeman posit that possibly hypnosis, imagery and affect are all mediated by the same right cerebral hemisphere.

Hypnosis uses post-hypnotic suggestions and is an important part of therapy and is used to shape desired future behaviour; it can be powerful in altering problem behaviours, dysfunctional cognitions and negative emotions (Barrios, 1973). Barrios reports that post-hypnotic suggestions function as positive ideas for desired future behaviour. They are regarded by Yapko (2003) as a necessary part of the therapeutic process, enabling the patient to act upon the suggestions in future experiences.

Hypnosis enhances training in positive self-hypnosis which provides a strategy for counteracting negative cognitions (Alladin, 2007). Evidence from the literature indicates that negative thinking can lead to negative affect, biased thoughts, impaired motivation, concentration and cognition (Lyubomirsky & Tkach, 2004). Positive techniques can be practised during self-hypnosis, thus reinforcing and strengthening hypnotherapy.

Hypnotic techniques are easily exported and can be easily assimilated with many forms of therapy. When hypnosis is used as an adjunct to a particular form of therapy whether behavioural, cognitive, or cognitive behavioural therapy, the effects can enhance the treatment outcome (Brown & Fromm, 1986b).

The above protocols suggest that an assimilative model should enhance CBT therapy. Psychotherapeutic interventions can effect substantial change in the affective, behavioural and cognitive areas of the brain (Appel, 1976). Hypnosis itself is not a therapy; however when used as an adjunct to therapy, the hypnotic relationship enhances the efficacy of the treatment effects (Alladin, 2010). It could be suggested that by assimilating hypnosis to address the unconscious mind, change can be implemented more quickly and be more profound and effective than CBT alone.

4.6 Assimilating hypnotic techniques with CBT: Rationale for integration

In reviewing the current state of affairs regarding integration, Lampropoulos (2001) discusses areas for potential assimilative practice in various models of therapy and concludes that CBT meets all the criteria for assimilative integration, including empirical evidence for the added beneficial effect when CBT is combined with hypnosis.

Before successful assimilation can be achieved certain prescribed conditions should exist. The following points have been paraphrased from Lampropoulos' six criteria for assimilation (2001, pp. 9-12).

Lampropoulos' Six Criteria for Assimilation

1. The “where” of assimilation:
The theory of the therapy should have at least some empirically validated or informed components before trying to assimilate other techniques.
2. The “what “of assimilation:
The techniques to be assimilated into the theory must be empirically supported or at least be empirically informed, meeting the criteria and guidelines proposed by the American Psychological Association.
3. The “when” of assimilation:
The circumstances and the rationale for selecting the appropriate techniques to be assimilated and used each time must be empirically guided.
4. The “how” of assimilation:
The way in which assimilation is carried out requires careful thought by adherents of every theory. Not all techniques can be assimilated into the theory without contradicting or even opposing its central meaning and world view (Messer, 1989).
5. The coherence of assimilation:
Assimilative integrative therapies need to be theoretically re-evaluated. The final product of assimilative integration must be theoretically compatible with the main propositions and principles of the guiding theory.
6. The effectiveness of assimilation:
Assimilative integrative therapies need to be empirically evaluated and revalidated. The new product of assimilation must be tested in qualitative or quantitative case studies.

Messer (1992) suggests that as a result of incorporating techniques from another approach into one's own main theoretical domain, the core ideas of the one are integrated into the latter (or 'host' theory), changing both and resulting in a new assimilative integrative model. Multimodal therapy was first used by Lazarus (1973) when hypnotic techniques were incorporated into behavioural procedures, and hypnosis was used with psychoanalysis (Fromm & Nash, 1996). As stated previously the term cognitive hypnotherapy was first coined by Alladin (1994; 2007) when he adopted a multimodal approach for the treatment of depression: this consisted of CBT with the integration of hypnotic techniques. It was further used for the treatment of various other psychological conditions (Gold & Stricker, 2001;

2006). Evidence from the literature validates the use of cognitive hypnotherapy for the treatment of anxiety in post-traumatic stress disorder (PTSD) (Alladin, 2008). However Alladin argues that hypnotherapists have combined their techniques with a number of different psychotherapies for a variety of conditions but the approach does not have a coherent theory. An assimilative integrative model which can be understood and undertaken by therapists is needed (ibid).

There are many reasons for assimilating hypnotic techniques with CBT which are beneficial to both therapists and patients. Change in any one area will lead to changes in other areas as patient and therapist consider thoughts, bodily feelings, emotions and actions (Blenkiron, 2005). The use of hypnosis can also be used as a means of empowerment in new and creative ways. This chapter now outlines the rationale for the integration and by so doing adds to current knowledge in this field.

- Hypnosis provides a broad range of techniques that can easily be integrated into CBT. This allows CBT therapists to continue practising within the framework of their training without losing the benefits of effective techniques generated from the area of clinical hypnosis. Alladin (2007, p.54) reviewed the strengths and weaknesses of CBT and concluded that “the strengths of CBT and hypnotherapy can be combined to form a powerful treatment approach”.
- The application of a model of cognitive hypnotherapy for various emotional problems and disorders (including MPA) offers a template for the guidance of future therapies and treatment strategies (Alladin, 2007).
- The powerful treatment approach gives a quicker resolution of the unwanted condition. Rapid changes are attributed to the brisk and profound behavioural, emotional, cognitive and physiological changes brought on by hypnosis (DePiano & Salzberg, 1986).
- The integrative approach offers a much needed theoretical framework, thus guiding practice (Messer, 1992).
- Treatment based on individual case formulation is prescriptive and not haphazard.

Two different types of hypnotherapy in current use are “Ericksonian Hypnotherapy” and the “Meta Model”. Ericksonian philosophy emphasises the ability of individuals to access their own resources to improve the quality of their lives, recontextualising the memory, the effect

of fear and physiological hyper-arousal. By accessing the unconscious mind, through suggestion and post-hypnotic suggestions, it emphasises the innate tendency of the mind to heal itself (Erickson & Rossi, 1974). In comparison the “Meta Model”, which can be termed “conversational hypnosis”, deals only with information available in conscious memory at the verbal level, and therefore does not access the unconscious mind (Rossi & Cheek, 1994). Ericksonian Hypnotherapy has been chosen for use in the current study as this technique uses a set of procedures to alter the state of consciousness. During this state it has been suggested that the memory and meaning of negative experiences can be changed through emotional processing, as well as decreasing the somatic symptoms of anxiety associated with the event (Bryant, Moulds, Guthrie, & Nixon, 2005; Dozois & Westra, 2004; Spiegel & Classen, 1995).

Social psychological theories of hypnosis suggest that the major mechanism mediating hypnotic response is the increased motivation elicited by the demand characteristics associated with hypnotic techniques (Spanos, 1986). Participants are more highly motivated to engage in the therapist’s requests whilst in the hypnotic state. Enhancing participants’ motivation may be beneficial to a degree; it could be suggested that by addressing the unconscious mind, the process of hypnosis establishes positive cognitions which are then acted upon in the conscious state. This process of communication results in positive imaging, memory recall and suggestions for future stressful idiographic encounters (tools used in hypnotherapy). Muscle relaxation and focused breathing used in the hypnotic induction contribute to the reduction of anxiety.

A meta-analysis was conducted by Kirsch, Montgomery and Sapirstein (1995) critically reviewing 18 studies where a cognitive-behavioural therapy was compared with the same therapy supplemented by hypnosis across a wide variety of targeted disorders. Evidence showed that the addition of hypnosis to CBT enhanced treatment outcome compared to CBT treatment alone. The mean scores of the patients receiving cognitive-behavioural hypnotherapy showed a substantial improvement compared with 70% of the patients receiving only CBT.

4.7 Cognitive hypnotherapy (CH): Treatments

The use of CBT and hypnotic techniques to enhance treatment effects has occurred in various domains and several studies have demonstrated the effectiveness of the integration.

The first controlled treatment study of hypnosis and CBT for acute stress was conducted by Bryant et al. (2005). Randomly selected, three groups were assigned six sessions of supportive counselling (SC), CBT or CBT with hypnosis. The latter group, CBT with hypnosis, underwent CBT components of imagined exposure to the traumatic situation, preceded by a hypnotic induction and suggestions to engage fully in the exposure. At a six-month follow-up it was found that there were fewer participants in the CBT and CBT-hypnosis groups experiencing stressful symptoms than in the SC group, and that CBT-hypnosis resulted in a greater reduction in stress than CBT alone. It was concluded that hypnosis as an adjunct to CBT may facilitate the treatment effect for post-traumatic stress. However the authors report that a limitation of the study was the lack of specific guidelines regarding the mechanisms that potentially mediate hypnosis in the context of CBT and this could have weakened the procedure as the guidelines were unclear.

There has been little research reporting the use of hypnosis and adjunctive techniques in the treatment of clinical depression. The evidence from the literature is that the reports lack clarity on the method of the methods of hypnosis used in the management of depression (Burrows & Boughton, 2001). However evidence for the added effect of combining hypnosis with CBT in the management of chronic depression was provided by a study conducted by Alladin and Alibhai (2007). It was shown that hypnosis enhanced the overall beneficial effect of the treatment and reduced the number of sessions needed in comparison with CBT treatment alone. This seminal investigation using cognitive hypnotherapy met the criteria laid down by the American Association Task Force (Chambless & Hollon, 1998) and provided validation (for patients' safety) of the integration of hypnosis with CBT in the management of depression. Further information was supplied when evidence-based hypnotherapy was reviewed for the treatment of depression (Alladin, 2010).

The potential benefits of an add-on hypnotherapy treatment were assessed when Abramowitz et al. (2008) investigated chronic combat-related post-traumatic stress disorder (PTSD). 32 PTSD patients who were already being treated with anti-depressants and supportive psychotherapy were randomised into two groups. 15 patients in the first group received Zolpidem 10 milligrams nightly for 14 nights, and 17 patients in the hypnotherapy group were treated by symptom-orientated hypnotherapy, two 1.5-hour sessions each week for two weeks. All patients completed the Stanford Hypnotic Susceptibility Scale, Beck Depression Inventory, Impact of Event Scale, and Sleep Quality Questionnaire prior to and post-treatment. It was found that there was a significant main effect of condition in the

hypnotherapy group on PTSD symptoms as measured on the Post-traumatic Disorder Scale, and this effect was maintained at a one-month follow-up. No such effects were reported in the non-hypnotherapy group either during the main data collection period or at the one-month monitoring. It was shown that the hypnotherapy group experienced additional benefits: decreases in intrusion and avoidance reactions and improvement in all sleep variables assessed. This investigation demonstrates the beneficial effect of hypnotherapy with positive results achieved in a two-week period. The methodology is robust as it uses a number of different scales and incorporates a control group. To aid further research in this domain, guidelines and protocols for the integration of hypnosis with CBT in the treatment of PTSD were set up by Alladin (2008).

The efficacy of clinical hypnosis in the treatment of headaches and migraines was reviewed by Hammond (2007). The paper provided an update of the literature first reviewed in 1996 by the National Institute of Health Technology Assessment Panel on the Integration of Behavioural and Relaxation Approaches into the treatment of chronic pain and headaches. Hammond concluded that hypnosis is very effective and virtually free of side effects and adverse reactions and it meets the clinical psychology research criteria for being a well-established treatment. He further drew attention to the ongoing expense associated with medication treatments.

Hypnotherapy has been used to good effect in the management of pain control and re-experiencing trauma in burn patients. 44 patients in a burns unit were randomly assigned to either a hypnotherapy group or a control group. The hypnotherapy group showed significantly lower pain ratings than the control group and reported a significant reduction in pain from the baseline. There was a significant reduction in trauma re-experience scores in the hypnotherapy group but not in the control group (Shakibaei, Harandi, Gholamrezaei, Samoei, & Salehi, 2008). The authors stated that the findings supported the efficacy of hypnotherapy in the management of both medical problems. Research into the effect of hypnotherapy and self-hypnosis on pain relief during labour and childbirth was conducted with six females (Abbasi, Ghazi, Barlow-Harrison, Sheikvatan, & Mohammadyan, 2009). Post-treatment subjective descriptions of how they felt during labour were given as: a decrease in fear of natural childbirth; lack of anxiety; lack of tiredness; reduced labour pain; relief; consolation; and self-confidence. They had positive thoughts, and births were perceived as being very satisfactory compared to their previous experiences.

An investigation into the effectiveness of hypnotherapy in reducing mild hypertension was conducted by Gay (2007). 30 participants were randomly assigned to either a hypnotherapy group or a control group. The hypnotherapy group received eight sessions of hypnosis and a positive effect was found in the reduction of participants' blood pressure not only in the short term but also in middle and long terms. No such effect was found in the control group. Gay also looked at the possible effect of self-hypnosis producing heightened blood pressure: however no such relationship was found. The results indicate that the psychological treatment of hypertension through hypnosis can be very beneficial.

Hypnotic techniques have also been researched regarding common sleep disorders (Graci & Hardie, 2007). However there appears to be little empirical 'sleep research' integrating CBT with hypnosis. Therefore the goal of Graci and Hardy was to educate clinicians on how to incorporate hypnosis with CBT in the management of sleep disturbance. This will be of value both in this research field and to therapists.

When studying irritable-bowel syndrome-induced agoraphobia, Golden (2007) used CH as a therapy. The research demonstrated the efficacy of CBT with the integration of hypnosis, and the effectiveness of this multi-modal treatment in aiding the accompanying agoraphobia. A further study into this condition using hypnotic techniques was conducted by Keefer and Keshavarzian (2007) and this supported the findings of Golden (2007). The research demonstrated a significant improvement in the quality of life of eight female patients with inflammatory bowel disease.

The empirical literature on the effectiveness of hypnosis as an adjunct to therapy in the management of both Type 1 and Type 2 diabetes was reviewed by Xu and Cardena (2008). The authors report that the conventional insulin treatment programmes do not take into account the psychological aspects of the disease and therefore it is reasonable to assume that multimodal treatments seem especially promising. They report that hypnotherapy appears to be psychologically beneficial and warrants further investigations. The findings indicate promising results for the stabilization of blood glucose and decreased peripheral vascular complications. The researchers state that there were some methodological limitations to this investigation but these are not made clear in the research. It is not reported whether comparisons were made with a control group, where no treatment was given, which would be a limitation of their research. Chambless and Hollon (1998) argue that while there is much debate as to what constitutes sound methodology, the minimal threshold of 'soundness' that

they suggest is a design that compares a treatment with some form of minimal or no-treatment condition. Xu and Cardena's review however adds to current knowledge and is important in highlighting the effects that psychological aspects exert on recovery of this condition.

Two pilot studies using hypnotherapy were conducted with musicians suffering from performance anxiety (Plott, 1987; Stanton, 1993), and this was subsequently extended in a large-scale project with pianists (Stanton, 1994). Using two groups, a hypnotherapy and a control group, it was found that the hypnotherapy group but not the control group showed a significant reduction in MPA which was still evident six months later (see Chapter 3, p.28).

Performance anxiety and treatment outcome were investigated when CBT and CBT with hypnosis were tested for effective treatment of public speaking anxiety. It was found that although both treatments effectively reduced anxiety when performing, the addition of hypnosis to CBT generated expectancies for greater change among participants which further enhanced treatment effects and produced a faster drop in anxiety levels post-treatment (Schoenberger et al., 1997). The finding that hypnosis added to CBT treatment produces a faster drop in anxiety levels after treatment is a particularly important finding for any forthcoming research into performance anxiety. In her review of the empirical status of the use of hypnosis in conjunction with CBT programmes, Schoenberger (2000) concluded that existing studies demonstrate substantial benefits by the use of hypnosis as an adjunct to CBT and this supports the meta-analysis conducted by Kirsch et al. (1995): see p. 54.

As hypnosis influences behavioural and psychological responses it is difficult to assess whether a placebo effect is operative here and if it is, the extent to which it plays a role. For a number of patients hypnosis may act as a placebo due to positive expectations. There is evidence that hypnotic trance inductions are beneficial for those patients who believe in their efficacy (Lazarus, 1973; Spanos & Barber, 1974; 1976), and there is further evidence that patients' attitudes and beliefs can have a profound therapeutic effect in both medical and psychological conditions (Harrington, 1997). This effect may be difficult or impossible to control but if it enhances suggestibility and positive therapeutic outcome, then it can be beneficial and add to the impact and strength of the therapy.

The findings from the above studies indicate that the addition of hypnosis to CBT protocols for the treatment of a variety of disorders is an effective remedy. It brings positive change rapidly in cognitive perceptions and physiology which impact on subjective behaviour.

However there appear to be few guidelines for an integrative procedure and the assimilation of hypnotic techniques for the treatment of diverse medical conditions and this needs to be addressed in future research. By adopting CH as a therapeutic intervention for MPA and providing the protocols and procedure for integration, the current research fills a gap in present-day knowledge in this area.

4.8 Conclusion

There is a growing body of scientific literature attesting to the fact that hypnosis enhances CBT, and a plethora of research suggesting that combining CBT with hypnosis (cognitive hypnotherapy) is effective for a variety of psychological, behavioural and medical disorders. One-dimensional procedures have their limitations; however a multimodal approach integrating hypnosis and CBT offers an effective alternative. There is case formulation, including guidelines and protocols, in the domains of PTSD and the management of depression. However there appears to be little empirical research with case formulation pertaining to the use of hypnotherapy for the treatment or management of anxiety per se or for the effective treatment of performance anxiety. The existing literature using hypnotherapy for the treatment of anxiety in performance is limited to studies conducted in the 1980s and 1990s. There is the need for immediate research evaluating the efficacy of hypnotherapy in the management of MPA, together with definite case formulation giving clear directives and protocols. An assimilative integrative model which can be understood and undertaken by therapists in this field is required. The current research into MPA through an investigative scientific procedure addresses the gaps in the identified areas of music performance anxiety using hypnotherapy as an intervention. This will help to increase and verify the credibility of the therapy and help both scientific researchers and clinical therapists to have a greater understanding of this psychological phenomenon. A weakness of CBT therapies is the number of sessions required. As documented earlier in this chapter there is a paucity of research in the general domain using comparative interventions of CBT with CH (Bryant, et al., 2005; Kirsch et al., 1995; Schoenberger et al., 1997) and none at all in the field of MPA. (This needs to be addressed in future studies, so that comparisons of symptom effects and number of therapies required can be assessed).

Although there have been many combination therapies adopted in the treatment of MPA (documented in Chapter 3 pp. 25-26), few studies have contrasted two interventions in the same investigative research. However Kendrick et al. (1982) and Sweeney & Horan (1982)

both compared the methods of cognitive therapy with behavioural therapy. Therefore it was deemed an appropriate focus for the current study to compare the effectiveness of two dynamic, short-term and directed therapies that determine and treat the underlying causes of anxiety: CH and EMDR.

An investigation into the theory and process of EMDR (an innovative and hypnotically-based treatment originating in the 1990s for the treatment of anxiety disorders) is now critically reviewed in the following chapter and evaluated in the light of current research. To the best of the author's knowledge this is the first investigative research to adopt both interventions in the same study in the field of music performance.

Chapter 5

Eye Movement Desensitisation and Reprocessing

5.1 Introduction

Eye Movement Desensitisation and Reprocessing (EMDR) is a relatively new psychotherapy having its inception in 1989 when it was introduced by Francine Shapiro, a senior research fellow at the Mental Institute in Palo Alto, California. It was primarily used in the treatment of Post-Traumatic Stress Disorder; however, treatment protocols have evolved embracing other forms of trauma responsible for psychological and physiological disorders and it is now applied to an increasingly wide variety of problems, particularly those that are anxiety-based.

This review looks at the development of EMDR as a psychotherapeutic treatment and critiques the research and effectiveness in a number of related domains. It discusses the background, theory, protocols and practice of EMDR highlighting its strengths and weaknesses. Scientific evaluations of EMDR and an overview of current clinical research are reported, discussing the use of this therapy in debilitating conditions of anxiety. It further discusses similarities between EMDR, cognitive behavioural therapy (CBT) and cognitive hypnotherapy (CH). In conclusion, the future direction and importance of EMDR is considered and its relevance to current research as an innovative psychotherapy.

5.2 The background of EMDR

Initially EMDR was called Eye Movement Desensitisation, beginning with a behavioural orientation similar to the roots of CBT (Chapter 4, pp. 42-43), as it was thought that eye movements were unique in causing an effective desensitisation. This supposition stemmed from Shapiro's cancer diagnosis in 1979. Post-diagnosis she observed that, whilst watching the lateral movement of leaves in the wind and simultaneously contemplating her medical condition, her previous strong emotions and cognitions had become much less disturbing. This led to the development of the innovative psychotherapy, and a new method of trauma treatment using eye movements (Shapiro, 1989). Subsequently it was discovered that other forms of bilateral stimulation (tactile and auditory) also resulted in positive effects (Shapiro, 1991b; 1994). The word 'reprocessing' was added when it was realised that through a process of desensitisation the treatment achieved positive changes in traumatic memories, as well as a reduction in anxiety. Shapiro's philosophy underlying this hypnotically-based

approach to treatment is that individual conditions that are emotionally-based can be healed quickly, effectively and profoundly; dissociative disorders and phobias, and the consequences of these and other past negative-rooted traumas can be changed using EMDR (Shapiro, 2002).

Over the last 25 years the use of EMDR has expanded widely to include therapy covering a wide range of pathologies; it is now used in the treatment of trauma, anxiety disorders and associative conditions as well as phobias. In 2004 it was placed in the “A” category as strongly recommended for the treatment of trauma and anxiety-related conditions in both the American Psychiatric Association and the American Department of Defense. Numerous studies have provided evidence for the effectiveness of this treatment for both category ‘A’ patients (the highest level of trauma, threat of death, extreme trauma) and experiences categorized as small or ‘t’ trauma (anxiety conditions contributing to significant psychological distress) (Hogberg et al., 2007; 2008; Kemp, Drummond, & McDermott, 2010; Power et al., 2002; Schneider, Hofmann, Rost, & Shapiro, 2008).

EMDR has evolved from a simple technique into an integrative psychotherapy that addresses both the cognitive perception of trauma and the resultant physiological condition, an interaction of mind and body. Psychological problems are addressed and successful treatment outcome is achieved in a short space of time, as negative cognitions and emotions are replaced with positive thoughts and memories, body sensations are changed, and new behaviours emerge (Shapiro, 2007). Changes in anxiety and fear are only by-products of a comprehensive reprocessing of the whole experience. The conceptualisation of the transformation of stored disparate experiences and the accompanying memories through a rapid learning process is the key to understanding the basis and application of EMDR (ibid).

An eight-phase treatment procedure is applied with patients invited to form images and thoughts that relate to a previous traumatic experience whilst attending to bodily sensations that the cognitions evoke. Subjective memory components of the trauma are the main focus, whilst patients concurrently attend to an external stimulus (through guided bilateral movements directed by the therapist). During therapy a dual-attention approach is adopted to facilitate the processing of the cognitive, affective and sensory elements of a recalled disturbing event (Shapiro, 1995; 2001). The protocols and procedures used in this treatment can be found in Appendix 5.1.

There has been much criticism however regarding this new therapy. Originally presented as a variant of Wolpe's (1958) systematic desensitisation, it has been developed into a multifaceted complex intervention embracing both behavioural and psychoanalytic treatments (Shapiro & Forrest, 1997). Comparisons have been made between Mesmerism and EMDR as being two of the fastest growing methods in the history of psychotherapy, and also two of the most controversial (McNally, 1999). Mesmerism, developed in the 18th century by Franz Mesmer, was heralded as a breakthrough therapy for curing a wide range of illnesses (Darnton, 1968). Both therapies have been described as faddish techniques of the day. Rosen, Lohr, McNally and Herbert (1998) criticised EMDR, referring to the obscure theoretical foundations of the intervention and the paucity of evidence supporting its efficacy. They argued that sceptical caution was needed by therapists when considering this technique. However, Poole, de Jongh and Spector (1999) considered that more empirical research and scientific investigations were needed, rather than emotive arguments, when evaluating EMDR. In a response to this paper, Rosen et al (1999, p.11) concluded that "EMDR and other Power therapies have followed the historical pattern of miracle cures that fail the test of time and science". However, 26 years since the inception of EMDR, scientific evidence through specific studies gives validation for the positive effects of this intervention (Coubard, 2015; Harper et al., 2009; Herkt et al., 2014) contradicting Rosen et al. (1998; 1999) on both fronts.

5.3 Theory

EMDR is based on the premise that earlier life experiences can elicit a continued pattern of similar affect, behaviour and cognition (the three main constituents of anxiety as posited by Aigen, 1996), and that present day stimuli can elicit similar affective behavioural memories of earlier experiences. It is believed that desensitisation and cognitive restructuring are by-products of the adaptive reprocessing that takes place at a neuro-physiological level. This type of stimulation will desensitise negative memories of past experiences enabling reprocessing of thoughts as well as feelings. Negative beliefs are replaced with positive statements regarding the experience such as "I am in control" and "I deserve good things, I deserve this" (Shapiro & Forrest, 1997). If the past event has been one of negativity or trauma the individual's behavioural response to the present day experience will be consistent with the affective responses of the past. An adult may experience feelings of fear and being "out of control" and will react emotionally and behaviourally accordingly (ibid). The

dysfunctional nature of traumatic memories, including the way in which they are stored, allows the negative affect and beliefs from the past to control the individual in the present (Shapiro, 1995).

The theory of EMDR adopts a model that emphasises cognitive information processing of past negative experiences and memories, the bilateral movements adopted inducing a light hypnotic trance. It was first theorised that guided eye movements created bilateral brain stimulation and, by simultaneously recalling traumatic memories, both physical and emotional, memories of subjective trauma could be reprocessed resulting in a state of positive mental and emotional wellbeing (Shapiro, 1991b). The theory is that, through guided eye movements or other sources of bilateral brain stimulation such as hand taps or alternating sounds, traumatic information held in neurological networks is changed and connected to more positive cognitions stored in subjective memory (Grand, 2003; Shapiro, 1994).

5.4 Protocols used in treatment

Processing or rapid learning is at the centre of EMDR treatment procedures, having been developed to assess the dysfunctional stored material and stimulate the innate processing system, allowing information to be adapted and moved to the appropriate memory systems (Siegel, 2002; Stickgold, 2002). The protocols and treatment (Appendix 5.1) are used in conjunction with two different scales. The Subjective Unit of Disturbance (SUD) was first developed by Wolpe (1958) to treat patients in the field of behavioural psychology. This uses a scale of 10-1 where 10 represents the highest negative cognition when paired with the target image, and 1 or zero represents the lowest feelings of negativity. This enables the patient to rate the level of disturbance for a specific memory. Once desensitisation is completed (when the patient reports 1 or 0 on the SUD scale) the bilateral stimulation is continued whilst an alternative positive cognition is held. This installation phase is continued until a high level of belief in the new cognition is reported on the Validity of Cognition (VOC). Devised by Shapiro it uses a scale of 1-7, where 7 is the highest level of positive belief (Wolpe, 1991a). The two scales used in conjunction with each other provide information concerning the immediate effects of treatment on a single memory.

In brief, the procedure requires the patient's focus on the current sensory, physiological imagery and cognitive aspects of anxiety related to the trauma. The desensitisation process can be activated using three modes of bilateral stimulation: alternating eye movements, tactile

stimulation or auditory stimulation using binaural beats. Bilateral movements are known to affect the brain both physiologically and psychologically and affected disorders may be treated through co-ordinated movements (Shapiro & Forrest, 1997). Lateral eye movements are generated whilst recollecting significant aspects of a particular traumatic memory. Throughout the therapy the patient reports on current cognitions and sensory feelings and is assisted in the development and acceptance of positive cognitions regarding the trauma. This feedback then becomes the content of the next cycle of bilateral stimulation. Therapist-controlled thought stopping is utilised throughout the treatment. This method enables the subject to neutralise any negative feelings of past negative experiences which can then be supplanted with positive feelings and images so that a bipolar effect can be achieved in a short space of time. Dissociative dysfunctional feelings are discarded to be replaced with positive ones (Grand, 2003).

5.5 Treatment using the Adaptive Information Processing (AIP) Model

The therapeutic applications of EMDR based on the Adaptive Information Processing (AIP) model created by Shapiro and Forrest (1997) view present-day distressing situations as a trigger for past unprocessed incidents. It posits that pathology is created from negative earlier life experiences or trauma. The cause of present day dysfunctional emotions, physical sensations and perspectives are seen as symptoms of the unprocessed memories of earlier experiences that are driving the subject into inappropriate responses in the present. It views the cause as being the unprocessed earlier life experiences which skew the present perspective (Shapiro, 2001).

An eight-phase psychotherapeutic treatment approach has been adopted with standardised procedures and protocols to address the full range of clinical conditions caused or exacerbated by previous negative experiences (Shapiro, 1995). Subsequently this developed into the AIP model, the premise of which is that every person has both an innate tendency to move toward health and wholeness and the inner capacity to achieve it.

The AIP model: Standardised EMDR protocols and procedure

1. History taking:

This determines whether the subject is an appropriate candidate for EMDR and includes treatment planning.

2. Preparation:
Preparing the subject for any disturbance that may arise during the session or between sessions.
3. Assessment:
Finding a target or targets and defining its/their components. Memories, physical feelings and negative cognitions.
4. Desensitisation:
Using bilateral movements: eye, tactile or auditory to reprocess targets.
Use of Subjective Unit of Disturbance Scale (SUD).
5. Installation:
Strengthening the positive cognition throughout the neuro-networks.
Use of Validation of Cognition Scale (VOC).
6. Body Scan:
Identifying physical feelings manifested in any part of the body and reprocessing any target revealed by the identification.
7. Closure:
Returning the subject to emotional equilibrium, discussion of ongoing processing which may cause further disturbances. If this occurs it should be recorded in a diary/log in readiness for the next session. Instruction in the use of relaxation techniques to maintain a state of calm.
8. Re-evaluation:
As the processing proceeds memories may emerge that are linked by similar cues such as beliefs or sensations.

The AIP model has been adopted for experiences for the highest level of trauma, 'A' category, as well as for small trauma designated as 't' trauma. Small trauma is described as experience not rising to the highest level of trauma, but nonetheless of significant psychological damage to require treatment. The treatment of both 'A' and 't' trauma guides the procedures and protocols of the clinical practice of EMDR (Shapiro, 2007).

The methodology used in EMDR has been extensively validated (Cvetek, 2008; De Jongh, van den Oord, & Ten Broeke, 2002; Hogberg et al., 2007; Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabali, 2004; Ray & Zbik, 2001; Sack, Lempa, Steinmetz, Lamprecht, & Hofmann, 2008). However questions still remain regarding the mechanism of action. Since

EMDR achieves clinical effects without the need for homework, or the prolonged focus used in exposure therapies, attention has been paid to the possible neurobiological processes that might be evoked. Although eye movements and other bilateral stimulation comprise only one procedural element, this element has come under much scrutiny through a number of neurobiological studies. Our understanding of the effects of EMDR was limited in the 1990s as few scientific theoretical explanations were proposed; however in reviewing the literature it is encouraging to note that there is now a large body of scientific investigative research into this innovative therapy.

5.6 *Bilateral eye movements*

It has been shown in research that the use of bilateral eye movements accompanying subjective thinking about disturbing memories appeared to have an automatic physical relaxation response in EMDR subjects which was not demonstrated in the control group (Wilson, Silver, Covi, & Foster, 1996). However, there has been controversy over the use and necessity of bilateral movements as an integral part of therapy effect; several studies have used dismantling designs to test the necessity and efficacy of these movements. Test anxiety was investigated comparing EMDR with and without guided eye movements. The outcome assessment indicated that the eye movement group showed significantly greater improvement on the SUD scale than the non-eye movement group (Bauman & Melnyk, 1994). This was supported by an investigative study into panic disorder when it was found that the EMDR group (with eye movements) displayed a significant improvement post-therapy over a control group where bilateral eye movements had been omitted from the therapy (Goldstein & Feske, 1994). However, a critical review investigating studies that had adopted this type of dismantling research concluded that there was insufficient evidence to state categorically whether the use of guided eye movements were an integral part of the therapy (Cahill, Carrigan, & Frueh, 1999). Further findings from a meta-analysis that reviewed dismantling designs concluded that eye movements were not necessary for the treatment effect (Davidson & Parker, 2001).

It has been suggested that directed eye movements in therapy mimic the rapid eye movements (REM) which occur during the dreaming phases of sleep (Shapiro, 1989); however no clear explanation of how this might lead to clinical improvement was given in Shapiro's research. One theory is that the distractive bilateral movements used in EMDR can unsettle the brain, activating a continuous 'startle' response causing reworking of information that has been

dysfunctionally stored (Koch, 1999). Cognitive studies have shown that a shift of attention is accompanied by an automatic startle reaction and this response may also cause an automatic release of attention from its current focus; as such the traumatic memory may begin to fade (Davidson, Cutrell, & Marrocco, 1999). A putative neurobiological mechanism for the efficacy of EMDR has been offered by Stickgold (2002). He presents a complete model of how EMDR could lead to specific improvements in PTSD and related conditions. He posits that alternating bilateral stimulation enhances communication between the left and right cognitive hemispheres of the brain. Stickgold suggests that during EMDR the flow of information from the hippocampus (which stores information) to the neo-cortex (which analyses information) is directionally reversed in EMDR similar to REM sleep cycles. This allows cognitive re-evaluation of previously maladjusted/negative encoded information.

5.7 *Controlled research*

5.7.1 *Research with humans*

The neurobiological underpinnings of EMDR's treatment effects are currently being researched scientifically both in laboratory research on animals and quantitative-based research with humans (Barrowcliff, Gray, Freeman, & MacCulloch, 2004; Christman, Garvey, Propper, & Phaneuf, 2003; Harper et al., 2009; Pagani et al., 2012; Rasolkhani-Kalhorn & Harper, 2006). The research has identified distinct effects of bilateral eye movements with regard to reduction of negative emotions, imagery vividness, memory retrieval and reductions in psycho-physiological arousal.

Eye movement research relating to both positive and negative autobiographical memories was conducted by Andrade, Kavanagh and Baddeley (1997) when they compared eye movements with an eyes-stationary + motor task (tapping) and an eyes-stationary + no-motor task control condition. It was found that both the eye-movement and the motor task conditions resulted in greater reductions in vividness and emotional negativity than the no-motor control condition. Extending this research into the effect of eye movements on episodic memory retrieval, Christman et al. (2003) conducted two quantitative experiments involving 320 undergraduate psychology students. The results indicated that bilateral horizontal saccadic eye movements selectively enhance the retrieval of episodic memories. The authors suggest that at least part of the efficacy of EMDR therapy arises from the role of bilateral eye movements in overcoming dissociative amnesia. Their research served as a

basis for future studies and was extended by Barrowcliff et al. (2004) when participants were examined regarding the effect of saccadic eye-movements and non-movements on negative emotions and imagery. A comparison of both groups (eye-movement with eye-stationary) indicated a significant difference in the reduction of vividness and emotional valence of memories in the eye-movement group, compared to the eye-stationary control group.

5.7.2 Research with animals

These studies are of value in giving insight into neurobiological processes of the brain in regard to bilateral eye movements; however laboratory research on small animals has been conducted by a number of scientists which appears to give a scientific neurological basis for the efficacy of the therapeutic effects of EMDR with humans (Harper et al., 2009; Kopp, Longordo, Nicholson, & Lüthi, 2006; Lin, Yeh, Lu, & Gean, 2003; Rasolkhani-Kalhorn & Harper, 2006).

Animal stimulation of the brain has been applied in researching synaptic depotentiation (weakening the strength of synaptic power). There appear to be parallels between conditions established for animal studies with those established during EMDR therapy. We are informed that animal stimulation requires typically one to five pulses per second (1-5 Hz.); bilateral brain stimulation applied during EMDR is in the lower part of this frequency (Lin et al., 2003). Further investigations state that animal stimulation needed to depotentiate memory synapses is similar to the number of eye movements or bilateral stimulation applied to human subjects during EMDR therapy (Kopp et al., 2006). It has been found that low frequency stimulation (LFS) of the animal brain indicates that the potentiation of memory synapses in various areas of the limbic system (the system implicated in the use of basic emotions) is the primary step in fear memory formation, and that depotentiation of these synapses can result in erasure or modification of these memories; the principal mechanism for depotentiation was the induction of LFS (Rasolkhani-Kalhorn & Harper, 2006). Their research showed that during memory recall potential circuits within the limbic system become unstable and more vulnerable to depotentiation leading to memory extinction or modulation. They posit that LFS can be induced in the human brain by bilateral stimulation and that this can lead to quenching or modification of fear memory traces (ibid). A memory trace is labile when held in attention, as in this state it is most easily changed in strength (Nader, Schafe, & Ledoux, 2000).

5.7.3 *The human/animal connection*

Important research determining verification of the connection between the relevant animal studies and EMDR therapy was conducted with human participants exhibiting symptoms of PTSD (Harper et al., 2009). The authors conducted a quantitative electroencephalogram (qEEG)-based study to determine whether EMDR therapy creates memory-modulating activities that are equivalent to those known from animal studies, and in particular to determine whether EMDR therapy provides mechanisms affecting the receptors on synapses, so mediating fear. A second aim was to determine the location in the brain of this synaptic activity. Evidence was given based largely on qEEG data supporting depotentiation of fear memory circuits during EMDR. It was found that depotentiation of fear memory synapses in the amygdala disrupts the fear memory circuits, leading to quenching or modification of fear memory traces resulting in beneficial change. The authors found that the brain state established during EMDR is similar to that of the memory-editing system of slow wave sleep, and that EMDR therapy establishes the same conditions. They theorised that brain stimulation during EMDR significantly increases the power of a naturally occurring low-frequency rhythm in memory areas of the brain, binding these areas together and causing receptors on the synapses of fear memory traces to be disabled. This mechanical change in the memory trace enables incorporation into the normal memory system without the extreme emotions previously associated with it. In fact Harper et al. (2009) maintain that the biological basis for the therapeutic effects of EMDR is due to the procedure which changes the physical structure of the brain modifying dysfunctionally-stored memories.

There is now growing evidence for a putative neurobiological basis for the bilateral alternating stimulation as used in the EMDR method (Herkt et al., 2014). Their investigations using magnetic resonance imaging (MRI) scans found an increase in limbic processing along with decreased frontal lobe activation (the system involved in attention and short-term memory). They state that their findings are in line with theoretical models of how bilateral alternating stimulation could help with therapeutic reintegration of information. This research is supported by recent neuropsychological investigations which suggest that EMDR may result in cognitive and emotional neuro-entrainment by inducing synchronisation in time and affect (Coubard, 2015); she further suggests that visual bilateral stimulation may be able to induce:

- a) synchronisation in time through stimulation of the circadian clock via the retino-hypothalamic system

- b) synchronisation in affect, by stimulating the limbic system, the system responsible for emotions (the amygdala and orbitofrontal cortex).

Neuronal activation, using electroencephalography (EEG) was monitored throughout EMDR sessions with 10 patients suffering from psychological trauma (Pagani et al., 2012). For the first time specific activations associated with the therapeutic actions used in EMDR protocols were imaged. The findings suggest that traumatic memories are processed at cognitive level following successful EMDR therapy. This supports the evidence of Coubard (2015) of distinct neurobiological patterns of brain activations during bilateral ocular stimulation associated with a significant relief from negative emotional experiences.

It is posited that the protocols and procedures adopted in the AIP model are effective in contributing to treatment effects and that by this process dysfunctional behaviours and disparate memories can be changed (Shapiro & Forrest, 1997).

5.8 *Disparate memories*

There is evidence that EMDR, by targeting all of the disparate memories, may rapidly desensitise the memory and so facilitate emotional healing (see below). EMDR is aimed at the pivotal event that caused the initial fear/reaction as well as addressing all the contemporary stimuli that might independently trigger the subjective fear. It targets memories directed at the negative/traumatic experience and deals specifically with reprocessing these memories as quickly as possible.

The phenomenology of memory is discussed by Baddeley (1999) who states that when meaningful material is encoded, associated information such as thoughts and feelings are also encoded; this allows activation of the recollection process which leads to a 'remember' response. Recall invokes content and affect, and the implicit thoughts and feelings, although no longer in conscious awareness, will impact on present day experiences. Debiec et al. (2010) in their research showed that new experiences are assimilated into existing memory networks, and that pathology results when unprocessed experiences are stored in their own neural network, unable to link up with anything more adaptive. Shapiro (2001) argues that through assimilation, the positive or negative memory adds to subjective knowledge regarding expectations and potential warning signs. When a distressing experience results in persistent anxiety, she suggests that the information processing system has stored the experience without adequately processing it to an adaptive resolution. The event is 'frozen in time' in the moment of fear and pain and this lays the foundation for future inappropriate

dysfunctional responses to similar events. Freudian theory (1904) states that we tend to repress memories associated with negative experiences; a major component of his theory is that the ego defends itself from anxiety by repression of potentially threatening memories. This general theory of forgetting has received little support; however it has been influential in the treatment of certain clinical conditions such as disorders arising from trauma and anxiety disorders (Baddeley, Eysenck, & Anderson, 2009).

When subjective implicit memories have not been processed this may be at the root of a variety of psychological issues in the present (Baddeley, 1999; Shapiro, 2001). Emotions, sensations and perspectives of earlier events colour the perceived view of similar present-day events; a current situation similar to an earlier event will automatically link into the memory network in which the earlier event is stored (Shapiro, 2007). The image of the experience activates the aspect of memory held in the occipital cortex, which controls visual images in the brain and can also elicit both sounds and smells connected to the experience (Grand, 2003). Memories accompanying traumatic experiences are desensitised during EMDR and the accompanying thoughts, beliefs and feelings regarding the trauma are reprocessed (Feener, 2005). The procedures have been developed to identify, access and target dysfunctionally stored experiences and to stimulate the innate processing system, which allows adaptive resolution of the information and shifts the information to the appropriate memory systems (Siegel, 2002; Stickgold, 2002). Pinpointing the target (the traumatic experience) and reprocessing the disparate memory is crucial in the initial stages of treatment.

5.9 Desensitisation of the traumatic memory and the effect on trauma

EMDR uses stimulus-response as one of many mental processes. Physiological and mental processes are inextricably linked and fear becomes associated with certain stimuli causing a variety of anxiety disorders (Shapiro & Forrest, 1997). By concentrating treatment on the most dysfunctional memories, EMDR targets the actual event together with any flashbacks, nightmare images and triggers that elicit the dysfunctional cognitions, emotions or sensations. There may be several disturbing memories and each one must be fully processed through the visual image of the experience, the negative and positive cognitions, the emotions, the level of disturbance and the physical sensations experienced in the body (Shapiro, 2007). Once the negative memory has been identified together with the irrational belief regarding the associative memory then the process of desensitisation can begin, generally starting with the

most powerful memory (the worst time), then the earliest time and the most recent occurrence (Luber, 2009).

In understanding the treatment effects of EMDR a wide array of scientific disciplines has been brought together in an integrated perspective called “interpersonal neurobiology” (Cozolino, 2001; 2006; Schore, 2003a; 2003b; 2003c; Siegel, 1999; 2001). This multidisciplinary perspective enables the expansion and understanding of EMDR. It incorporates the knowledge from many scientific disciplines focusing on the effects of trauma and giving an effective means by which to aid the healing process (Solomon & Siegel, 2003).

Investigations conducted by Servan-Schreiber (2003) which corroborate the findings of Coubard (2015) (see p. 70) found that EMDR aids emotional adjustment (through neuro-entrainment); it develops emotional control which involves at least four essential factors:

- a) the ability to identify one’s own emotional state and the state of others
- b) the ability to understand the natural course of emotions
- c) the ability to reason and argue about one’s own emotions and the emotions of others
- d) the ability to deal with and control subjective emotions.

Laboratory studies have identified distinct effects of eye movements in regard to memory retrieval, reduction of negative emotions and imagery vividness, discussed earlier (p. 69). Implicit stimuli are those which obtain their emotional charge through resemblance to characteristics of events which the person can no longer remember. Experiences are processed and stored with appropriate emotions and guide the person in the future (Sloboda & Juslin, 2001). Neurobiological investigations inform us that negative/distressing experiences are stored improperly in memory and that these problems are not limited to exceptional trauma (Siegel, 2002; Stickgold, 2002; van der Kolk, 1996; 2002).

There follows an overview of the latest documented clinical studies across a variety of conditions.

5.10 Clinical studies

A seminal study using EMDR for the treatment of traumatic memories was conducted by Shapiro (1989). A three-month follow-up indicated substantial positive effects on distress and behavioural reports but this research was marred by lack of standardised measures and the originator serving as sole therapist. Subsequently clinical studies have been conducted across a number of different situations causing trauma. Evidence for the positive effects of

EMDR in the treatment of trauma has been provided in numerous studies, set out below. However, contradictory evidence for its efficacy was shown in a randomised study comparing the effects of exposure therapy, EMDR, and relaxation training (Taylor et al., 2003). The findings indicated that exposure therapy was statistically superior to EMDR on two subscales. However exposure therapy required prolonged *in vivo* exposure and one hour of daily homework (overall 50 hours). In comparison the EMDR group used standard sessions of therapy and no homework.

A number of neurobiological studies investigating trauma symptoms have shown positive pre- to post-changes in symptom relief post-therapy (Lamprecht et al., 2004; Lansing, Amen, Hanks, & Rudy, 2005). These were controlled studies in which EMDR was compared to the efficacy of treatment with drugs.

EMDR treatments have been used successfully in a number of different situations and across various domains including comorbid conditions resulting from global trauma such as earthquake, terrorist attacks and victims of war (Konuk et al., 2006; Silver, Rogers, Knipe, & Colelli, 2005). Therapy has been used for anxiety disorders and associative conditions, general anxiety disorder (GAD), depression, behavioural problems and sexual assault as well as anxiety connected with performance in sport or music, described below.

5.10.1 Category 'A' traumatic experiences

Psycho-physiological changes during EMDR treatment sessions were researched by Sack et al. (2008) during a preliminary investigation. Ten patients with PTSD were monitored applying impedance cardiography. At each session heart rate (HR), heart rate variability (HRV) and respiration rate were examined and recorded. It was found that a significant decrease in physiological activity was found by decreasing HR and increasing HRV. The authors suggest that EMDR is associated with patterns of autonomic activity associated with substantial psycho-physiological de-arousal over time.

A comparative study of EMDR and cognitive behavioural therapy (CBT) for sexually abused Iranian girls was conducted by Jaberghaderi et al. (2004). It was found that both therapies produced significant reductions in PTSD and behavioural problems promoting more adaptive and realistic cognitions and installing coping strategies. However EMDR was significantly more efficient than CBT in achieving this using approximately half the number of sessions.

A randomised controlled study using EMDR treatment was given to railway employees who had experienced a “person under train accident” (Hogberg et al., 2007). Six sessions of EMDR resulted in remission of PTSD in 67% compared to 11% in the wait list control group. Hogberg et al. (2008) showed that the outcome was still stable in a 35-month follow-up report. Kemp et al. (2010) conducted a pilot study with children having PTSD symptoms following motor vehicle accidents. This was a comparative study with a control group receiving no treatment. After treatment it was found that traumatic symptoms decreased by 25% in the EMDR group but remained at 100% in the control group.

EMDR was used as a therapy following the 9/11 terrorist attacks as part of a community-based intervention project in New York City (Silver et al., 2005). It was found that highly significant positive gains on a range of outcome variables were achieved, including validated psychometrics and self-report scales. Another example of the efficacy of EMDR for large scale disaster was demonstrated by Konuk et al. (2006) when working with 1,500 survivors of the 1999 Marmara earthquake. Reported data showed that after five sessions of EMDR the symptoms of PTSD were successfully eliminated in 92.7% of victims with a reduction of symptoms in the remaining participants.

5.10.2 ‘t’ trauma (small trauma)

Research conducted by Mol et al. (2005) supported a basic tenet of the AIP model that “Life events can generate at least as many PTSD symptoms as traumatic events” (p.494). This survey conducted with 832 people, considering distressful subjective life events during the previous 30 years, concluded that score ratings for the totality of subjective small trauma was higher than ratings after a single significant traumatic event. This was demonstrated further by research conducted by Cvetek (2008) in participants suffering from distressful experiences that failed to meet the criteria for PTSD. It was found that EMDR treatment resulted in significant reduction in the perceptions of the trauma in comparison with a control group. Power et al. (2002) compared EMDR with cognitive restructuring in the treatment of depression and social functioning, and found that although both therapies produced significant improvement, EMDR was more beneficial and required fewer treatments. Subsequent re-evaluation of the data found that EMDR therapy was a predictor of positive outcome.

5.10.3 Long-term effects of EMDR

EMDR has also been shown to be effective in the treatment of pain management for the reduction and self-management of painful conditions (Ray & Zbik, 2001; Schneider et al., 2008). Investigations have found that specific phobias (dental phobia) relating to painful memories are also negated in EMDR through desensitisation of the phobic memory and dysfunctional beliefs, and the positive changes in behaviour were still maintained at a six week follow-up (De Jongh et al., 2002).

The longitudinal effects of EMDR were monitored in adults aged between 21 and 65 displaying psychotic disorders. The study's primary goal was to monitor the efficacy and safety of prolonged exposure to EMDR for patients with both psychotic disorders and PTSD. The post-treatment measurement at six month and twelve month follow-up gave strong empirical indicators of the safety and effectiveness of prolonged treatment using EMDR (De Bont et al., 2013).

5.11 EMDR treatment for performance anxiety

In this review I have considered EMDR in connection with a range of domains and now include performance in music, stage and sport. This area has been selected for, as a musician and music teacher of both piano and voice, I consider innovative interventions for enhancement of performance and reduction in performance anxiety should be afforded serious consideration. While cognitive-based therapies, and interventions such as relaxation, meditation, biofeedback, or imagery, have typically been used to treat performance anxiety (Greenberger & Padesky, 1995; Hays, 2009; Hays & Brown, 2004), EMDR standard protocols have been applied to alleviate anxiety in athletes (Crabbe, 1996; Foster & Lendl; 1995; Gracheck, 2011; Graham, 2004), test anxiety (Maxfield & Melnyk, 2000), and audition anxiety in actors (Grand, 2009). EMDR has also recently developed a peak performance protocol used to enhance performance, enabling individuals to overcome subjective negativity (Lendl & Foster, 2009).

The research literature indicates that there appears to be a high incidence of music performance anxiety across a wide range of instrumentalists (see Chapter 3, p.17). Research was conducted investigating performance anxiety in singers which highlighted the idiosyncrasies within the vocal range, such as the vocal break between head and chest voice, and showed that EMDR was helpful in coping with this and general enhancement of

performance (Feener, 2005). This research was extended when the effects of EMDR were explored with a group of brass players suffering from maladaptive memories of past performances (Plummer, 2007). It was found that through bilateral stimulation of both hemispheres of the brain, EMDR was effective in aiding performance through desensitising and reprocessing dysfunctional memories. Although the above studies investigating MPA are informative and contribute to research, they would have been more robust and enlightening if a comparison with a cognitive intervention such as CBT or CH had been included.

The influence of trauma on aspects of musicians' music making, particularly its effects on emotional expression and memory, was researched by Swart (2009), who found that dissociative symptoms affected memory and concentration. EMDR was one of a number of psychotherapies investigated including hypnotherapy and CBT. It was found that all were beneficial, and encouraged students and teachers to adopt therapies to avoid risk of further traumatisation. This research should now be extended concentrating on the efficacy of each therapy and a comparison between them.

A therapy conducted by Arditì (2009) concentrated on EMDR to overcome performance anxiety in acting. He reported on his own experiences in EMDR therapy relating to the effect on his anxiety in performance. Although he concluded that the methodology yielded favourable results, his research is flawed as he was the sole investigator giving an autobiographical account of his experiences. His research would be difficult to verify as there appears to be no substantial data to support his claims.

An investigative study for the effect of EMDR on sports performance in athletes was conducted by Oglesby (1999) using three groups (control, EMDR and placebo). The groups were tested on five dependent variables pre- to post-treatment, including the State-Trait Anxiety Inventory (STAI) and the States of Consciousness during Movement Activity Inventory (SCMAI). Overall results revealed no statistically significant pre- to post-changes in treatment group scores in regard to the STAI and SCMAI. However the EMDR group reported more favourable gains than the placebo group and significant results ($p < .02$) were found on the SUD and VOC scales. This research was subsequently extended to encompass the role that saccadic and tracking gaze behaviour, used in EMDR therapy, exerted on an elite athlete population. However it was shown that the sports performance results were inconclusive with no significant difference between the control and EMDR groups (Marshall, 2003). Using EMDR as an intervention for athletic performance enhancement, Gracheck

(2011) found that both qualitative and quantitative results demonstrated that EMDR had a positive impact on measurable performance outcomes, performance anxiety, self-esteem and motivation.

The above studies give an overview of EMDR for a number of diverse conditions and different domains; however the basic features of this therapy have similarities with the theory and treatment used in CBT. As cognitive hypnotherapy (CH) adopts the same basic tenets as CBT, with hypnosis used as an adjunct (discussed in Chapter 4) a comparison of the therapies is now given.

5.12 Comparison of EMDR with CBT and CH

EMDR and CBT, both relatively new therapies, have their roots in behaviourism (discussed in Chapter 4). Both therapies began with a behavioural orientation concentrating on human actions and behaviours using analyses of stimulus and response. However, discontent with behaviour therapy grew as it did not address human thoughts and feelings central to distress resulting from negative experiences (Butler, 1999). Consequentially cognitive therapy based on cognitive theory was designed to modify subjective idiosyncratic ideas and maladaptive misconceptions (Beck, 1970) and these ideas laid the foundation for CBT.

The philosophy of each therapy is concerned with changing negative cognitions, beliefs and feelings for the mental and physical wellbeing of the individual, both therapies encouraging positive imagery. In order to achieve this, each adheres to specific protocols and procedures as designated by guiding principles: CBT based on the generic formulation of Beck (1964) and EMDR on an eight-phase therapeutic treatment approach first formulated by Shapiro (1995). The conceptual idea of both therapies is the utilisation of imagery and reprocessing of memories; dysfunctional feelings are replaced with positive emotions.

The first controlled CBT treatments emerged in 1989 after the Beck Anxiety Inventory was published (Beck, Epstein, Brown, & Steer, 1988) and around the same time a seminal study in EMDR therapy appeared (Shapiro, 1989). Both therapies are effective in treating psychological disorders caused by maladjusted thoughts or experiences, which result in a number of different clinical conditions, and both target memories. However, CBT is cognitively orientated towards future events, in redressing negative cognitions, and not specifically towards targeting traumatic memories, or in the rapid desensitisation of the memory. EMDR targets past traumatic/negative memories, and by desensitisation and

reprocessing, negative memories and emotions are replaced with positive ones. There is evidence that EMDR may rapidly desensitise the sufferer through bilateral stimulation (Wilson et al., 1996). EMDR has also been shown to require fewer treatments, discussed above (pp. 74-75). However when hypnosis is used as an adjunct to CBT, as discussed in Chapter 4, the number of treatments required are also reduced.

EMDR and CH are both hypnotically-based therapies and offer positive healing in a short space of time in comparison with other psychotherapies. As a therapeutic treatment each addresses the contemporary stimuli that might independently trigger the person's fear and each offers relief of symptoms for small or 't' trauma (as designated by the American Psychiatric Association, 2000); however EMDR is also used as a leading therapy for significant trauma, for subjects deemed to have experienced life-threatening situations.

5.13 Conclusion

This chapter has viewed the background and theory of EMDR, discussing the procedures and protocols and giving an overview of current global research. It has shown the important role that dysfunctional memories can exert on present-day experiences and in doing so has highlighted the need for further scientifically-based research into the complexities of memory.

Memory and the link with EMDR appears to be an extremely complex one, and in order to alleviate the scepticism that exists concerning this therapy more scientific investigations are needed regarding neurobiological research into memory. As the main emphasis in EMDR is targeting disparate memories, research would be valuable in recording how subjective associations to a particular memory are changed from pre- to post-therapy through idiographic case notes as well as MRI scans and EEGs. The author as a therapist notes that unprocessed feelings and thoughts appear to be the root cause of anxiety-based problems. The author's case notes (Chapter 14) show that rapid resolutions of such conditions are possible through EMDR but more scientific evidence needs to substantiate why this should be the case. Another potential area for future research might be into how memories are linked, as past memories appear to influence present implicit and explicit memories when similar subjective situations are experienced, exacerbating fears and impacting negatively on present behaviour. Future research might reveal the different ways that memories of events

are stored and how often the occurrence of panic and anxious conditions might be the result of complex memory interconnections.

There are many questions still to be asked concerning EMDR, and as a relatively new psychotherapy it needs continuous rigorous investigations, both empirically and in laboratory studies, so that credence can be given to what appears to be an effective and innovative therapy.

This therapy is now adopted extensively in Europe, particularly in Germany and the Netherlands, and used as treatments for PTSD and anxiety-based conditions. In the UK the treatments of choice being advocated by the National Health Service (NHS) for PTSD and anxiety disorders are psychotherapy and medication. Cognitive behavioural therapy is now offered on the NHS and as such there is no financial cost incurred by the patient; however this is not the case with EMDR. Where patients seek this therapy (and some GPs still have no or little knowledge of the therapy) patients are guided towards private therapists at their own financial cost. This state of affairs needs to be remedied given the effective results which are being seen from EMDR treatments.

Chapter 6

Summary

Prior to considering the empirical research conducted in the current study, this chapter gives a brief summary of the most pertinent findings from the literature review discussed in the previous chapters, and the implications of these.

6.1 Outcomes from the literature review: Key arguments

The aim of the literature review was to explore the current understanding of the phenomenology of music performance anxiety and it is clear that this problem is widespread, affecting amateur and professional musicians alike. Anxiety was shown to be multi-faceted with cognitive and physiological components exerting an influence on the behaviour exhibited in performance. A strong relationship was shown to exist between cognitions and emotions, and the explicit role that memory plays as a contributor to anxiety was highlighted. The literature provides evidence of the interrelationship between cognitive, physiological and behavioural aspects of anxiety and how these impact on performance. It is reported that MPA is not straightforward, is widespread, and is a significant psychological problem affecting over 60% of musicians at some time during their experience of performance (Brodsky & Sloboda, 1997). Cognitive arousal is shown to exacerbate state anxiety in performance as well as physiological and somatic symptoms of anxiety. Trait anxiety, solo performance and gender are also reported as factors exacerbating MPA, and influence performers to adopt strategies to reduce performance anxiety. Many investigative procedures have been adopted for MPA using various modes of therapeutic interventions: cognitive behavioural therapies, physiological and physically-based and meditative interventions. However, although some positive effects have been reported in the area of cognitive therapies, a large number of sessions are required, and the effects are not long-lasting. Core problems are not treated, and in fact Kenny (2011) argues that there is increasing concern regarding the relapse rate at follow-up sessions for those who have undergone symptom-based cognitive behavioural treatment. There is a paucity of evidence demonstrating the beneficial effects of the physiological therapies for the alleviation of MPA, and only one study to date using Alexander technique has given evidence for the beneficial effect of physiologically-based treatments. However there are more promising effects from the

meditative interventions (meditation and yoga), but the drawback with all of these therapies is the number of sessions required.

MPA has been reported as a problem of some magnitude (Craske & Craig, 1984; Hamman, 1982; Kenny, 2010; Kirchner, 2003; Steptoe & Fidler, 1987) and writers and clinicians recognise the importance of this and the role that cognitions and memories play in heightening arousal (Damasio, 1989; Scherer, 1993). It is therefore surprising that there is little or no research in the field of MPA using therapies which focus on both implicit and explicit processes in the mind, using therapies specifically designed for this purpose. The literature reveals the benefits of CH and EMDR for the alleviation of distressing symptoms (particularly anxiety) in a number of different domains. However, little research has been specifically directed towards anxiety in music performance using these interventions. It is more than 20 years since hypnotherapy was used as an intervention for MPA with Grade 8 pianists (Stanton, 1993; 1994) and currently no therapies have been reported using EMDR specifically for piano performance. Only one investigation has been conducted in singing (Feener, 2005) and one in brass (Plummer, 2007). The lack of research using CH and EMDR in the domain of performance anxiety needs to be addressed. However this research has far wider benefits for all musicians, although pianists are the particular focus of this study.

At the time of conducting the present study the literature reveals that there is also a paucity of research into intensive short-term dynamic psychotherapy (ISTDP); it is therefore more difficult to assess its effect. Both interventions adopted in this current study, CH and EMDR, focus on cognitive perceptions and maladaptive thoughts and memories both in conscious and unconscious memory, and should enable positive results to be achieved in a short space of time. These therapies can therefore be categorised as ISTDP.

6.2 Aims of current study

The aim of this study is the alleviation of MPA through two innovative therapies that target both implicit and explicit processes that change negative cognitions. By addressing negative cognitions and dysfunctional memories, subjective performance is perceived as less threatening, resulting in the reduction of both cognitive and somatic anxiety levels and thus enhancing performance. This study extends previous research into MPA by broadening existing knowledge in the field through exploration of the multi-dimensional aspects of

performance anxiety using two dynamic and fast-acting psychotherapies. Little research has focused on automated processes in the mind for the alleviation of MPA.

To the best of the author's knowledge this is the first piece of research to use both interventions in the same study in the field of music performance and which therefore allows for comparison of the therapies. The rationale for the study is to fill a gap in the knowledge in this area and has been inspired by the author's subjective experiences of MPA together with the incidence of MPA relating to the author's pianoforte pupils.

6.3 Hypotheses

The current research tests the hypotheses that:

1. By lessening cognitions, both in conscious and unconscious memory, subjective performance is perceived as less threatening, resulting in a significant decrease in state anxiety post-therapeutic application.
2. Physiological/somatic symptoms of anxiety will also be reduced.
3. Performance will be enhanced post-therapy.
4. Both therapies will be effective in achieving these outcomes.

Research questions in this study focus on the main hypotheses; however other emergent questions are considered including the mutability of trait anxiety and the effect that this exerts on performance. (Although this was not an original aim of the study, an unanticipated and potentially important effect was found regarding trait anxiety in the pilot study. Therefore this was considered a valuable area for further investigation.)

6.4 General approach

This study explores the phenomenology of MPA through an empirical framework using CH and EMDR, two therapies that have been little researched in this field. It adopts a multi-modal approach testing the cognitive, physiological and behavioural aspects of performance with advanced pianists in two concert performances, initially in a small pilot study which was followed one year later by a main study. The pilot study enables a comparison of results with the main study. A nomothetic approach is adopted using both quantitative and qualitative procedures (the latter through self-report measures of cognitive and somatic anxiety of the music performance experience). An assessment of performance experiences is also included through the completion of a 'log of experiences' kept longitudinally by participants. The

method also allows for longitudinal collection of performance experiences and trait anxiety scores at different points in time. As well as a nomothetic approach, the investigative procedure also adopts an idiographic approach in the form of three case studies. This method enables close study of the individual allowing for ‘narrative smoothing’ where the individual relates negative experiences to the therapist. In fact Schafer (1978) reports that greater understanding of the emotional experience through retelling the narrative leads to psychological well-being of the subject. As reported in the literature, idiographic experiences can give real insight into the phenomenology of performance anxiety from an individual perspective and can supplement the group findings (Kenny, 2011).

Evidence from the literature suggests that when cognitive disorders are changed through therapeutic processes this can give rise to a biological effect so that a permanent change is achieved (LeDoux, 2002; Tomarken et al., 1992). The methods used in this study will illustrate through the longitudinal testing of trait anxiety whether CH and EMDR can effect a permanent biological change in personality. The procedures and protocols of CH and EMDR reviewed in Chapters 4 and 5 are now tested in the field of MPA, initially in a pilot study followed by a main study, enabling a comparison of outcome results as well as comparisons between the therapies.

Chapter 7

Pilot Study

7.1 Introduction

The purpose of this explorative pilot study was to investigate the effect of CH and EMDR, both psychotherapeutic interventions, on music performance anxiety among undergraduate pianists at the University of Leeds. It gave the opportunity to test the feasibility of the protocols, practise the procedures, analyse the data and expose any design flaws in preparation for the main study. Previous approaches to alleviating MPA have centred on: cognitive, behavioural, and cognitive behavioural interventions; combined interventions (for example counselling and relaxation); biofeedback techniques; and interventions such as the Alexander technique, yoga and meditative practices as well as pharmacological treatments. Since previous research has indicated that aversive performance experiences can play an important role in the maintenance and exacerbation of MPA, the interventions used in this current study have been chosen for their ability to desensitise the negative experiences that exacerbate anxiety. Therefore the pilot study was designed to determine the effect of cognitive hypnotherapy and eye movement desensitisation and reprocessing on the music performance experiences of six Grade 8 pianists and in doing so adds to current knowledge in this area. It was inspired by the author's subjective experiences of MPA in piano performance, together with incidents of MPA relating to her pianoforte pupils.

A large body of research has surrounded the phenomenon of MPA: see Chapter 3 (Cox & Kenardy 1993; Craske & Craig, 1984; Hamann 1982; Kenny, 2010; Kenny & Osborne, 2006; Kirchner, 2003; Lederman, 1999; Marchant-Haycox & Wilson, 1992; Miller & Chesky, 2004; Steptoe & Fidler, 1987; Wesner et al., 1990). A strong relationship between fear and anxiety and the emotional impact of this on performance was first researched by Mandler and Sarason (1952) and extended by Schachter and Singer (1962). In particular, research has demonstrated the role that cognition and physiology exert on emotions and the resultant behaviour (LeDoux, 1989; Scherer, 1993), and this interface of the mind/body paradigm has been investigated by McCraty (2003a; 2003b). Since Schachter's early studies (1957) much research has been directed towards alleviating the problem of MPA, although few investigative procedures have adopted a psychotherapeutic approach for the alleviation of the problem (Feener, 2005; Plaut, 1998; Plummer, 2007; Stanton, 1994). Innovative therapies

are being employed in the search for an effective and long lasting solution for anxiety per se (Alladin, 2010) and these effects have also been demonstrated in the domain of MPA (Chapter 3).

7.1.1 Aims

This study seeks to extend previous research into MPA by the use and comparison of two innovative interventions. It aims to alleviate MPA using two psychodynamic-orientated therapies that target implicit or automated mental processes for the reduction of anxiety, looking specifically at the cognitive effect on physiological symptoms and performance outcome. It further aims to extend the understanding of the psychodynamic approach to MPA in pianists by broadening understanding in this area of research. All instruments have their individual challenges; however the piano presents particular technical demands, with co-ordination, subtleties of tonal contrast, control of the instrument and accuracy covering a wide range on the keyboard.

It has been suggested that the components of anxiety - cognition, emotion, physiology and behaviour - are causally linked (LeDoux, 1989; 2002; Scherer, 1993). The present study tests this suggestion by adopting a multi-modal design to assess the link between these elements through both quantitative and qualitative assessment of cognitive anxiety, emotions and somatic symptoms of anxiety, and the performance itself. It examines the effectiveness of two interventions (CH and EMDR) in reducing the multiple components of MPA through both a nomothetic and ideographic approach. The comparison of two therapies gives scientific insight into the effectiveness of each on the different components of anxiety.

7.1.2 Participants

The participants were post-Grade 8 pianoforte students at the School of Music, University of Leeds. Six females aged 18-21 were recruited within two days of the presentation; five were currently having piano lessons and one was not. Two weeks prior to the presentation posters and flyers were distributed in the School of Music and around the university campus. The author gave a 20-minute presentation on music performance anxiety and detailed information on the interventions which would be used in the study. It was attended by only nine students (eight female and one male: the male was not suitable for research in this instance as his instrument was not the piano). Those students interested were given information sheets regarding the research, including detailed information sheets on the therapies to be

administered. Students were given approximately 24 hours in which to consider participation in the study and to sign consent forms. They were informed of the research design and the forthcoming closed performances several months before the actual event.

7.1.3 Documentation

Posters, information sheets, consent forms, questionnaires and assessment forms generally followed similar formats in both the pilot study and main study. Examples of the documents used in the main study can be found in Appendix 10.

7.2 Methodology: Materials and equipment

7.2.1 State-Trait Anxiety Inventory (STAI)

To assess cognitive anxiety levels in the participants the study employed a cognitive-based test. The State-Trait Anxiety Inventory and its derivations are the most widely used instrument for measuring state and trait anxiety (Spielberger et al., 1983) and allows for comparison of findings with other published and non-published research (Brooker, 2009; Chang, 2001; Kenny & Osborne, 2006; Lehrer et al., 1990; Thurber, 2007). For the purpose of this research Spielberger's State-Trait Anxiety Inventory for Adults (1977) was used as this standardised psychometric test assesses both state and trait anxiety levels using a 4-point Likert-type scale running from 20 (low anxiety) to 80 points (high anxiety). Both parts of the STAI questionnaire were applied at the start of the study (at the presentation) in order to establish trait and baseline state levels of anxiety in a non-threatening situation. STAI Y-2, the trait portion of the questionnaire, was used to establish the individual's normal level of anxiety, their predisposition to be anxious, which can be thought of as an aspect of personality. STAI Y-1 was applied to identify changes in state anxiety according to environmental pressure described as "a palpable reaction to a process taking place at a certain time and level of intensity" (Spielberger et al., 1983, p.5).

7.2.2 Physiological measurements

There is evidence to support the fact that anxious thoughts are accompanied by other significant phenomena including strong physiological reactions (Beck & Emery, 1985). Therefore as well as conducting a cognitive-based assessment of anxiety it was important to conduct a psychophysiological measure of anxiety which would indicate how cognitions were affecting the physiology of the students. In the present study this analysis was

conducted by use of a standardised wrist monitor to assess blood pressure and pulse rate. In line with the STAI questionnaire, readings were taken at baseline in a non-threatening situation, and also 15 minutes before each subsequent performance. This second analysis of anxiety would allow comparisons to be made with the findings from the STAI. It would further allow investigations and analysis of the effectiveness of the psychotherapeutic interventions employed (Cognitive Hypnotherapy and EMDR) as the students, but not the Control, would have had two one-hour sessions of their randomly assigned intervention in the ten days preceding the second concert. This would give an overview of three readings of different physiological “states” of anxiety at baseline, performance 1 and 2, and allow for a comparison of the interventions.

7.2.3 Interview and self-report questionnaires

Interviews with all participants were conducted on the day following each performance whilst the experience was still in the forefront of memory (pre- and post-treatment). The self-report questionnaire was completed during each interview: designed by the author it was used to give information on subjective cognitions and emotions during the days/weeks leading up to the performances, and would also give insight into the behavioural aspect of performance. Qualitative information from the questionnaire was transcribed as low, moderate or high level of anxiety. Used as an adjunct within a largely quantitative fixed design, the data would be useful in supplementing and illustrating the latter. Each questionnaire incorporated six sections coded 1-3 which enabled quantification and the calculation of the means from the data, and a process of triangulation applied (Table 8.1, p. 99). It would allow for each participant’s perceptions of the experience and for comparisons with the results of the STAI questionnaire, together with physiological measurements of anxiety; assessing cognitions, behaviour and the physiological symptoms of somatic anxiety.

7.2.4 Somatic symptoms

It was considered that subjective responses regarding somatic symptoms (indicated from the self-report questionnaire) would allow for comparisons with the video recordings taken during each performance and would be an informative record of perceived subjective symptoms of anxiety before and during each performance. A qualitative assessment of perceptions of somatic anxiety was made and categorised as low, medium and high. This information was coded so that the data could be assessed quantitatively and a process of

triangulation applied. Each participant was assessed on a scale of 1-3 where 1 indicated no perceived symptoms, 2 (one symptom), and 3 (several symptoms): see Table 8.1.

7.2.5 Behavioural symptoms in performance

A quantitative measurement of MPA was applied to assess the impact that anxiety exerts on one of the most important aspects of performance: notational errors. Both performances were recorded by a digital audio recorder, transcribed onto CDs and assessed “blind” by two independent assessors.

7.3 Procedure

7.3.1 The design of the study

The investigative procedure took the form of a multimodal design using both a nomothetic and idiographic approach comprising, cognitive, physiological and behavioural assessments at three key stages. Anonymity was provided in the form of a coded number assigned to each participant. Quantitative cognitive analysis was conducted using the State-Trait Anxiety Inventory for Adults questionnaire (Spielberger et al., 1977). Physiological measurements of anxiety were taken monitoring pulse rate and blood pressure. Two closed performances (pre-treatment and post-treatment) were recorded by digital audio equipment, monitoring any notational errors (behavioural). This approach was chosen as errors in performance can be quantitatively measured, whereas other aspects of performance such as technique or interpretation would be more ambiguous and open to question. During the closed concerts video recordings were also made as these could be valuable in monitoring nervousness from a physiological aspect. Immediately after the first performance participants were randomly allocated to CH, EMDR or non-treatment groups.

7.3.2 Completion of State-Trait Anxiety Inventory (STAI) and physiological measurements

Both parts of the STAI questionnaire were completed and blood pressure (BP) and pulse rates were taken in a non-threatening situation at the start of the study; this would indicate baseline measures of cognitive and physiological anxiety. STAI Y-1 was repeated twice more: 15 minutes before the first concert, and similarly before the second concert. It was felt that this would be the optimum time for completion of the questionnaire, as close to the performance as possible. The completion of STAI Y-2 (the generic level of anxiety) was deemed to be

important as this would indicate whether analysis would show any significant differences between the treatment groups and Control group in trait anxiety. It was not possible to select participants with the highest trait levels of anxiety as so few attended the meeting. Physiological measurements of blood pressure and pulse rate were also conducted immediately after completion of the STAI Y-1 and across the other points of measurement (performances 1 and 2).

7.3.3 The performance procedure

After the presentation participants were asked to learn the Bach Fugue in C Minor (Book 1) to be played in two unpublicised concerts. The time-scale between the performances (two weeks) would give sufficient time to administer two therapies of either CH or EMDR to each participant (deemed by the author/therapist to be the optimum number for effectiveness). For the purpose of this study participants had the choice of performing from the score or from memory; it was important that the students performed in their preferred manner as anxiety could be exacerbated if this was changed.

It is important to note that two participants (P3 and P7) could give anomalous results in this study (although this was not realised by the author at the time of recruitment). Three weeks prior to the first performance P3 felt too unsure of the Fugue and wanted to withdraw or perform a Grade 8 examination piece which she knew well. As the numbers were already small the author felt that it was preferable that she continued. A second anomaly manifested itself after the first performance when it transpired that P7 had learnt the Fugue previously and had performed it before. This participant was also used to the piano used for this study (the other participants were not). It was coincidental that neither participant received treatment through the random selection process.

Both concerts tested the interface of cognition, physiology and behaviour experienced in performance. As well as an audio recording, it was also important to video the performances as this may well highlight symptoms of somatic anxiety and could be compared with the answers given on the self-report questionnaire. The independent assessors were not shown the video recording as it was felt that this might lead to bias in the results.

7.3.4 Treatment

Immediately after the first performance participants were randomly assigned to a treatment or non-treatment group. Two hour-long sessions of either CH or EMDR were administered by

the author, a qualified Hypnotherapist and EMDR Practitioner regularly practising both therapies, and a member of the General Hypnotherapy Register (GHR) and the Complementary Natural Health Care Register (CNHC). Four participants received the first treatment on the two days following performance 1. At the close of the session they were given a CD produced by the author; the CDs given to the participants were “Self-confidence for Musicians” (CH group) and “Relaxation” (EMDR group). The participants were told that they should listen to the CD each day until the second treatment (given two weeks later) and thereafter whenever they felt the need. The CDs are given to reinforce the treatment effect. The two remaining participants formed the Control group and received no treatment or CD at this time (they would receive treatment at the end of the final data collection if they so desired). All participants were informed of this at the commencement of the research to assuage any feelings they may have had if they were allocated to the Control group.

7.3.5 Self-report questionnaire

The self-report questionnaire was completed by all participants on the day following each performance. This was completed at the beginning of the interview and allowed for subjective comparisons of the performing experience. It incorporated three sections: mental cognitions, physiological symptoms and behavioural outcomes (relating to errors in performance). An assessment of these three most important elements of MPA might demonstrate a causal link. In order to establish any extremes of anxiety participants were asked “Did you ever feel so strongly that you thought you might pull out?” One participant, P3, indicated that she had wanted to withdraw. It would be informative to see whether cognitive scores and physiological symptoms reflected the participants’ responses.

7.3.6 The interview: Pre-treatment/post-treatment

The participants were interviewed on the day following each performance which allowed for informal discussion. This was valuable in gaining subjective responses to the whole experience. Further knowledge was gained regarding subjective perceptions of somatic anxiety and mental perceptions across the whole research period. The post-treatment interview included a discussion of the therapies and their effectiveness, allowing for comparisons of the pre-/post-tests.

At the conclusion of the research participants were asked to keep a diary of any subsequent solo performances over a six-month period noting negative/positive cognitions, somatic

symptoms either prior to or during a performance, and the outcome of the performance. This would show the effectiveness of the therapies on a long-term basis, and would be tested by all of the participants in the research. Post-research the Control group were also given two therapy sessions of their choice, either CH or EMDR.

7.4 *Summary*

The method and procedure adopted in pilot study has given insight into the practical implications of conducting the empirical research with a small sample of participants, as well as exposing design flaws. The adoption of a multimodal investigative procedure testing the effects of CH and EMDR on the cognitive, physiological and behavioural aspects of MPA will strengthen the findings from this pilot study. The results from the small scale study are now reported in Chapter 8 and allow for comparisons to be made with the findings from the main study.

Chapter 8

Pilot Study Results

The effects of subjective anxiety were compared in a non-threatening and two threatening situations across three different domains: cognitive, physiological and behavioural.

8.1 State anxiety/group assessment

An analysis of cognitive anxiety of all six participants was obtained using the Spielberger STAI Y-1 and Y-2 (state/trait) self-report questionnaire. In order to discover whether there were any significant differences in reported cognitive anxiety states from baseline levels and performances 1 and 2, a paired sample *t*-test was conducted using the Statistical Package for Social Sciences (SPSS).

A paired sample *t*-test was applied across the whole group comparing the dependent variable state anxiety across three conditions: baseline, performance 1 and performance 2.

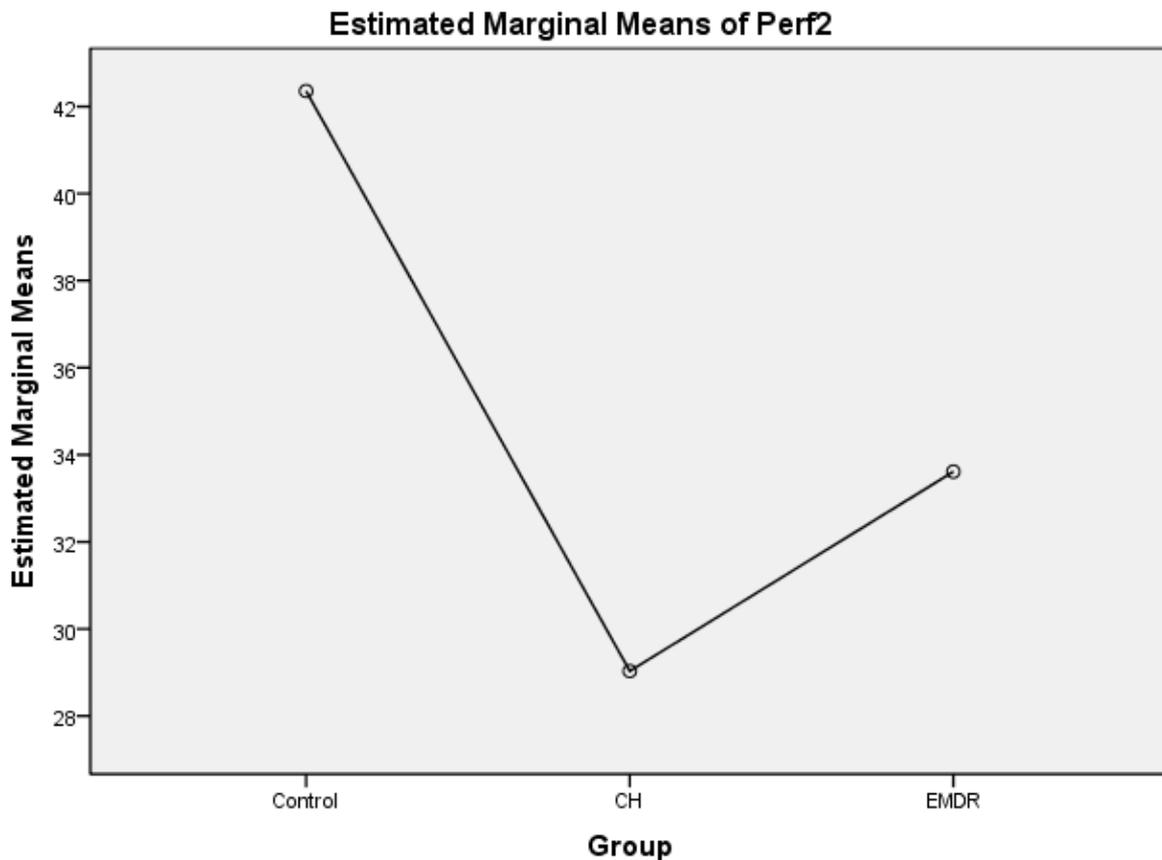
A comparison of the means (baseline = 29.5, performance 1 = 46.5, mean difference 17 ($t = -5.43$, $p = .003$) indicates a significant increase in anxiety at performance 1. The standard deviation at baseline was 9.59 and at performance 1 was 12.77, indicating that greater variation of state anxiety was displayed prior to the threatening situation, as would be expected.

A comparison of the means (performance 1 = 46.5, performance 2 = 35, mean difference 11.5 ($t = 3.00$, $p = .030$) indicates a significant lowering of anxiety at performance 2. It was notable that the individual scores of P2 and P4 at performance 2 dropped below their baseline levels (Table 8.1, p. 99) suggesting the positive effect of the therapies.

Although the pilot study is a small sample, an analysis of state anxiety across the three groups between the two performances was conducted using an ANCOVA. This statistical test was chosen as it generally has higher statistical power than an ANOVA and reduces bias associated with any pre-existing difference between groups (Huitema, 2005). There was a main effect of condition ($F(2, 2) = 300.29$, $p = .003$) such that participants in the two treatment conditions showed significantly lower cognitive anxiety than the Control group at the second performance. Although both therapies were effective in achieving this, participants in the CH group were significantly less anxious than those in the EMDR group

(Helmert contrasts, .005 significance level). This suggests that the therapies applied between the two performances significantly lowered state anxiety in both the CH and EMDR groups prior to performance 2, and that CH was more effective in doing so.

Figure 8.1 gives additional insight into the effectiveness of the therapies administered between the two performances showing that both the CH and EMDR groups exhibited substantially lower levels of state anxiety post-intervention than the Control.



Covariates appearing in the model are evaluated at the following values: Perf1 = 46.50

Figure 8.1. Estimated marginal means of state cognitive anxiety 15 minutes prior to performance 2 using Spielberger's STAI Y-1.

8.2 *Physiological tests*

8.2.1 *Blood pressure measurements*

To further substantiate anxiety levels, physiological tests were conducted to establish whether there were any significant increases in blood pressure or differences in the means at the three points of measurement within the individual groups. Baseline measurements were taken after the presentation of the study and further measurements 15 minutes prior to each performance.

An ANCOVA was calculated of systolic and diastolic readings of blood pressure. Both main effects of condition were non-significant: systolic ($F(2,2) = 0.28, p < .652$), diastolic ($F(2,2) = 0.03, p < .887$).

Figure 8.2 illustrates the systolic readings across the three groups at the three points of measurement. The means of all groups increased at performance 1 (pre-intervention) as might have been expected. At performance 2 (post-intervention) the means of both the CH and EMDR group dropped below their baseline levels, whilst the Control group mean (128) at performance 2 remained well above baseline (105.5).

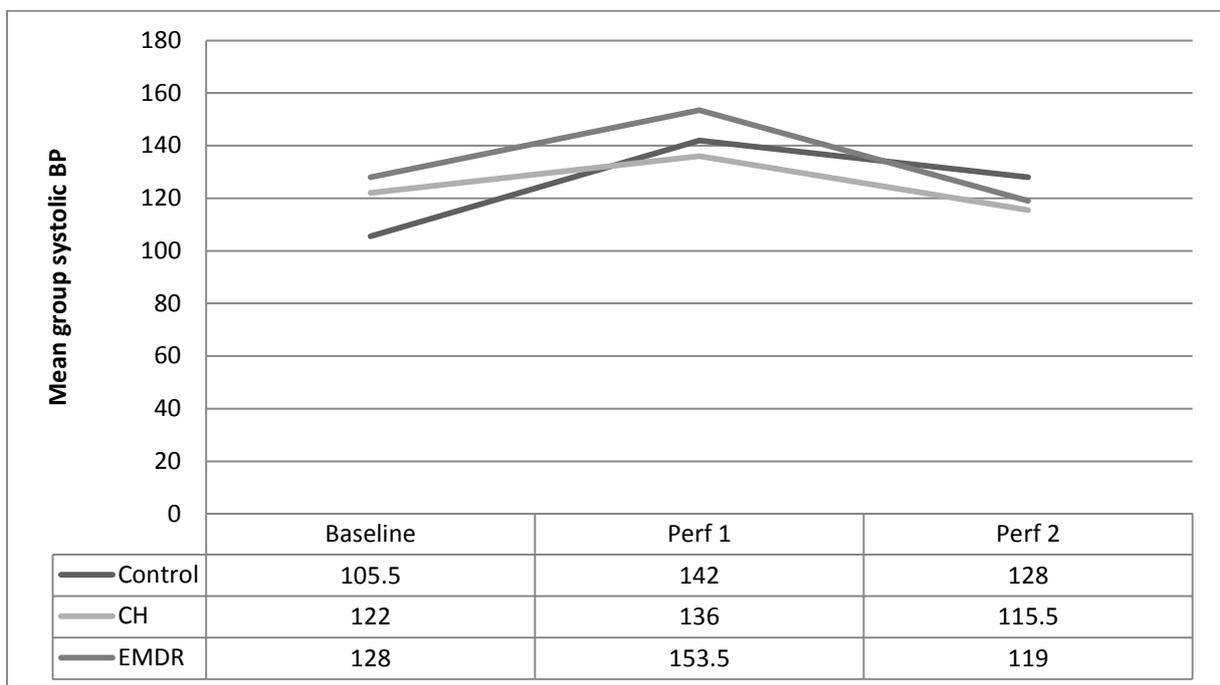


Figure 8.2. Comparison of mean group systolic blood pressure readings at baseline and immediately prior to performances 1 & 2.

Figure 8.3 below displays the Control group having the lowest mean diastolic reading (74.5) at baseline and the highest at performance 2 (85). All group means reduced from performance 1, and the CH group mean fell below baseline (a 10 point drop).

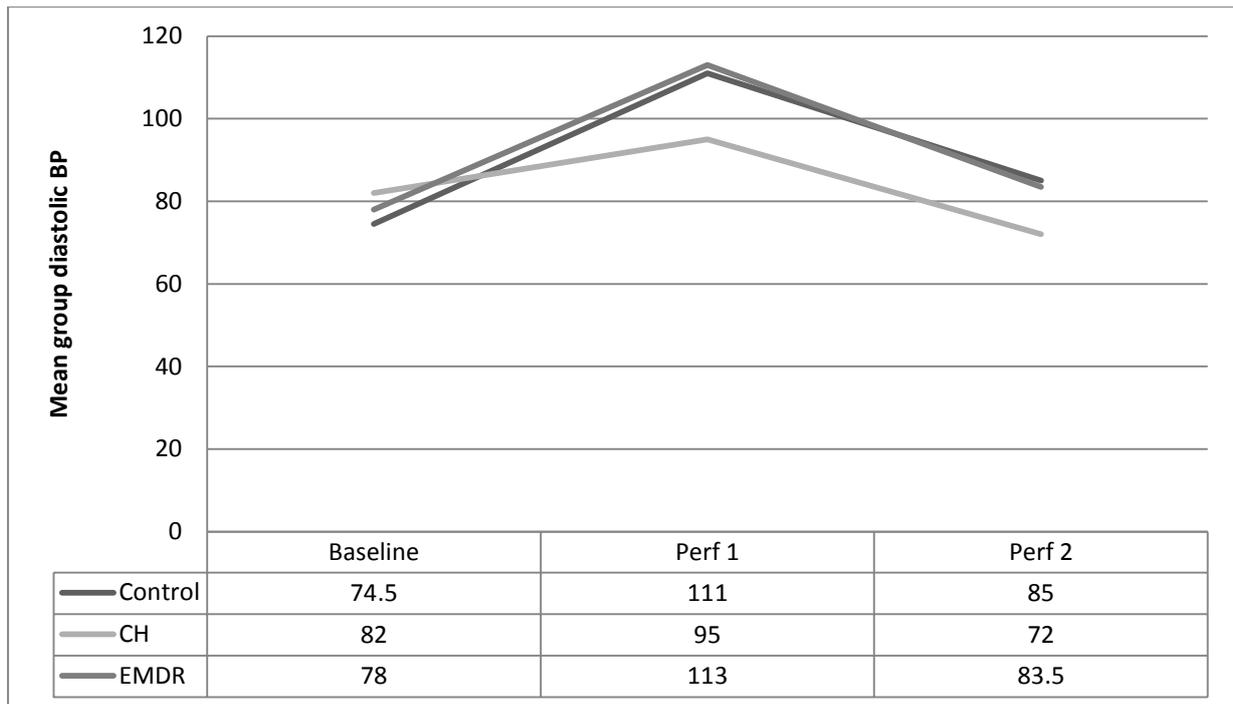


Figure 8.3. Comparison of mean group diastolic blood pressure readings at baseline and immediately prior to performances 1 & 2.

Pulse rate measurements across the different conditions did not appear to be indicative of cognitive anxiety and are therefore not reported here.

8.2.2 Somatic symptoms of anxiety

All six participants reported experiencing a particular somatic symptom during performance 1: shaking/trembling of hands/fingers. Other symptoms described were sweaty hands, unresponsive hands, clouded vision, fast heart rate, butterflies, burning face and shaking of legs and arms. Participant P5 experienced several symptoms, including clouded vision, placing her in Category 3 for performance 1. These symptoms reduced at performance 2 with clearer vision, resulting in the lower Category 2 for that performance. The Control experienced no change in symptoms whereas three participants in the treatment groups perceived reduced symptoms (see Table 8.1, p. 99).

The video recording of both performances showed that apart from P3 (the participant who had wanted to withdraw from the study) all participants appeared more confident at the second performance. They approached the piano with determination and appeared more focused; facial expressions did not reflect when mistakes were made which had been the case in performance 1. P7 appeared fairly confident in both performances; she had learned the

Bach prior to the research and had previously performed on this piano, the only participant to have done so.

8.3 Behavioural symptoms of anxiety: Notational errors in performance

It was important to establish whether reduction in anxiety levels as indicated by the STAI questionnaire, together with the physiological measurements of blood pressure and somatic symptoms of anxiety, would be reflected by the reduction of errors in performance. A blind quantitative assessment of performance errors was made by two independent assessors from audio CDs of both performances. The mean score of each participant's notational errors was calculated and a paired sample *t*-test applied to assess the significance across both performances. A comparison of the means (performance 1 = 15.3 and performance 2 = 8.5, mean difference 6.8) showed a significant difference ($t = 4.60, p < .006$).

Figure 8.4 shows the reduction in errors across the two performances for each participant. P2 (EMDR) and P4 (CH) both demonstrated reductions in errors between performances of the order of 50% (see Table 8.1 below). P3 and P7 (both Control) displayed the lowest number of errors in both performances, possibly due to the anomalies described in Chapter 7, p. 90. A floor effect could also be operating here as these participants had the least number of errors in the first performance.

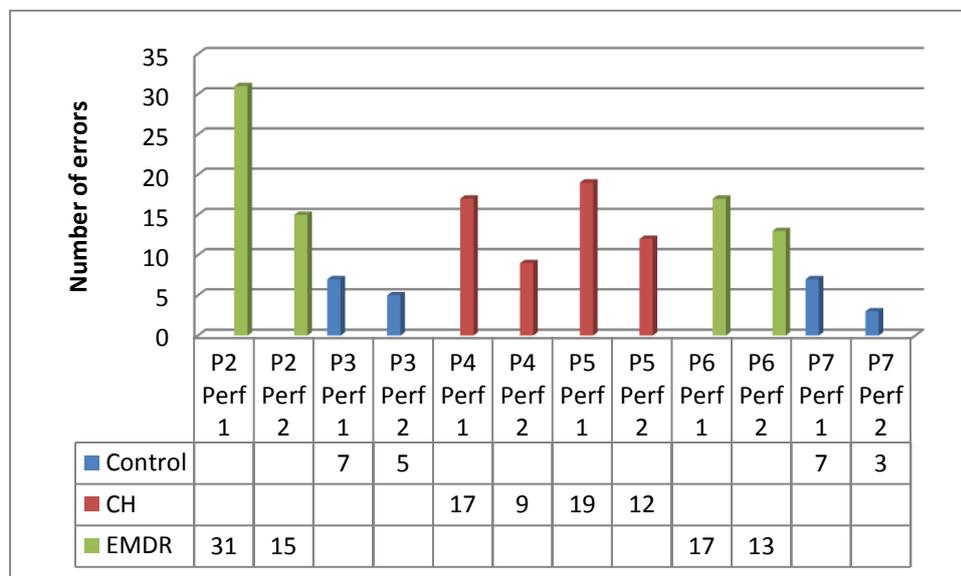


Figure 8.4. Notational errors recorded by independent observers during both performances.

An independent *t*-test between the CH and EMDR groups indicated an overall mean difference of 2.5 at both points of measurement (CH 7.5 and EMDR 10) showing that both therapies were similarly effective in the reduction of performance errors.

8.3.1 Analysis of assessors' reports

A further qualitative assessment of both performances was made by the independent assessors. The author did not participate in this.

Performance 1

In the main notational errors and fluctuations in rhythm marred performances. Most of the performers played the Bach C Minor Fugue: apparent technical difficulties resulted in lack of clarity in the voicing of the various parts, and the contrapuntal skill was hampered by lack of direction, flow and a convincing projection

Performance 2

Most of the above was improved, with more confident and focused playing, and a reduction of errors across all performances led to more convincing contrapuntal playing maintaining the style of the Fugue. P2 (EMDR), the participant displaying the highest number of notational errors pre-treatment, showed the greatest reduction in errors post-treatment.

8.3.2 Triangulation of the three measures of anxiety

Table 8.1 below displays the results from the STAI questionnaire (cognitive anxiety), the physiological changes during performance (somatic symptoms of anxiety) and the notational errors in performance observed by assessors (behavioural anxiety). These were each quantified by putting them into one of three categories, permitting the findings to be triangulated quantitatively across all three elements.

It can be seen from this table that P3 and P7 (Control) remained in their original categories at the two measurement points (performance 1 and 2) for all three conditions. In comparison P2 and P6 (EMDR) and P5 (CH) reduced in category for all three conditions and P4 (CH) reduced in cognition and behavioural.

Table 8.1: Cognitive, somatic and behavioural measures of anxiety

Participant	Cognitive Anxiety			Somatic		Behavioural	
	Baseline	Performance 1	Performance 2	Performance 1	Performance 2	Performance 1	Performance 2
P2 EMDR	48 (C2)	63 (C3)	41 (C2)	3	2	C3 (31 errors)	C2 (15 errors)
P3 Control	30 (C1)	59 (C2)	48 (C2)	2	2	C1 (7 errors)	C1 (5 errors)
P4 CH	29 (C1)	43 (C2)	28 (C1)	2	2	C3 (17 errors)	C2 (9 errors)
P5 CH	24 (C1)	41 (C2)	26 (C1)	3	2	C3 (19 errors)	C2 (12 errors)
P6 EMDR	24 (C1)	45 (C2)	33 (C1)	3	1	C3 (17 errors)	C2 (13 errors)
P7 Control	22 (C1)	28 (C1)	34 (C1)	2	2	C1 (7 errors)	C1 (3 errors)

KEY

COGNITIVE ANXIETY (CA)

Baseline Days/weeks before each performance
 Performance 1 15 mins before first performance
 Performance 2 15 mins before second performance

Scores from STAI questionnaire **shown in red**
 (min 20, max 80):

Low (20-39) categorised as C1
 Medium (40-59) categorised as C2
 High (60-80) categorised as C3

SOMATIC

No symptom categorised as 1
 One symptom categorised as 2
 More than one symptom categorised as 3

BEHAVIOURAL

0-7 errors categorised as C1
 8-15 errors categorised as C2
 16+ errors categorised as C3

8.4 *Longitudinal findings*

This chapter now concludes with the longitudinal findings of performance experiences post-therapy and the trait anxiety scores of the participants 20 months to two years post-therapy; these findings were subsequently incorporated into the pilot study. This enabled a comparison to be made with the longitudinal findings of the main study, ascertaining the efficacy of the therapies longitudinally; it would also show whether a link exists between performance experience and trait anxiety.

8.4.1 *Experiences of performance post-intervention*

At the end of the research period all participants were asked to listen to the CD designed by the author/clinician) given at the end of the first therapy session: the ‘Relaxation’ CD (EMDR group) or ‘Self-Confidence for Musicians’ (CH group) and were informed that this would enhance and be of benefit to any forthcoming performances.

Experiences of subsequent performances, musical or other, were reported by five participants post-research. These were reported in emails sent to the researcher at different times after the research period, between 6-7 months (as and when they felt they had something to report). They were asked to write a short account regarding their anxiety/stress, thoughts/feelings/symptoms experienced in any situation where they were deemed to be ‘on show’ or felt that they were in the spotlight. The following are transcripts of the participants’ experiences.

P2: EMDR (30.08.2012)

I haven't had any solo musical performances since the study. However, I had a job interview and listened to the CD for a few days before it and felt that I was definitely much less nervous than I would have been before. I noticed that I wasn't shaking nearly as much as I expected to, my heartbeat felt slightly quicker than normal but not compared to previous performances, and I generally felt calmer than I think I previously would have.

Also, I have been working at a classical music festival for the last few summers. I always have to page turn for well-known concert pianists in front of quite a large audience which has always made me feel extremely nervous. This year however, I felt much more calm and after the first piece my hands basically didn't shake at all which was a great improvement.

Overall, I think that participating in the study has definitely helped me to deal with my nerves in high pressure situations although I haven't had the chance to test it on a solo musical performance yet.

P3: Initially Control (subsequently EMDR) (23.07.2012)

Since the therapy I've only had my performance exam – the weeks before that I felt okay, and although the days before were still nerve-wracking, my nerves weren't as bad as they were before the therapy. However in the exam I would say that I felt as nervous as I have done in the past.

It transpired that this participant post-therapy did not continue to listen to the CD as and when needed.

P4: CH (01.06.2012)

I think I generally felt less nervous and anxious in the weeks leading up to my exam, and confident in my ability. I still got very shaky hands though.

P5: CH

I've only done one performance on piano since I last saw you. It was for my semester 2 assessment on 11th May, playing the Bach Fugue (and two other pieces: Czerny School of Velocity op.229 no 8, Bartok Bulgarian Dance no.6 from Mikrokosmos 6).

Overall I felt a lot less nervous leading up to the performance. I was able to just concentrate on practicing effectively rather than letting nerves distract me. Whilst performing I could see perfectly clearly (unlike before when I would have clouded vision) and my hands were less shaky, but not completely still. I still made mistakes throughout the piece but I was able to carry on to the end. Heart rate was slightly faster than normal but definitely not as noticeable as it was before I had the cognitive hypnotherapy.

P6: EMDR

This participant did not respond regarding her experiences post-therapy (she was now living in France); however she did complete the STAI Y-2 questionnaire monitoring trait anxiety some time later and this is reported in Table 8.2 below.

P7: Initially Control (subsequently CH) (01.06.2012)

I have found that my nerves have differed greatly in my subsequent performances. In the lunchtime concert I took part in the day after my second therapy I found my nerves much worse than in the fugue study. However, in performance class and during my final recital I found that my nerves had steadied somewhat and I felt better than I had previously in similar situations.

8.4.2 Longitudinal: Trait anxiety

As the primary object of the current small-scale study was investigating the effect of cognitions on state levels of MPA, trait measurements of anxiety had been taken at baseline, but not throughout the pilot study. An extension of this research in the main study, monitoring trait levels throughout the research period revealed that trait levels are mutable.

Significant decreases in trait anxiety from baseline were found post-intervention and longitudinally at four months and at one year monitoring. As this effect had been found, the pilot study participants were asked to complete the STAI Y-2 (trait anxiety) questionnaire 20 months post-intervention. Five participants responded (Table 8.2). As can be seen from this table completed responses were returned to the author at different times during 2013.

Table 8.2: Longitudinal trait scores 20-24 months post-intervention from STAI Y-2

Participant No.	Baseline 2 November 2011	Category	Intervention	Longitudinal scores 2013:	Change from Baseline
P2	45	Medium	EMDR	Oct. 36	-9 Low
P3	39	Low	Control/EMDR	Nov. 41	+2
P4	37	Low	CH	June 29	-8
P5	32	Low	CH	July 24	-8
P6	27	Low	EMDR	Oct. 24	-3
P7	24	Low	Control/EMDR	No response	

KEY

STAI Y-2 categories: Low category (20-39) Medium category (40-60)

Changed category shown in red

Table 8.2 shows that four of the five respondents have scores below their baseline levels of trait anxiety (from -9 to -3); however P3 at 24 months has an increased score of two points above baseline. 23 months post-intervention P2 has the largest decreased trait score of -9 below baseline levels. Her baseline reading of 45 is in the medium category of trait anxiety however the longitudinal score of 36 is in the low category of the STAI Y-2 questionnaire. This participant (the only one in the medium trait category in the pilot study) had experienced childhood trauma. EMDR therapy, to which she had been randomly assigned, specifically targets trauma. This participant also experienced marked decreases in state anxiety at the second performance (post-therapy) strengthening the theory that state and trait anxiety are linked, decreased trait anxiety equates to decreased state (Spielberger et al., 1983).

8.4.3 Summary of longitudinal findings

P2 EMDR: reported August 2012

Although this participant had not taken part in any musical performances since therapy, the experiences that she had were positive, where she describes feeling less nervous in high pressure situations. She is not as anxious prior to the situation and during; although still experiencing some somatic symptoms of anxiety they are not as obtrusive as prior to therapy.

She reports feeling calmer and is now able to “deal with my nerves”, although she notes that she has not had the chance to test this in a musical performance.

Baseline trait score (STAI Y-2) 45 Medium category

23 months post-therapy 36 Low category (-9 below baseline)

This decreased score appears to be exerting a positive long-term effect, impacting positively on situations which previously would have caused heightened and debilitating anxiety. A comparison can be made with her self-report questionnaires completed at the end of performances 1 and 2 (Appendix 8.1).

P3 Control/EMDR: reported July 2012

This report, of a final year performance examination, is mixed. There is no apparent anxiety in the weeks and days prior to the examination, and reports that post-therapy she experiences less anxiety; however during the performance the therapy appears to have had little impact: “I felt as nervous as I have done in the past”.

Baseline trait score (STAI Y-2) 39 Low category

Two years post-therapy 41 Medium category (+2 above baseline)

It is difficult to assess the effects of the intervention in this case; it has made little difference on trait levels of anxiety but possibly there is a positive effect pre-performance, but none during the performance itself.

P4 CH: reported June 2012

Although still experiencing somatic symptoms of anxiety in the performance examination this participant has experienced a positive effect in general anxiety in the weeks prior to and during the examination.

Baseline trait (STAI Y-2) 37 *Low category*

20 months post-therapy 29 Low category (-8 below baseline)

Trait levels post-therapy appear to have had a positive effect on the performance at this time.

P5 CH: reported June 2012

This participant reports on one piano performance assessment; she describes feeling much less nervous in the lead up to the performance and is “able to just concentrate on practicing

effectively rather than letting the nerves distract me”. During the performance she still experiences somatic symptoms (shaking hands and quicker heart rate, but both to a lesser degree); the clouded vision which had previously plagued this participant in performance had disappeared.

Trait baseline (STAI Y-2)	32	Low category
20 months post-therapy	24	Low category (-8 below baseline)

The trait anxiety score of this participant shows a link between decreased anxiety in performance and a lowered general anxiety score.

P7 Control/CH: reported June 2012

It is difficult to assess the impact of therapy on this participant as she has experienced differing degrees of performance anxiety in subsequent performances. This participant had the lowest baseline trait anxiety score in the pilot study. She was working in Australia at the time of the request for completion of STAI Y-2 and did not respond.

8.5 Summary

These small reports have given a window on performance anxiety and been somewhat enlightening as to the efficacy of the therapies regarding performance five months post-intervention, and to trait anxiety levels up to two years post-intervention. There appear to be links between these two phenomena, however this is a small sample and caution should be taken in interpreting the findings. This will be investigated more closely in the main study using a larger sample which will be informative and useful for research. The findings from the pilot study, although a small sample, are informative and warrant further investigations; the implications of these are discussed in detail in Chapter 9.

*Chapter 9***Pilot Study Discussion and Conclusion*****9.1 Aspects of MPA affecting performance***

The main result of this pilot study was that the interventions adopted (CH and EMDR) were effective for the reduction of MPA in the three areas tested: cognitive, physiological and behavioural. This research reflected previous research that MPA was not evenly spread throughout the group with some participants being more anxious than others.

9.1.1 Cognitive

The current research revealed that anxiety, demonstrated by the STAI questionnaire, increased significantly overall pre-performance 1 relative to baseline measurements. However, these anxiety levels were not maintained throughout the group for performance 2. An important finding was that there was a significant decrease in cognitive anxiety in both the CH and EMDR groups at the second performance in comparison with the Control group. This indicates the effectiveness of the therapies; however the CH treatment was shown to be the more effective of the two therapies but the reason for this is not entirely clear. Stein and Stein (2008) suggest that there are three categories of MPA:

- a) focal music performance anxiety
- b) social anxiety/social phobia
- c) panic disorder.

Participants in this study were in the first two categories only, five presenting with focal anxiety (low anxiety category, STAI Y-2) and one presenting with social anxiety/social phobia (medium category, STAI Y-2). It may therefore be posited that there would be comparatively few psychological issues and therefore CH would be very effective overall. It will be interesting to see if these differences are maintained in the main study with a much larger sample.

A further finding was that measurements of cognitive state anxiety taken 15 minutes prior to performance 2 had not only decreased but were lower than baseline trait scores in three participants (P2, P4 and P5): see Table 8.1 p. 99). These participants had received therapy (P2 EMDR, P4 and P5 CH), whereas both participants in the Control group, in the absence of therapy, experienced an increase in state anxiety at the same two points of measurement. Stanton (1994) found that a two-session hypnotherapeutic intervention resulted in a

significant decrease in MPA in pianists. By testing the physiological and behavioural aspects of performance, the current study extends Stanton's research as only the cognitive aspect of MPA was tested through self-report measures. His research found that the improvement was continuous six months after the treatment had been concluded. The current study found a similar positive effect in performance experience post-intervention at 6-7 months.

The current study indicates that baseline state scores of anxiety can be decreased when negative perceptions are changed. In comparison P3 and P7 (Control) receiving no therapies experienced a mean increase of 15 between the same two measurement points (see Appendix 9.1). It has been found that baseline state measures of anxiety (in undergraduate students) were in the main slightly higher than trait levels (Spielberger et al., 1983). The current study did not support this finding as only one participant, P2, had a baseline state score higher than her trait levels. However the students in Spielberger's research had medium/high trait scores; in comparison five participants in the present study displayed low trait scores, P2 being the only participant with a medium trait level. State anxiety (in a situation deemed to be threatening) in the main increased relative to trait levels in this study, supporting Spielberger et al. (1983). One of the aims of this research was to assess the importance of the therapies on state levels of cognitive anxiety, but a surprising and most interesting finding was that post-intervention 50% of the overall sample (and 75% of the therapy recipients) displayed state scores below trait levels.

This finding was unexpected and suggests that trait levels in these participants might have also decreased post intervention. One participant in the medium trait category had experienced childhood trauma and had been randomly assigned to the EMDR group. This participant experienced marked decreases in state anxiety at the second performance; decreased trait anxiety equates to decreased state, as trait and state are linked (ibid, 1983). It was unfortunate that in the present study state anxiety scores were not reviewed until the end of the data collection and therefore the importance of further testing of trait levels was not apparent. When trait anxiety was monitored 20-24 months post-intervention, these levels had decreased below baseline in four participants. However caution should be exercised as this is a small sample; comparisons will be made with findings from the main study where trait levels of anxiety will be monitored both throughout the study and longitudinally.

Subjective levels of cognitive anxiety and emotions are linked to physiological symptoms (Chapter 3, p.33), and this was demonstrated in the current research. The current study

indicates that baseline state scores of anxiety can be decreased when negative perceptions are changed.

9.1.2 Physiological

Those participants showing reduced cognitive anxiety also demonstrated reductions in physiological measurements in a “threatening situation” showing the effectiveness of the interventions. P2 demonstrated the largest reduction in cognitive anxiety across the two measurement points trait/state baseline and performance 2 (7 points below state and 4 below trait), and also displayed the largest reduction in systolic readings across the same two measurement points of - 41. In comparison P3 (Control) displayed an increase in cognitive anxiety of + 18 and an increased systolic reading of 14 and diastolic of 7. P3 had indicated withdrawing prior to the first performance. The indicators of anxiety as demonstrated by P3 show the interaction of the cognitive/physiological interface of anxiety; this supports Kenny (2010).

Somatic aspects of anxiety as indicated by the author’s self-report questionnaire also reduced pre-treatment to post-treatment in three participants (see Table 8.1, p. 99), in comparison with P3 and P7 (both non-treatment) where symptoms remained the same.

The intention of this small scale research was to consider the complex components of anxiety, the cognitive and physiological, and investigate how these may exert a negative effect in the performance arena on subjective performance. It was found that these components exacerbate the anxiety experienced in music performance.

9.1.3 Behavioural

The assessment of notational errors in performance revealed that all participants made fewer errors in the second performance; this supports Connolly and Williamon (2004): when a threatening situation is revisited where all conditions are the same the experience appears less daunting. It should be noted that in the present research two participants, P3 and P7, made the least errors in both performances but may have introduced anomalous results into the behavioural aspect of this research (see Chapter 7, p. 90). An overview of both performances showed that all participants receiving interventions (P2, P4, P5, and P6) made substantially more mistakes overall than P3 and P7; however the second performances of both treatment groups displayed a considerable reduction in errors. P2 (EMDR) displayed the highest trait and baseline state levels of anxiety, together with the highest physiological measurement (systolic) at the post-treatment measurement. This participant also displayed the highest reduction in errors over both performances (see Table 8.1). The results reported here

investigating EMDR as an intervention for MPA are synonymous with previous research (Feener, 2005; Plummer, 2007), who concluded that EMDR both reduced MPA and enhanced performance. However the current research extends their investigations by the comparison of EMDR with another psychotherapeutic intervention, CH.

9.1.4 Trait longitudinal

The longitudinal measuring of trait levels of anxiety at 20/24 months post-intervention in this pilot study shows the mutability of trait anxiety. Four of the five respondents have scores below baseline levels with one participant having a decreased score of -10 below baseline. These results show that the therapies were effective for some participants in maintaining a decreased trait level over time. This effect has previously been reported in a pilot study at a one-year monitoring point (Stern et al., 2012) and it will be interesting to see if the findings from the pilot study are replicated in the main study with a large sample of participants.

The findings from the current research show that both CH and EMDR can be seen to be effective across the interface of cognition, physiology and behaviour, however there were limitations in this study which are now reported.

9.2 Limitations of the study

One major issue of the research was the small sample used in this pilot study. It would have been preferable if a much larger sample had been available which would have allowed for pairing of trait levels and more variety of statistical tests. The larger PhD research aims to address this by having at least eight participants in each of three groups, and by conducting two empirical investigations over a period of two years, using an overall sample of 48.

Another important factor which could have skewed results was the anomaly of P3 and P7 both having unfair advantages over the other participants. This will be addressed in the next study by careful vetting of repertoire at the presentation and withdrawal of any participant wanting to change the set piece at the last moment.

As the research progressed it transpired that P2 (the participant with the highest trait and baseline state level) was no longer having piano lessons. Was her nervousness exacerbated by this, having no professional help in learning the Fugue? The main study with a larger sample will ensure that conditions are the same for everyone.

Although a sound-proofed room was used for the therapies, the sound of on-going instrumental practice could still be heard which may have been distracting for some

participants. A room well away from practice areas would need to be used for the large body of research.

Given the limitation of the numbers this research was very thorough in testing the three main areas contributing to anxiety: cognitive, physiological and behavioural. The data provided a rich source for the investigative process and an effect was found in all three. This was significantly so in the area of cognitive anxiety, which demonstrates the need for further exploration.

9.3 The main study

The aim of the pilot study was to contribute greater understanding of the different aspects relating to MPA in pianists. In doing so it highlighted new questions which could be further explored using a much larger sample. The main study follows a similar procedure to the small-scale study but it extends the present research by further investigating trait anxiety levels, initially testing pre- and post-therapies during the main research period. It further conducts longitudinal testing of trait anxiety, together with performance experiences, at different points in time. This will determine whether the basic trait level can be altered and whether the effect of this might influence the performance. Lehrer et al. (1990) suggest that subjects with high A-trait levels may benefit from psychological treatment in order to change their basic personality trait. The main study further expands the pilot study by including three case studies using either CH or EMDR as a treatment for MPA. It includes the procedure and protocols adopted for each intervention, providing a model which can be used in future research (Appendices 4.1 and 5.1).

9.4 Conclusion

This study set out with the aim of assessing trait/state levels of anxiety and the findings pose an interesting question: If state levels of anxiety are reduced in a “threatening” situation to lower than baseline state and trait, does this equate to a permanent reduction in an individual’s trait level? From this small scale study it would appear that changes in negative perceptions of past experiences can impact on trait/state levels of present day anxiety, supporting Lehrer et al. (1990). It has been proposed that trait anxiety is a combination of genetics and aspect of personality, and as such changes little over the life span as anxious behaviour appears to be dependent on the individual personality trait (Deary & Matthews, 1993). However it follows from this study that anxious behaviour can be changed by psychotherapeutic means, and it could therefore be posited that the personality trait is not fixed over the life span. The long

term effects of changed cognitive perceptions on behaviour relate to the current discourse surrounding the research into the “mind/body” interface (Begley, 2009; Doidge, 2008; LeDoux, 2002). The main study will further review the longitudinal cognitive/behavioural interface of anxiety by observations of the participants.

I conclude from this pilot study that it is the interaction of different elements of MPA that impact together on music performance. Ericksonian hypnotherapy and EMDR, the two psychotherapies used in this current study, have been shown to be effective in the three areas tested, and significantly so in the area of cognitive anxiety. Other psychotherapeutic treatments appear to be less effective and require long-term therapies for the amelioration of cognitive, emotional and physiological symptoms of anxiety. The significant reduction of cognitive state anxiety in this study appeared to exert a positive effect on the other two elements tested here (the physiological and behavioural aspects of anxiety) which warrants further research and discussion. To this end, a large scale investigative study into the many complexities of MPA was conducted by the author and is now reported in the following chapters.

Chapter 10

Main Study

10.1 Introduction and aims

The pilot study provided useful insights into the phenomenon of MPA particularly in the area of cognitive anxiety. It showed the potential of the two interventions, CH and EMDR, and highlighted the need for further investigations into both state and trait anxiety. However, the main limitation of the pilot study was the small sample size. This is now addressed in the main study which expands and develops the pilot study in a number of different areas both in sample size and design. Although both interventions significantly decreased performance anxiety in comparison with the Control group in the pilot study, CH was significantly more effective than EMDR in achieving this. The paradigm of the mind/body interface is investigated further in the main study considering the importance that this exerts on the phenomenology of MPA, enabling an expansion and development of the small-scale study through seven different areas of measurement.

The main study now tests the hypothesis that both trait and state levels of cognitive anxiety will decrease post-intervention and that state anxiety will decrease to a significant degree. This will be reflected in fewer somatic/physiological symptoms of anxiety and an enhancement of subjective performance. The pilot study showed CH to be more effective in reducing state levels of anxiety, possibly as the participants were mainly in the low category of anxiety. However with a large sample it would be expected that all categories of anxiety would be represented and that both interventions will be equally effective.

The rationale is now given for each new feature investigated in the main study.

10.1.1 A larger sample of 46 participants

The small sample size of the pilot study reduces the statistical power and may have made some of the multivariate statistics prone to errors. A larger sample should counteract such effects.

10.1.2 Participants' ratings of therapies pre- and post-therapy

The main study expanded the pilot study through the completion of a Participants' Ratings of Therapies form, devised by the author (Appendix 10.1). By assessing the perceptions that participants have of the therapies both before and after treatment and comparing these ratings

provides greater insight into the importance of therapy perception and what effect, if any, this has on therapy outcome. It is also of value to the research to ascertain if therapy perception changes post-treatment. To the author's knowledge prior studies have not reported on this phenomenon.

10.1.3 Assessment of gender differences in cognitive anxiety

In the pilot study it was not possible to consider gender differences in relation to performance anxiety as all six participants were female. The large sample of mixed gender participants in the main study now makes this possible. The main study considers this in relation to both state and trait levels of anxiety and in conjunction with the findings from prior studies in this field.

10.1.4 Assessment of trait anxiety at all stages of the current research

The relevance and importance of testing trait levels of anxiety was not apparent in the small-scale study until all data collection had been completed and reviewed. This is now rectified in the main study where trait anxiety is monitored throughout the empirical research at different times.

10.1.5 Assessing the relationship of trait and state anxiety

In the main study the monitoring of both trait and state anxiety enables the assessment of the relationship of these two important aspects of anxiety through statistical correlations. Anxiety is thought to be a complex two-factor structure with a strong relationship existing between trait and state anxiety (Spielberger, 1972). It can be posited that an individual's trait level of anxiety (the general level) is an important contributory factor to the degree of state anxiety experienced in performance.

10.1.6 Assessment of performance

In the pilot study only notational errors in performance were assessed. The main study expands and develops this through a more thorough assessment of the different aspects of performance. The author's Criteria for Assessment of Performance (see Appendix 10.2) is based broadly on the categories used by the Associated Board of the Royal Schools of Music (ABRSM) and uses six different criteria for assessment.

10.1.7 Longitudinal assessment of trait anxiety

In the pilot study trait levels of anxiety were monitored through the STAI Y-2 (the trait portion of the STAI questionnaire) at 20-24 months post-intervention (Appendix 10.3). An effect was found where four out of the five respondents had trait anxiety scores below baseline levels. However as these were the only two points of measurement during the research it was not possible to conduct any comparisons either during the research period or post-intervention at the two year monitoring. The findings suggest the mutability of trait anxiety; however an assessment of trait anxiety longitudinally with a large sample of participants is required. In the main study this is achieved by monitoring trait levels at four months and again at one year post-intervention. Comparisons can then be made with baseline levels of trait anxiety and an assessment made of therapy effect over a long-term period giving more robust results in determining whether trait levels are changeable.

10.1.8 Longitudinal qualitative information of performance experience

Of importance, and an extension of prior studies in this field, is the monitoring of subjective cognitive anxiety and physiological (somatic) symptoms of anxiety four months and one year post-intervention. In the pilot study the author's self-report questionnaire (SRQ) had been valuable in giving both qualitative and quantitative information on the cognitive and physiological aspects of MPA and showed the importance of an idiographic approach; it gave further valuable insights into the personal experience of performance (Appendix 10.4) This approach is continued in the main study with a large sample but now extended through further qualitative information in the form of the author's Log of Experiences Post-Research (LEPR) kept by participants at four months and one year post-intervention, reporting on performance experiences (Appendix 10.5.1). This adds valuable insight to the findings.

10.2 Method

10.2.1 Purpose

The aim was to investigate the efficacy of two psychotherapeutic interventions, Cognitive Hypnotherapy (CH) and Eye Movement Desensitisation and Reprocessing (EMDR), on music performance anxiety when applied to pianists of Grade 8 standard or above performing in two small concerts, a situation that has high ecological validity. The study was designed to test the two-factor structure of cognitive anxiety (the trait and state components) and to ascertain the effect that these exert on music performance.

10.2.2 The research design

The main study used a mixed design (between and within variables). In its broad outline it followed the format of the pilot study using a similar methodology, procedure and a repeated measures design.

A potential design problem which should be noted is that by random allocation of the CH and EMDR therapies the best match of participant to therapy may not be possible. There is some evidence from the case studies that CH is more effective in decreasing focal anxiety and EMDR in addressing social phobia/social anxiety (see Case Studies, Chapter 14). If the differences between the two therapies are artefacts of mismatch, a larger sample should reduce the difference.

The research was conducted over a period of 18 months as the intention was to recruit the largest possible sample; to make this study robust it was necessary to incorporate two tranches in the main study. The logistics of working with a large sample using only one tranche would be extremely difficult and labour intensive for the researcher/therapist. In order to publicise the research and recruit participants, six presentations were given. The presentation outline gave a background of MPA and the previous approaches to alleviating this. It described the therapies used in the current study and gave an outline of the research design and methodology (see Appendices 10.6.1 for synopsis of script used in the presentation and 10.6.2 for the therapy description sheet). Posters were distributed in strategic positions throughout the institutions (Appendix 10.7) and emails with the abstract and the design of the research attached were sent to all participants. Flyers were distributed in all institutions several days before and on the day of each presentation.

The aims of the main study were to test:

- Trait and state levels of anxiety pre- and post-interventions
- Objective measures of anxiety
- Subjective measures of anxiety (including somatic symptoms)
- Gender differences in cognitive anxiety
- Behavioural anxiety during each of the two performances
- Perceptions and ratings of the effectiveness of the therapies before and after treatment
- The ongoing efficacy of the therapies on trait anxiety and subsequent performances post-therapy

10.2.3 Participants

Participants were Grade 8 pianists (or above) but it was not a requirement that piano be their main instrument. 46 pianists took part in the research: 29 females and 17 males. 27 females and 16 males were aged 18-26; three participants (two female and one male) were aged 33, 48 and 53 respectively. Eight held Post-Graduate Diplomas in piano and the remainder were of Grade 8 standard. Participants were assigned a code number to ensure anonymity within the research and were informed that they would receive two free therapy sessions (worth £140) together with the author's CD designed to enhance therapy; they would also receive £20 at the end of data collection.

The following section gives details of the complex methodology for recruiting a large sample of participants.

10.3 Structure of recruitment

The recruitment took place in two tranches. There were variations in the numbers of participants from each institution within each tranche as can be seen below. Presentations for Tranche 1 were given during the Autumn Semester 2012, two at the University of Leeds and one at Leeds College of Music (LCM). The presentation content is shown in Appendix 10.6.1.

10.3.1 Tranche 1: 21 participants

21 participants in total took part in Tranche 1. 27 participants were recruited initially, a mix of undergraduates and post-graduates, 23 from the University and four from LCM. However it transpired that two would not be available for the performances; a further two felt their academic workload was too great to enable participation and two felt unwell during the days prior to the first performance. Five held post-graduate diplomas in piano and the remainder were Grade 8 standard. With hindsight this proved to be the maximum number logistically for the administration of such a large number of therapies (28) over a period of nine days.

10.3.2 Tranche 2: 25 participants

Tranche 2 was conducted in two phases due to the geographical location of the institutions: Autumn Semester 2013 in Leeds and Spring/Summer Semester 2014 in Sheffield. It followed the same basic format as Tranche 1 but incorporated participants from the University of Sheffield. It was hoped that Tranches 1 and 2 would give a sample of 50 or more. Recruitment began at all three institutions during September/October 2013. Initially posters

were displayed around the institutions in prominent places advertising the forthcoming research two weeks prior to the presentations.

Leeds College of Music: Tranche 2a

The recruitment began with a presentation to students at the LCM substituting their timetabled class. All nine students in the class were recruited; one subsequently withdrew because of other commitments and one was not able to complete the research due to illness. This left a total of seven participants. Three more students were recruited from posters around the campus but they subsequently withdrew even though they had signed Consent Forms (Appendix 10.8) and baseline measurements of anxiety had been completed online (STAI Y-1 and Y-2).

University of Leeds: Tranche 2a

It was not possible to give a presentation during a lecture at the University so pianists were recruited throughout the university from the posters displayed around the campus. Students contacted me by email or text to express initial interest. There was a very good response initially; after receiving the Participant Information Sheet (Appendix 10.9), 11 students completed a Consent Form and baseline measurements of anxiety online. However as the day of the first performance approached six students withdrew, a substantial number, which left only five participants from the University. All research (including the performances) was held at the University with a total of 12 participants from the University and the LCM.

University of Sheffield: Tranche 2b

The first presentation was given at the University of Sheffield at the end of a first year Music Psychology class. After reading the Participant Information Sheet six Grade 8 level pianists were recruited and completed Consent Forms. The logistics (the researcher being at the University for one day only) necessitated the participants being given one week during which time they could choose to withdraw. At the end of recruitment baseline levels of both Trait and State anxiety levels were taken through the STAI Questionnaire. All participants were informed that Tranche 2 at Sheffield would not be conducted until February 2014 after completion of Tranche 2 at Leeds. A further seven students were recruited from within the University at a second presentation in February giving a total of 13.

10.4 Data collection tools: Materials and equipment

10.4.1 Perception of therapies

The Participant's Ratings of Therapies form was completed before participants were allocated to a therapy and then again post-therapy. Prior studies have not noted the importance that the perception of the therapy has on the impact and outcome of therapy. It would be informative for research to ascertain if this in fact has any effect on a positive or negative result of treatment.

The perception of therapy effects were rated by all participants on a Likert scale of 1-10, where 1 was deemed to have the least effect and 10 the maximum (see Appendix 10.1). This was completed at the outset of the research and a subsequent rating was given post-therapy which allowed for comparisons. The therapy form also invited comments from the participants regarding any aspect of the therapeutic intervention. Comparisons of pre- and post-therapy perceptions might give greater insight into why a therapy was effective (or not) and also if this could have been a contributory factor to therapy outcome.

10.4.2 State-Trait Anxiety Inventory (STAI): Objective measurements of anxiety

The main research assessed cognitive anxiety through the State-Trait Anxiety Inventory STAI Y-1 and Y-2: see sample forms at Appendix 10.3. Anxiety categories were assessed on a Likert scale of 20-80, where 20-39 represented low anxiety, 40-59 medium and 60-80 high anxiety. Both state and trait scores of cognitive anxiety were calculated throughout the research period. The STAI Y-1 (the state portion of the questionnaire) and STAI Y-2 (the trait portion of the questionnaire) were applied to identify the changes in cognitive anxiety at the three points of measurement; baseline, performance 1 and 2. The relationship between these two different types of anxiety was ascertained by applying correlation tests; gender differences in trait and state anxiety were also calculated through completion of the STAI Y-1 and Y-2 Inventory.

10.4.3 Physiological measurements

Pulse rate was not monitored in the main study as the raw data from the pilot study had generally not indicated heightened measurements of anxiety.

Although significant differences had not been found in either systolic or diastolic readings in blood pressure measurements pre- post-therapies, an effect had been found, and therefore it was important to test this again in the main study. Baseline readings of blood pressure were

taken by the author with a standardised wrist monitor at Tranche 1 presentations; having 21 participants at each concert in this tranche it was necessary to recruit an MA student to help. However as the raw data from both systolic and diastolic readings again showed no indication of significant heightened anxiety, physiological measurements of blood pressure were not included in Tranche 2.

10.4.4 Self-report questionnaire (SRQ): Subjective measurements of anxiety

Subjective observations of cognitive anxiety and somatic symptoms of anxiety were investigated with a large sample of participants. The rationale for not using a standardised instrument of testing was the need for detailed qualitative information. This was not adequately fulfilled by existing measurements. The SRQ (Appendix 10.4) enabled a more sensitive and broader idiographic account of cognitions, emotions and somatic/physiological symptoms which was not possible from the STAI questionnaire alone. It would be valuable in giving supplementary information on subjective anxiety in the weeks/days before the performances, as well as on cognitive and somatic anxiety during the performance itself. This would also provide a valuable addition to the discussion which would take place at the commencement of therapy, allowing for subjective expansion of the comments on the questionnaires.

Enabling both quantitative and qualitative assessment of performance anxiety provided an illuminating subjective view of the experience enabling a broader evaluative assessment from an idiographic standpoint which was not possible from the STAI Y-1 and Y-2 alone. The SRQs used a Likert scale of 1-9, where 1 represented the lowest anxiety and 9 the highest (1-3 low, 4-6 medium, 7-9 high) enabling more refined quantification of assessment.

Assessment of the SRQs was calculated by the main research and an independent assessor (an experienced musician and also a manager for the City of Birmingham Symphony Orchestra). An independent assessment was made of the SRQs of 10 participants (20 questionnaires from performances 1 and 2), whilst the main researcher assessed 46 participants (the whole sample, 92 questionnaires). A Pearson's Correlation test showed a strong correlation between the ratings of the main researcher and those of the independent assessor which demonstrated that the ratings were in line (see Chapter 11, p. 132).

10.4.5 Quality of performance (behavioural aspects)

A quantitative measurement of assessment was applied across the two performances to determine the impact of anxiety on performance. The criteria of assessment were designed by

the author, an experienced pianist; it was broadly based on the ABRSM criteria for performance assessment. It used the six criteria below, each calculated on a Likert scale of 1-10, where 1 represented the lowest mark and 10 the highest (Appendix 10.2):

- Overall accuracy/technical security
- Instrumental control (including pedal control)
- Fluency
- Sensitivity to tonal quality
- Musical interpretation
- Confidence in performance

Playing time was two minutes, with digital audio and video recordings made of each of the two performances. The audio recordings were transferred onto CD to enable an independent assessment of the six performance criteria. The assessment was conducted by the main researcher and a random sample of both performances assessed 'blind' by two independent assessors. The video recordings, however, were not made available to the assessors to avoid the possibility of bias being introduced. Hard copies of the music were given to both assessors. The main researcher listened to all 92 performances; the independent assessor for Tranche 1 (a highly experienced musician and performer) listened to 10 recordings selected at random from both performances. The independent assessor for Tranche 2 (a Guildhall School of Music and Drama examiner for piano 1998-2005) listened to 12 recordings. A correlation of the scores given by the two independent assessors and the main researcher indicated a high level of agreement (see Chapter 11, p.136).

10.4.6 Longitudinal trait: STAI Y-2

To determine the effect of the therapies longitudinally on trait levels of anxiety with a large sample of participants, trait anxiety was monitored by completion of the STAI Y-2 (the trait portion of the STAI Questionnaire) at different times during this period: four months and one year post-intervention.

To make the research as robust as possible, at the end of the research period the Control group also received therapies. This enabled testing of trait levels of anxiety post-intervention across the whole sample, and also a longitudinal comparison with baseline scores.

Trait levels of anxiety were monitored longitudinally alongside performance experiences, this would also allow for comparisons to be made on an idiographic level between the cognitive and behavioural aspects of performance.

10.4.7 Longitudinal evaluation: Log of experiences post-research (LEPR)

The longitudinal assessment of the effect of therapy on performance experiences was conducted over the period of one year post-intervention. This was achieved by completion of the author's log of experiences post-research (Appendix 10.5.1). In this participants were asked to report on cognitive, emotional and physiological/somatic symptoms before, during and after subsequent musical or other performances.

As well as enabling qualitative observations and comparisons to be made on the effect of trait levels of anxiety with performance outcome, it would also allow for comparisons with the subjective comments on the self-report questionnaire (SRQ) completed after the first performance and before the application of therapy.

10.5 Procedure

A Gantt chart is included in Appendix 10.10 setting out a timeline of the application of the different measures during both tranches of the main study.

10.5.1 The design of the study and performance procedure

The six performances took place at three different locations:

Tranche 1	University of Leeds	Performance 1	11 February 2013
		Performance 2	22 February 2013
Tranche 2a	University of Leeds	Performance 1	11 November 2013
		Performance 2	22 November 2013
Tranche 2b	University of Sheffield	Performance 1	18 February 2014
		Performance 2	27 February 2014

A repeated measures design adopting a multimodal approach was used to assess the impact of cognitive anxiety on somatic/physiological symptoms and to assess the behavioural effects on performance.

At each presentation prospective participants were provided with a detailed description of the forthcoming research, both verbally and in the form of a Participant Information Sheet; at this time details of the performance procedures were also given. Information sheets were also provided describing the two interventions. It is worth noting that although most had heard of Hypnotherapy, very few (only one or two) had any knowledge of EMDR (and this had been

the case with the pilot study). Consent Forms were given out at the end of the presentations to be returned to the main researcher after careful perusal of the Participant Information Sheet. Because of the logistics of collecting Consent Forms within a few days of each presentation, all those who expressed an interest in participating signed the form and then had one week in which to reconsider.

Participants were asked to perform an “own choice” piece appropriate to their individual standard, performing the same piece in two unpublicised concerts. When musicians choose their own music they are provided with an added incentive for excelling in performance (LeBlanc, Jin, Obert, & Siivola, 1997). Because of the large numbers participating, playing time would be limited to two minutes with participants playing in a random order at each performance to maintain a surprise element. They were informed that they could use the score in performance if this was preferable and that audio and video recordings would be made of each performance. The title, composer and a copy of the music was sent to the main researcher two weeks prior to the first performance. Audience members were by invitation only (friends, but not academic staff who might be deemed to be assessing the performances); this was intended to make the whole experience seem less threatening. The timescale between the two performances was nine to eleven days (depending on the Tranche), which was sufficient time for the therapist/ researcher to administer two therapies of either CH or EMDR to the two therapy groups.

10.6 Categories of assessment

10.6.1 Performance

At the performances the order of playing was random, and it was ensured that at the second performance those playing towards the beginning of performance 1 played in the latter part of performance 2. Three participants played from memory but the majority played from the score. All were aware of the ongoing recordings throughout the concert procedure and each participant announced their participant number prior to their performance. The video recordings of the performances were helpful in substantiating some somatic symptoms: appearance of facial tension, facial pallor, shaking/trembling hands/arms legs/feet, hands/fingers (sweating), slipping on keys.

Generally there was a more relaxed atmosphere at the second performance as participants knew what to expect (see Discussion, Chapter 15, pp. 208-209). The performance per se enabled an assessment of the behavioural aspect of performance (the quality of playing) as

well as monitoring cognitive and somatic symptoms of anxiety through the following categories.

10.6.2 STAI Questionnaire: Y-1 and Y-2

Quantitative cognitive analysis was conducted using the State-Trait Anxiety Inventory for Adults Questionnaire (Spielberger et al., 1977). Both parts of the STAI questionnaire were completed at the commencement of the study and throughout the empirical research. This established participants' baseline trait and state levels of anxiety in a non-threatening situation and again 15 minutes prior to each of the two performances (regarded as threatening situations). It was deemed important that participants completed STAI Y-2 (the trait portion of the questionnaire) at all three measurement points to determine whether trait levels were changed post-intervention; this would also allow for comparisons between the treatment and non-treatment (Control) groups.

It was important to test trait anxiety in the main study with the largest possible sample making the research as robust as possible and giving greater credence to the findings. Therefore at the end of the empirical research period the Control group received interventions during the two weeks after the second performance and subsequently completed STAI Y-2 once more. This enabled a comparison with their trait scores from performance 2 which also the testing of trait levels post-intervention across the whole sample, and subsequently a comparison with baseline scores longitudinally.

Data collected now included trait scores of all 46 participants post-intervention from the STAI Y-2.

10.6.3 Self-report questionnaire (SRQ)

The SRQ was completed by all participants after each of the two performances, whilst the experience was still fresh in the memory. This was normally completed within 15 minutes of each performance before participants left the performance venue. The report comprised six questions in all: five designed to assess the extent of cognitive anxiety during the research period and 15 minutes prior to and during each of the performances; and one question assessing somatic symptoms during the performances (Appendix 10.4). This would be valuable in comparing the objective measurements of anxiety through the STAI Y-1 (state anxiety) with the participant's own thoughts and feelings of the performance experience and would also allow for comparisons of both performances.

It was important that somatic/physiological symptoms during both performances were assessed as this would also allow for comparisons with the STAI Y-1 questionnaire and the video recordings. Question 5 was designed to assess subjective somatic/physiological symptoms of anxiety. Data from the observations were coded and a quantitative assessment of the presenting symptoms applied. A Likert scale of 5-35 was adopted using multiples of 5 for each symptom, where 5 represented no symptoms and 35 represented six symptoms (the largest number of symptoms). The minimum figure of 5 rather than zero permitted statistical analysis in the Statistical Package for the Social Sciences (SPSS). It was considered that subjective responses regarding somatic symptoms (indicated on the questionnaire) would be an informative record of perceived subjective symptoms of anxiety before and during each performance.

This was a valuable addition to the discussion which would take place at the commencement of therapy, allowing for subjective expansion on the comments on the self-report questionnaires.

10.6.4 Treatment

Immediately after the first performance participants were randomly allocated to CH, EMDR or non-treatment (Control) groups. The therapy groups received treatment over a period of nine days. A therapy room was allocated in the specific venue for the appropriate days and two one-hour therapies of either CH or EMDR were administered by the therapist/researcher. Two therapies were deemed by the therapist to be the optimum number for beneficial effects. There can be beneficial effects from each of the chosen therapies after only one session (see Chapter 14, Case Study 3, pp. 190-197); however, as some subjects can feel apprehensive with either therapy and take some time to 'settle in', it is advisable to administer two. The literature describes in detail, and gives specific case histories of, rapid positive change being achieved after one hypnotherapy session (Boyne, 1989). Cases from the author's clinical practice corroborate the findings of Shapiro (1997) where two therapies of EMDR recorded in specific case studies were sufficient to instigate a cure.

A full subjective history needs to be taken at the start of treatment and dependent on the presenting issues this can take a substantial amount of time before treatment is commenced. At the close of the first therapy session each participant was given a CD produced by the author: the CH group was given 'Self-Confidence for Musicians' and the EMDR group 'Relaxation'. They were informed that they should listen to this as often as possible until the

second therapy, and after this “as and when the need arose” for continued enhancement of therapy.

At the commencement of the study participants were informed that random allocation to the Control group did not negate having therapy and that two sessions would be given at the end of the main data collection. This was to ensure that participants felt they had gained as much from the study as those randomly assigned to therapy groups and would therefore participate fully. The Control group received two therapies during the week following the second performance within 7-9 days (in the main randomly allocated). However, after the subjective history had been taken by the therapist it transpired that two participants had an aversion to the allocated therapy and therefore an informed choice of therapy was made in these cases. After the first session the Control group were given the appropriate CD for their therapy. After receiving their second therapy, within one week they each completed the trait portion of the STAI questionnaire post-therapy. This now enabled all 46 participants to take part in the monitoring of trait levels longitudinally.

10.6.5 Longitudinal investigations: STAI Y-2

Longitudinal investigations of trait levels of anxiety were conducted which enabled comparisons with baseline measurements of trait anxiety and would ascertain the effect of the therapies over time. All participants were contacted and asked to complete the STAI Y-2 questionnaire online at designated times. 34 participants from Tranches 1 and 2 completed the STAI Y-2 at the four-month monitoring period which was further completed at the one-year period by 17 participants from Tranche 1. At the one year measuring point Tranche 2 participants were at the four-month stage having started the research roughly eight months later than Tranche 1. (It was not possible in the current study to have a larger sample by including Tranche 2 participants at one year post-intervention as the date of submission of this study did not allow for the incorporation of the data of Tranche 2 participants one year post-intervention).

It was also important to compare the objective scores of the trait levels of anxiety with subjective performance experiences at these points in time to establish whether a relationship exists between general anxiety levels and music performance anxiety.

10.6.6 Longitudinal evaluation of performance experience

Longitudinal assessment of performance outcome at four months and one year post-intervention was collected through participants' completion online of the Log of Experiences

Post-Research (Appendix 10.5.1). All participants were given a copy at the conclusion of the empirical research and were asked to complete this after any subsequent performances over the period of one year, to be completed as soon as possible after each performance.

In order to assess the efficacy of the therapies at this period, respondents were contacted by email and asked to complete the following categories in the Log:

- date and type of each performance (recital/concert/exam)
- thoughts/emotions/feelings (positive/neutral/negative) pre- and during performance
- somatic/physiological symptoms during performance
- post-performance thoughts/feelings.

Participants were asked to comment on as many performance experiences as possible covering the above criteria. The majority of evaluations were of music performances; however if participants had not had any music performances over this period, they chose to evaluate other experiences such as oral examinations or presentations where they felt they were 'on show'. This would allow for comparisons to be made with the subjective comments on the SRQs completed during the main research period.

10.7 Summary

Through a vigorous investigative procedure incorporating both quantitative and qualitative measurements the main study enabled the collection of diverse information. It provided data on MPA from both a nomothetic and idiographic perspective. The quantitative results from the different aspects of anxiety and performance effects are now reported in Chapter 11.

Chapter 11

Results

11.1 Introduction

As this study needed to assess the importance of cognitive anxiety prior to performance, and given that participants in this research were affiliated to three different educational institutions (the Universities of Leeds and Sheffield and Leeds College of Music), it was necessary to ascertain whether there were significant differences in the levels of state anxiety between the groups from the three institutions. In order to establish cognitive levels of anxiety the STAI Y-1 Questionnaire was completed by all participants at baseline and 15 minutes prior to the first performance. An ANCOVA was calculated comparing cognitive anxiety between the two measurement points across the three institutions; this revealed that there were no significant differences in state anxiety at this point of measurement which suggests that the data were stable cross settings.

Anxiety was compared in a non-threatening (baseline) and two threatening performance situations across three different domains: cognitive (objective and subjective), somatic and behavioural.

11.2 Cognitive anxiety

The raw data from STAI Y-2 measuring trait anxiety indicated that the trait baseline levels of anxiety of the 46 participants ranged from 31-68 and the scores were normally distributed: one participant was in the high trait category; 29 had scores of 41-56 within the medium category (63%); and 16 had scores of 29-39 within the low category (35%). This contrasted greatly with the pilot study where one participant was in the medium range and the remaining five in the low category (Chapter 8, Table 8.2, p.102).

At the commencement of the research it was useful to establish whether a correlation existed between trait and state baseline cognitive scores. Therefore a Pearson's Correlation test was applied at this point of measurement (baseline) across the sample using the STAI Y-1 and 2 questionnaires. This indicated that there was a positive correlation between trait and state levels of anxiety at baseline ($r(46) = 0.403$, $N = 46$ $p = .005$) in accordance with Spielberger et al. (1983). A second Pearson's Correlation test was applied calculating measurements of anxiety 15 minutes prior to performance 1, a potentially threatening situation. It was found that the correlation between trait and state scores was weaker at this measurement point which

implies that state anxiety was heightened disproportionately to trait ($r(46) = 0.307$, $N = 46$ $p = .038$).

11.3 Gender differences

In this study females exhibited marginally lower trait anxiety at baseline than males, as indicated by the means (females 43.48; males 45.06); however the baseline state anxiety mean of females was higher than males (females 40.97; males 35.12). State anxiety 15 minutes prior to the first performance was elevated from baseline in both males and females. A t test was calculated at the two points of measurement, baseline and performance 1 across both gender groups and a significant difference was found ($t = 2.89$, $p = .006$). This demonstrates that females were significantly more anxious than males at the first performance and supports Wesner et al. (1990) who also found that females were more anxious than males in music performance. A large percentage of females suffered from high cognitive anxiety at performance 1 compared to males. At performance 1, 16 females (55% of the total female participants) had scores of over 50 on STAI Y-1 compared to five males (29% of the total male participants) with scores of over 50. The average increase for females in state anxiety from baseline (the resting rate) to 15 minutes prior to performance 1 was 9.8, whereas the increase for males at the same two points of measurement was 7.2 (an average of the raw scores from the STAI Y-1 questionnaire). However the difference in high somatic symptoms of anxiety between the genders was negligible. The current findings only support in part the research of Miller and Chesky (2004), who found that males and females reported similar levels of both somatic and cognitive anxiety.

11.4 State anxiety/group assessment: Objective anxiety

An analysis of the state component of cognitive anxiety of all 46 participants was obtained from the STAI Y-1 questionnaire taken at baseline and prior to both performances.

To establish whether anxiety levels decreased more in the intervention groups than the Control, an ANCOVA was calculated comparing levels of state anxiety across the three groups at the first and second performances (before and after treatment). There was a main effect of condition ($F(2, 42) = 4.92$, $p = .012$) such that participants in the two treatment conditions showed significantly lower cognitive anxiety than the Control group and that both treatment groups were significantly effective in achieving this (Helmert contrasts, .005 significance level). This suggests that the therapies applied between the two performances

significantly lowered anxiety in both the CH and EMDR groups prior to the second performance which was not demonstrated in the Control.

Figure 11.1 below shows the standard error of the mean state anxiety score calculated from the STAI Y-1 questionnaire at the two performances. It illustrates the decrease in state anxiety at the second performance across the three groups.

Error bar graph of the mean score of state anxiety at the two performances

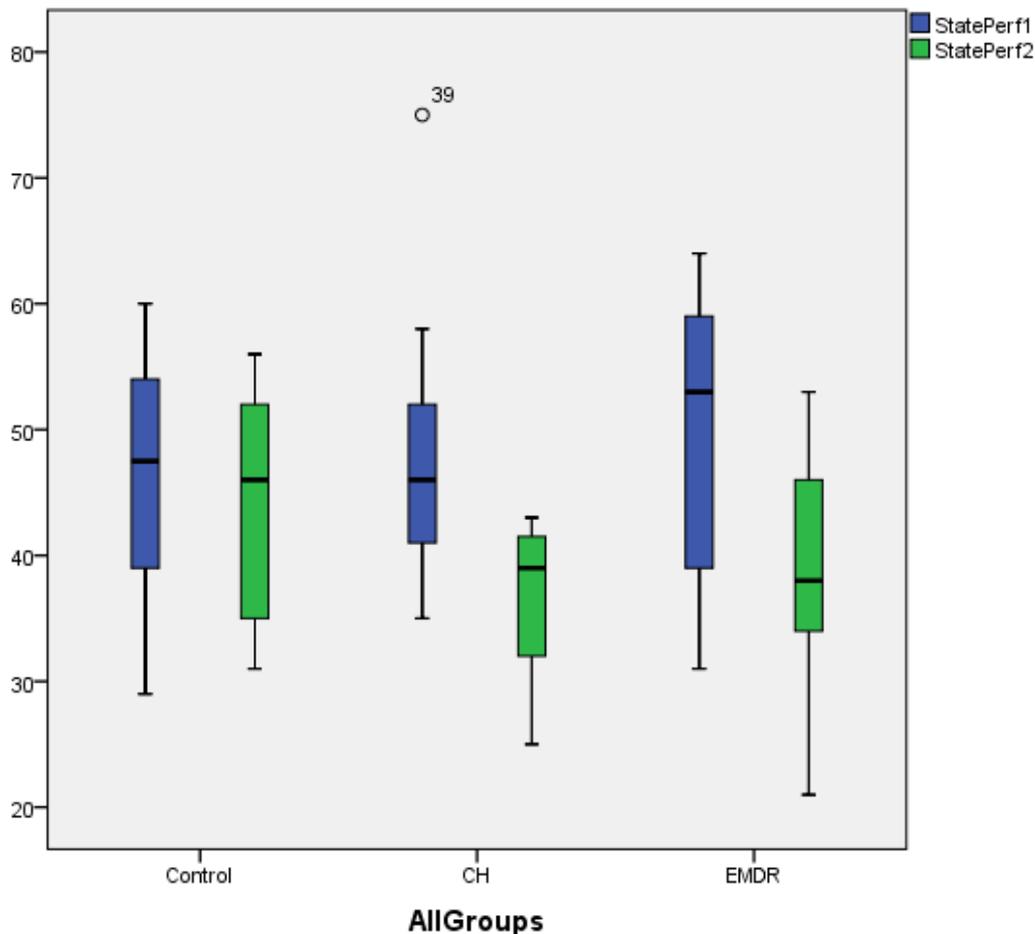


Figure 11.1: The standard error of the means of state anxiety from the STAI Y-1 questionnaire taken 15 minutes prior to performances 1 and 2: error bars show 95% CI of mean.

11.5 Trait anxiety/group assessment: Objective anxiety

An analysis of the trait component of anxiety of all 46 participants was obtained using the Spielberger STAI Y-2 questionnaire taken at baseline and performance 2 (the measures were normally distributed).

It was important to investigate trait levels of anxiety as the pilot study had indicated that these may in fact be changeable. This poses an interesting question: when state anxiety decreases significantly post-therapy, do trait levels also decrease significantly? A strong relationship between trait and state levels of anxiety has been reported in the literature (Spielberger et al., 1983). Therefore to establish whether trait levels decrease post-therapy following psychotherapeutic interventions an ANCOVA was applied across the whole group at baseline and performance 2. There was a main effect of condition ($F(2,42) = 5.71, p = .006$) such that participants in the two treatment groups showed significantly lowered trait levels of anxiety prior to the second performance than those in the Control group, with the EMDR group being significantly less anxious than the CH group (Helmert contrasts, .032 significance level).

Figure 11.2 below demonstrates the decreased cognitive anxiety post-therapy at the second performance in the two treatment groups and increased levels in the Control group. This demonstrates the effectiveness of the therapies in significantly lowering trait anxiety.

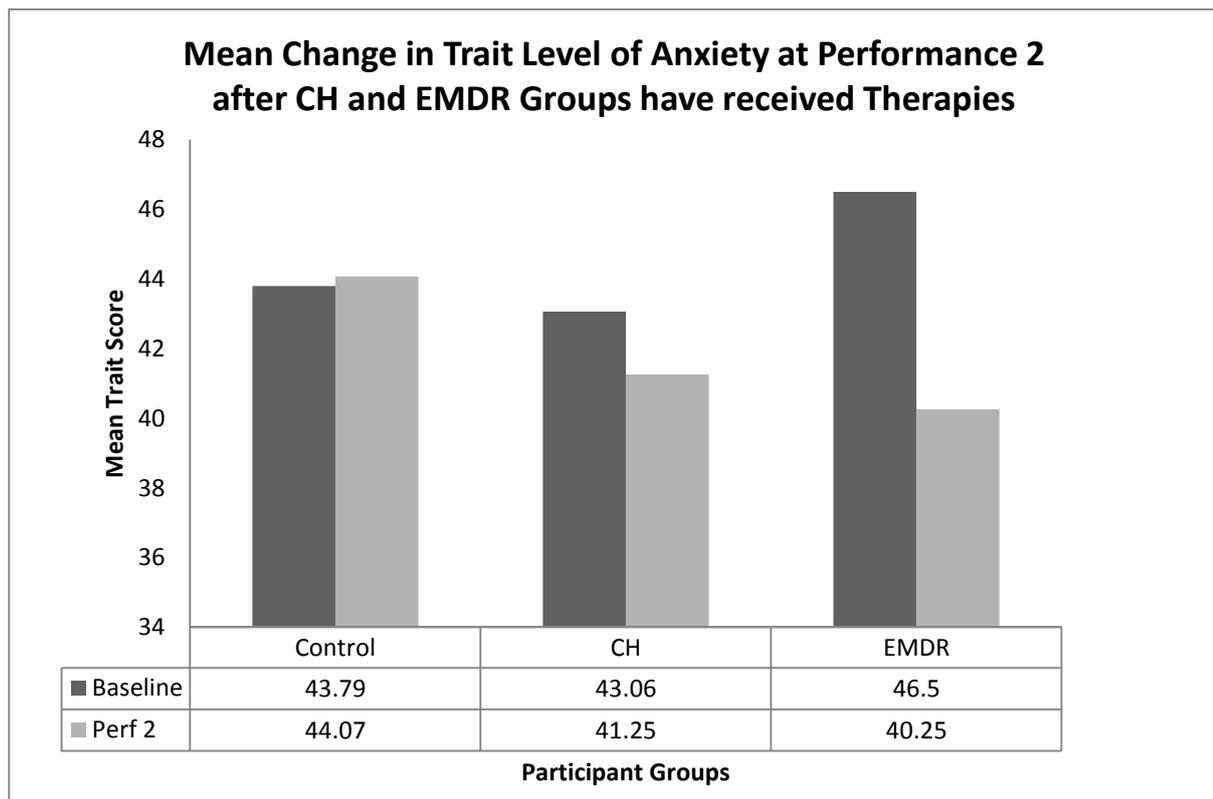


Figure 11.2: The estimated marginal means of trait levels of anxiety of all groups 15 minutes prior to performance 2, after the CH and EMDR groups have received 2 therapies.

To investigate whether a reduction in trait levels was replicated in the Control group when they had also received two hours of therapy, these data from the STAI Y-2 questionnaire were

incorporated with the pre-existing data of the treatment groups. A repeated measures ANOVA was conducted comparing two levels of the time variable, baseline trait and trait post-intervention (all participants). It showed a significant main effect of time ($F(1, 43) = 18.44, p < .001$). This demonstrates that there was a significant decrease in trait anxiety at the second point of measurement post-intervention.

Figure 11.3 below indicates that all three groups were significantly less anxious after therapy in trait or general levels of anxiety.

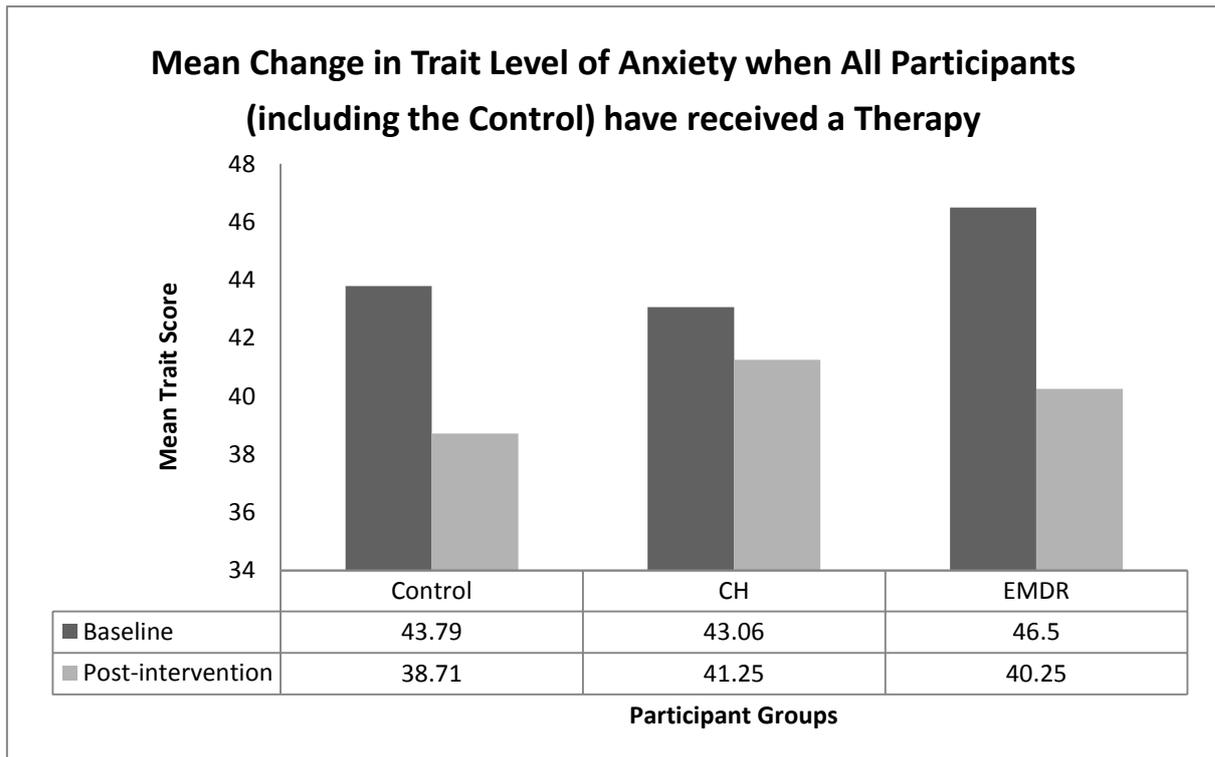


Figure 11.3: A repeated measure test showing the estimated marginal mean change in trait scores from baseline to post-intervention (when all participants had received a therapy, Control group receiving either CH or EMDR).

The results from the statistical findings in the current study demonstrate that trait levels of anxiety were significantly lower post-intervention in the therapy groups, and a similar effect was found in the Control group post-intervention. The longitudinal findings on trait anxiety at a four month and one year monitoring point post-intervention are reported at the end of this chapter.

11.6 Self-report questionnaires: Subjective anxiety

A more sensitive and broader picture of MPA was gained through assessment of the subjective comments on the questionnaire which gave supplementary information on cognitive anxiety in the weeks/days before the performances as well as during the performance. Qualitative comments were coded and quantified allowing for statistical analysis of subjective anxiety which would supplement the findings from the STAI Y-1 questionnaire (see Chapter 10, p. 118). Before statistical assessment of the quantified data was conducted, the scores of the main researcher and the independent assessor were correlated; the independent assessor was given a sample of 20 questionnaires (10 participants). In order to establish how close the ratings were, a Pearson's Correlation test was conducted giving the following results: performance 1, ($r(10) = 0.989$, $N = 10$ $p < 0.001$); performance 2, ($r(10) = 0.961$, $N = 10$ $p < 0.001$). This indicates a positive correlation and that the main researcher's ratings were in line with the assessor's ratings.

The information taken from the comments on the SRQ regarding performance 1 showed that seven participants (15%) had thought strongly of withdrawing from the research to avoid the forthcoming performance. This indicates high levels of subjective negative perceptions of the forthcoming event (see Chapter 12, SRQ and Chapter 15, Discussion).

To determine whether participants' perceived anxiety prior to and during the second performance decreased more in the intervention groups than in the Control, an ANCOVA was calculated comparing perceived subjective anxiety between the two performances across the three groups. There was a main effect of condition ($F(2, 42) = 4.11$, $p = .029$) such that participants in both treatment groups were significantly less anxious than those in the Control group. The results indicate that the therapies are effective in significantly reducing subjective levels of anxiety.

Figure 11.4 below shows the decrease in cognitive anxiety at the second performance: the Control group's decrease is not statistically significant.

Error bar graph of the mean score of subjective anxiety at the two performances

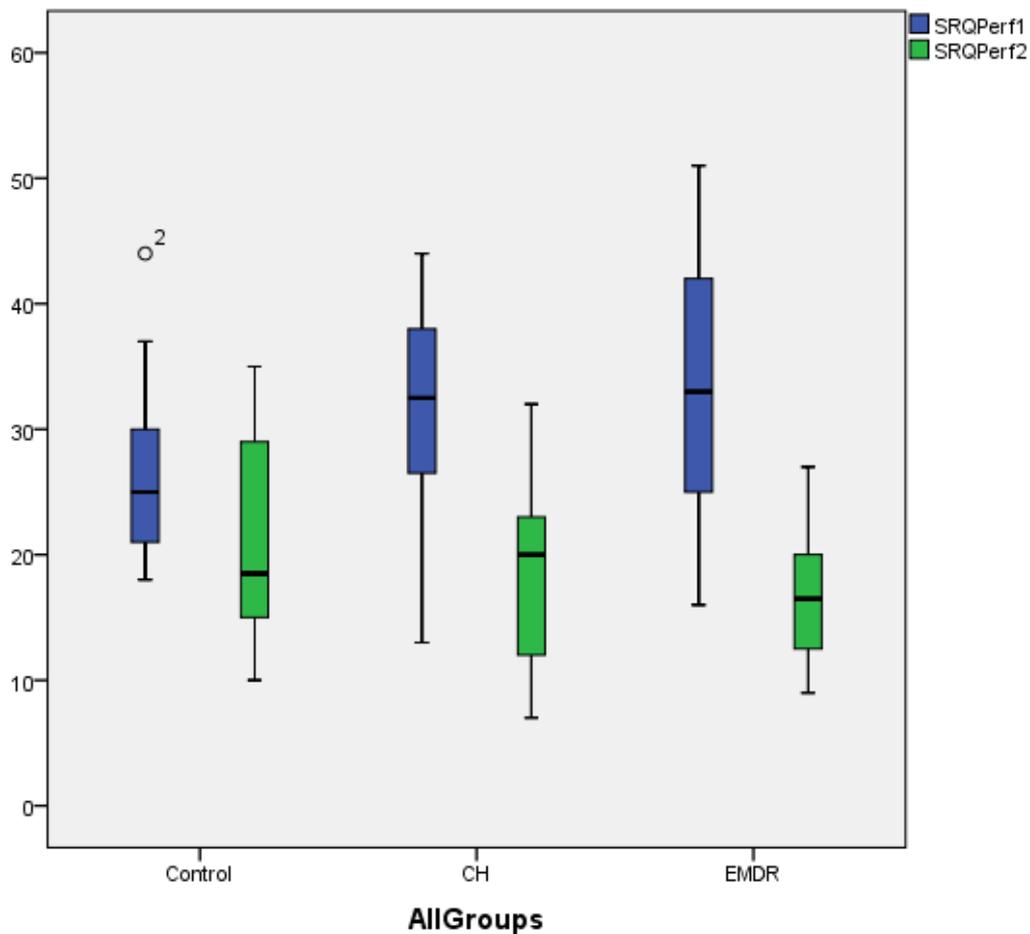


Figure 11.4: The standard error of the means of subjective anxiety from the SRQ completed immediately following performances 1 and 2: error bars show 95% CI of mean.

The present study was designed to determine both subjective and objective levels of cognitive anxiety through the author's self-report questionnaire and STAI Y-1 questionnaire before the application of the therapies. To determine whether a correlation existed in the current study between perceived and objective anxiety, a Pearson's Correlation test was applied at this point of measurement (performance 1). The results suggest a positive correlation between participants' subjective anxiety prior to performance 1 and the objective ratings of cognitive anxiety taken from the STAI Y-1 questionnaire ($r(46) = 0.582, N = 46, p < .001$) (Appendix 11.2).

11.7 Somatic symptoms taken from the self-report questionnaires

In this study an ANCOVA showed no significant differences in somatic anxiety across the groups post-therapy. However the somatic symptoms experienced immediately before and during the first performance (as stated by participants in the self-report questionnaires) were

various, supporting Brooker (2009; 2012), Craske & Craig (1984); Shoup (1995); and Steptoe (2001):

- feeling nervous and tense
- shaking all over
- hands/foot shaking
- sweaty hands, hands slipping off keys
- no control over playing
- empty feeling in stomach
- butterflies
- feeling sick
- cloudy vision.

Cognitive symptoms overlapped with somatic symptoms in some cases:

- misreading of the score
- feelings of not being there
- everything seemed unreal
- negative cognitions anticipating failure.

A strong relationship between cognitive and somatic anxiety has been reported in the literature (Craske & Craig, 1984; Hardy & Parfitt, 1991). To determine whether a link exists between these areas of anxiety in the current study, a correlation of assessment of cognitive (STAI Y-1) and somatic anxiety (self-report questionnaire) was calculated at measurement point performance 1. This showed the level of correlation as ($r(46) = 0.496$, $N = 11$, $p < 0.01$), demonstrating that levels of objective cognitive anxiety co-vary positively with somatic anxiety, further corroborating the link between cognitive and somatic anxiety in prior research.

In the main study no significant decrease in somatic symptoms was found at the two measurement points, performance 1 and 2 in the group overall. Large decreases in cognitive anxiety were not experienced by those participants in the low anxiety range on the STAI Y-1 and a similar effect was found with somatic symptoms (a floor effect could be operating here). However it is important to determine whether significant decreases in somatic symptoms occur when state anxiety is in the high category. A correlation has been shown between these two aspects of anxiety in this study; it can therefore be posited that a significant decrease in state anxiety at the second performance, in those participants in the

high anxiety category, will have a reciprocal effect on somatic symptoms of anxiety at the same measurement point.

To investigate this, a paired samples *t*-test was conducted using the data of the five participants in the high category of state anxiety. It revealed a significant decrease in state anxiety at the two points of measurement, performance one and two (mean difference 23.20, $t = 6.77$, $p = .002$). At the same two points of measurement a significant decrease was found in somatic anxiety (mean difference 2.60, $t = 6.50$, $p = .003$).

These findings are interesting and demonstrate that the participants with the highest levels of state anxiety at performance 1 (high category) experienced significant decreases in state anxiety at performance 2 and also significant decreases in somatic symptoms at the same point of measurement demonstrating that when cognitive anxiety is high there is a strong relationship between the mind and the body.

Table 11.1 below displays the raw data of five participants with the highest STAI Y-1 scores at the first performance, 60 or above. The rationale for displaying the scores is that all five participants are in the high category of state anxiety. At performance 2 all five have a changed category: three have moved from high down to medium category and two from high to low category (categories of anxiety as designated by Spielberger et al., 1977).

The changed cognitive levels of anxiety at the two performances are given and the changed category level, together with the number of somatic symptoms experienced at each performance. It should be noted that in the absence of therapy one participant experienced large decreases and a changed category in state anxiety (see Chapter 12, pp.146-147 for further discussion).

Table 11.1 Cognitive and somatic levels of anxiety at performances 1 and 2

Participants and Groups	STAI Y-1 State Anxiety Cognitive Scores		Number of Somatic Symptoms	
	Perf 1	Perf 2	Perf 1	Perf 2
MS65 CH	High 75	Med 43 (-32)	4	1
MS3 EMDR	High 64	Med 47 (-17)	3	1
MS69 EMDR	High 61	Low 7 (-24)	6	2
MS14 Control	High 60	Low 31 (-29)	2	0
MS66 EMDR	High 60	Med 46 (-14)	3	1

KEY

Cognitive Anxiety:

15 minutes prior to performance 1 taken from STAI Y-1 (range 58-75)

15 minutes prior to performance 2 taken from STAI Y-1 (and change in scores)

STAI Y-1 categories: Low anxiety 20-39; Medium anxiety 40-59; High anxiety 60-80.

Significant reductions in both somatic and cognitive anxiety were experienced, further substantiating the link between these two important aspects of MPA. It further shows the effect of the therapies on participants in the high category range of anxiety.

11.8 Assessment of performance

Before an assessment of the raw data was conducted it was important to conduct a correlation of the scores given by the two independent assessors and main researcher. A Pearson's Correlation was conducted at the two points of measurement, performance 1 ($r(11) = 0.948$, $N = 11$, $p < 0.001$); performance 2 ($r(11) = 0.931$, $N = 11$, $p < 0.001$) which indicates that the ratings are in line with expert opinion, and that the level of agreement is good.

Using the six assessment criteria (see Chapter 10, p. 119), an ANCOVA was calculated comparing the marks between the therapy groups and the Control group across the two points of measurement. There was a main effect of condition ($F(2, 42) = 4.07$, $p = .024$) such that participants in both treatment groups displayed significant improvements at the second performance which were not evident in the non-treatment group.

Figure 11.5 below shows the enhancement in performance in the therapy groups post-intervention in comparison with the Control, and shows the effectiveness of the therapies for improved performance outcome. At the second performance the range of the control group is wider than at the first performance indicating that although some participants improved at the

second performance, the quality of playing of others declined. It can be seen from the range of the therapy groups that all performers in these groups improved at the second performance.

Error bar graph of the mean score of performance quality at the two performances

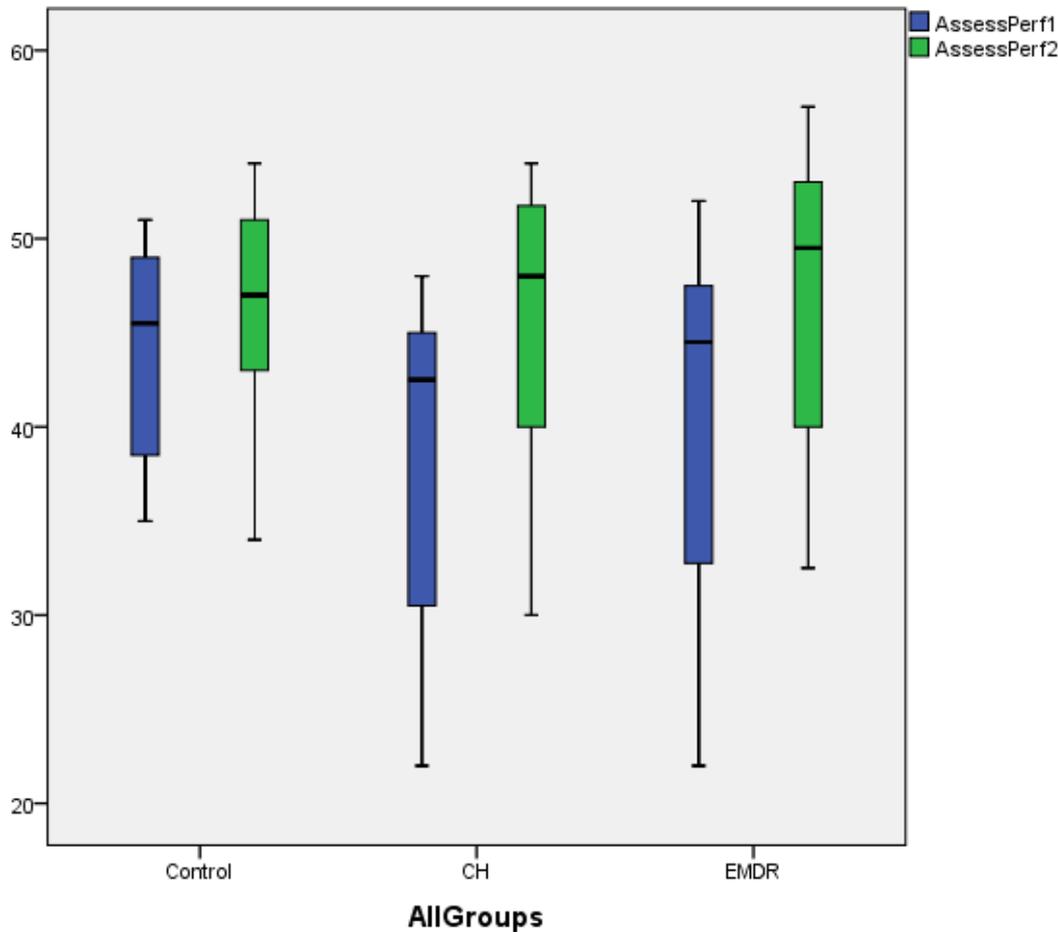


Figure 11.5: The standard error of the means of performance quality of performance 1 and 2: error bars show 95% CI of mean.

11.9 Perception of therapies

A paired *t*-test at the two points of measurement pre- and post-therapy was conducted to establish comparability of the ratings of the therapy effects for the reduction of MPA and enhancement of performance. A comparison of the means indicated that the therapy ratings (Likert scale 1-10) increased post-therapy (pre-therapy mean = 5.62, post-therapy mean = 7.02), and this is statistically significant ($t = -4.44, p < .001$). This finding demonstrates that subjective perceptions of the psychotherapies changed after treatment. In the main the ratings that were given pre-therapy increased post-therapy. There were some illuminating comments on some rating sheets and these will be reviewed in Chapter 15 together with a discussion on whether initial therapy perception affects therapy outcome.

A large amount of quantitative data was collected from the present study in the most important areas of MPA and overall a positive result was found. The statistical analysis of both the pilot study and the main study demonstrated the significant effect that CH and EMDR exert on cognitive anxiety and the relationship that exists between this and performance outcome. However it is important to monitor the long term effects of the therapies on anxiety and this is reported below.

11.10 Trait anxiety longitudinal findings

11.10.1 Trait anxiety longitudinal results: Four months post-intervention

The results from the statistical findings in the current study demonstrate that trait levels of anxiety were significantly lower post-intervention in the therapy groups. A similar effect was found in the Control when this group had also received therapy. It is important to ascertain if trait levels are maintained post-intervention and, if so, for how long. To assess the effect of the therapies longitudinally, trait levels of anxiety were tested at different points in time by use of the STAI Y-2 to ascertain if decreases from baseline were maintained.

At the four month measuring point a paired sample *t*-test was applied across 34 participants comparing baseline measurements and four months post-intervention. A comparison of the means (baseline = 45.85, post-intervention 4 months = 41.06, mean difference 4.8) indicated a significant decrease in anxiety ($t = 4.35, p < .001$) at the two points of measurement. Figure 11.6 below shows the trait levels of anxiety at the two points of measurement.

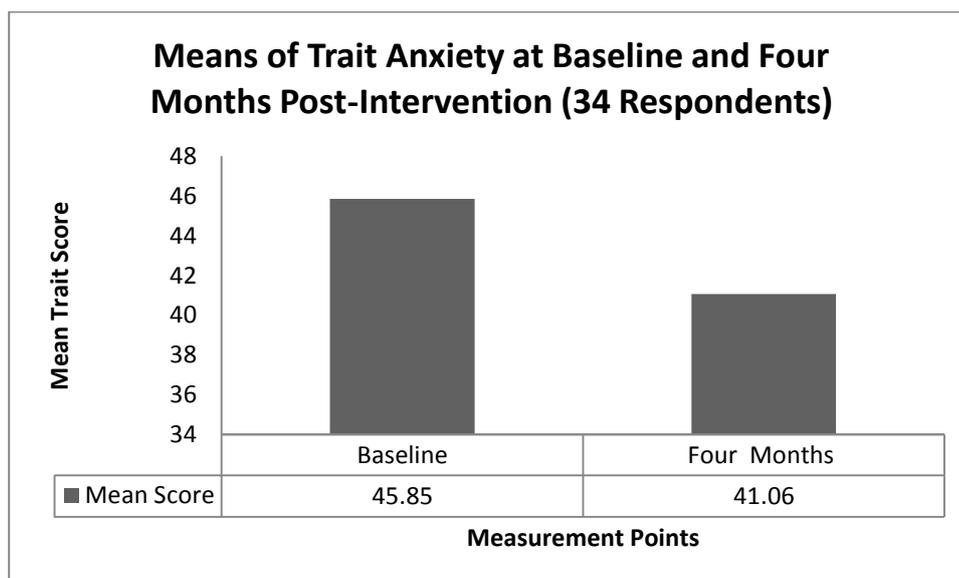


Figure 11.6: A paired samples *t*-test across the 34 respondents showing the mean change from baseline to four months post-intervention.

A repeated measures ANOVA test was conducted at three measurement points in time: baseline, performance 2, and four months post-intervention (Figure 11.7 below). There was a highly significant main effect of time ($F(1,31) = 17.30, p < .001$), demonstrating significant differences at each time point which suggests the positive effect of the therapies over time.

Figure 11.7 gives additional insight into the efficacy of the therapies when all participants had received treatment. It can be seen that the Control group at the second performance (having received no therapy at this point in time) experienced a marginal increase in trait anxiety; however, post-therapy at four months there was a large decrease in trait anxiety.

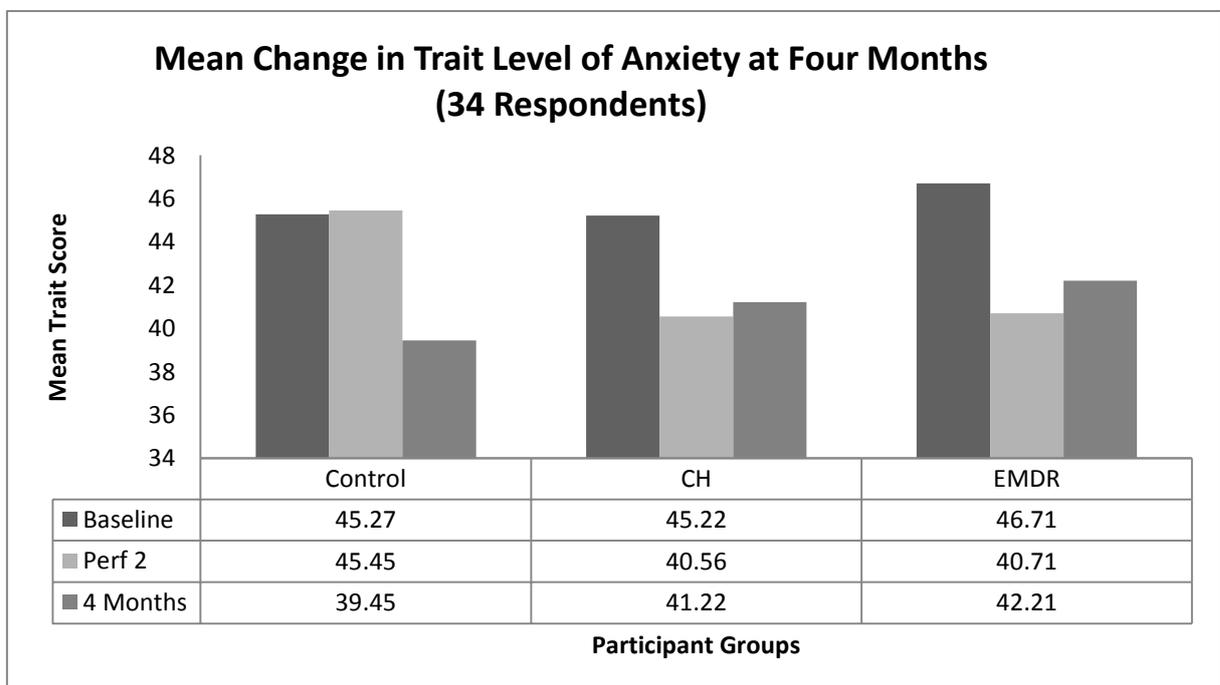


Figure 11.7: A repeated measures test across the three groups showing the estimated marginal mean change in trait scores at three points in time: baseline, performance 2 and four months post-intervention.

Appendix 11.3 documents the trait scores of 34 participants measured at four months post-intervention.

Four month monitoring (34 respondents):

- 23 respondents (68%) still experienced decreases from baseline trait measurement.
- seven respondents had trait scores ten points or more below baseline readings.
- five respondents experienced decreases in trait scores resulting in a changed category.

At a four month follow-up these levels were not only maintained but on average scores decreased still further from baseline, some by a substantial amount.

11.10.2 Trait anxiety longitudinal results: One year post-intervention

It was important to ascertain the efficacy of the therapies one year post-intervention. To investigate this, 17 respondents from Tranche 1 of the study further completed the STAI Y-2 questionnaire one year after receiving therapy.

A second paired sample *t*-test was conducted comparing levels of anxiety at baseline and one year post-intervention. A comparison of the means (baseline = 44.11, one year post-intervention = 39.05, mean difference 5.06) indicated a significant decrease in trait anxiety ($t = 4.18, p = .001$) which indicates a significant decrease below baseline measurements. However at these two measurement points the sample is smaller and reduces the statistical power. Figure 11.8 below shows the trait levels of anxiety at the two points of measurement.

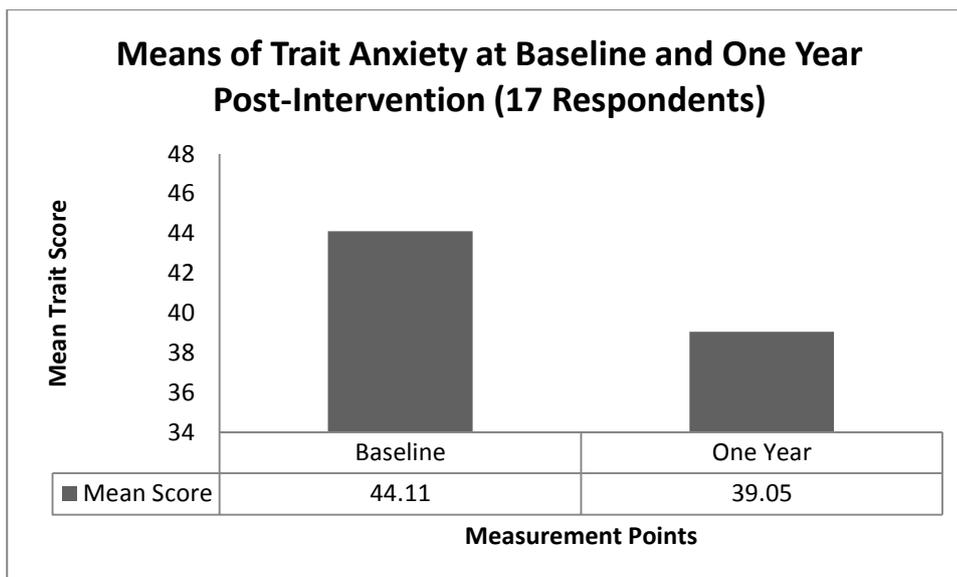


Figure 11.8: A paired samples *t*-test across the 17 respondents showing the mean change from baseline to one year post-intervention.

A second repeated measures test investigating the longitudinal effects of the therapies was conducted at three points in time: baseline, performance 2, and one year post-intervention. It showed a significant main effect of time ($F(1,16) = 16.94, p < .001$). This demonstrates that one year after the application of the therapies the participants still displayed significant decreases in trait anxiety scores from their baseline measurements. A calculation of the raw data shows that at the one year monitoring period 88% of the 17 respondents still experienced

decrements from baseline (see Appendix 11.4). Further research with the same respondents at a later point in time would be needed to establish any further changes in trait levels.

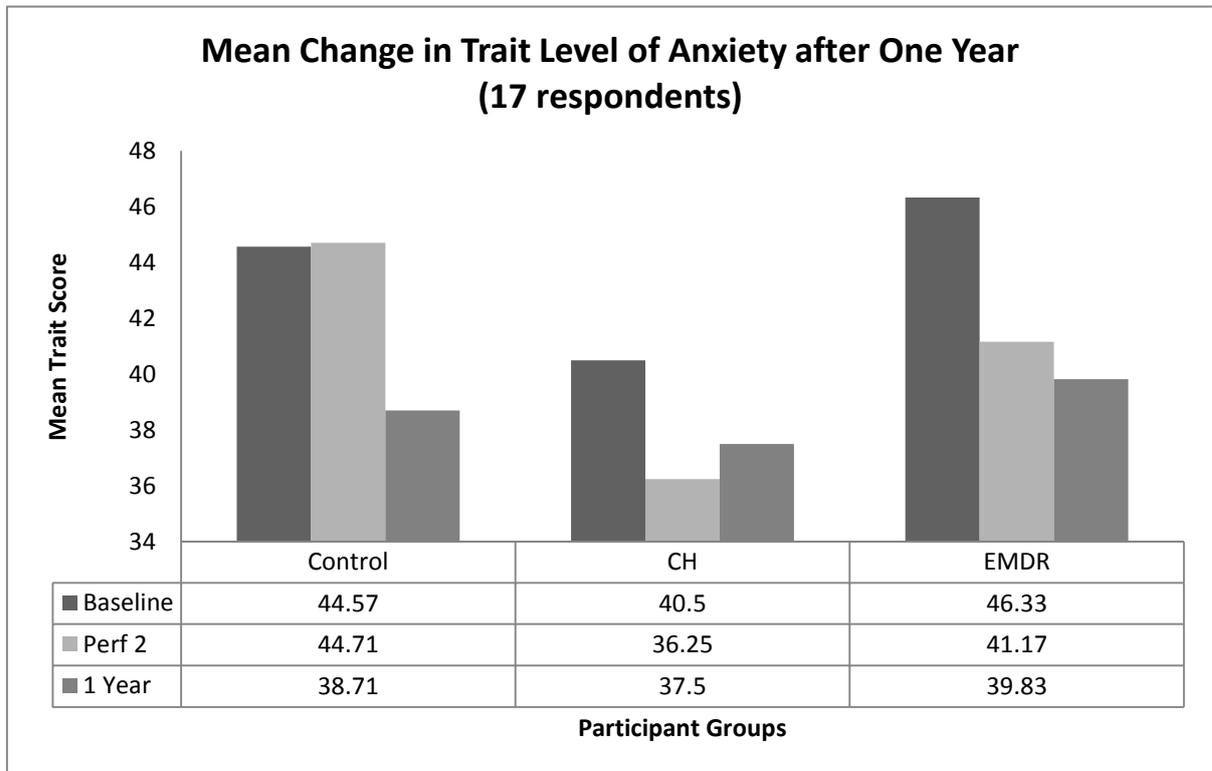


Figure 11.9: A repeated measures test showing the estimated marginal mean change in trait levels of anxiety (17 respondents, Tranche 1) at three points in time: baseline, performance 2 and one year post-intervention.

It is interesting to note that after one year the mean trait score of the CH group has increased by 1.25 from performance 2 levels whereas the EMDR group has decreased further by 1.34; it has been previously shown in this chapter (p.130) that EMDR was significantly more effective than CH in decreasing trait anxiety levels. However the control group shows the largest decrease of the groups, a reduction of 6 points in the mean trait score. It is difficult to explain this effect, but it might be related to the fact that of the seven respondents from the original control group five had received CH and only two EMDR.

11.10.3 Trait anxiety longitudinal results: Three further measurement points

Further research was conducted into trait anxiety levels over time when data was collected in June/July 2015 from the STAI Y-2 questionnaire. There were 23 respondents from the main study and one from the pilot study (Tranche 1: 2 years 6 months post-intervention; Tranche 2: 15/18 months post-intervention; pilot study: 3 years 10 months post-intervention). Of the 24

respondents 63% had trait levels below their baseline readings at this point in time, this included the participant from the pilot study (see raw data: Appendix 11.5). A repeated measures ANOVA was conducted at baseline and post-intervention (June 2015). It showed a main effect of time ($F(1,21) = 10.30, p = .004$) demonstrating the long-lasting benefits of the therapies. This effect has not been previously reported in the literature at this longitudinal point post-intervention and the importance of these findings will be further discussed in Chapter 15 of the study.

11.10.4 Summary of trait anxiety longitudinal scores (raw data - STAI Y-2)

Although statistical results have shown the significant effect of the interventions at the two longitudinal measurement points in time, it is important and illuminating to include the raw data scores and the individual treatment administered. A number of respondents demonstrated very large decrements in trait levels of anxiety post-intervention and also changes in category status at the two longitudinal measurement points. Some important observations can be noted from the individual data.

As indicated earlier, the one-year post-intervention trait scores of the 17 Tranche 1 respondents can be seen in Appendix 11.4:

- 15 respondents (88%) still showed decreases from baseline (the two remaining respondents returned to baseline levels).
- ten respondents (59%) experienced further decreases from the four-month measurement point.
- one respondent, with a score one point above baseline at four months, had a reduced score of -nine below baseline at one year (MS3).
- two respondents had maintained the changed category (MS14; MS21).

As well as conducting quantitative statistical analysis on the effect of the psychotherapies, it is informative to give an evaluative individual perspective taken from the qualitative data of the self-report questionnaires. Qualitative idiographic information on performance anxiety and the efficacy of the two psychotherapies on MPA is now given in Chapters 12 and 13.

*Chapter 12***Qualitative Investigations: Self-Report Questionnaire*****12.1 Introduction***

The results of quantitative nomothetic assessment of MPA have been reported in Chapter 11. The focus of this chapter is a qualitative evaluation of individual experiences prior to and during performance, concentrating on mental cognitions and the effect of these on the physiological and somatic symptoms of anxiety in relation to performance experience and outcome. Prior studies have noted the importance of an idiographic approach to a fuller understanding of performance anxiety (Barlow & Nock, 2009; Kenny, 2011). The information presented here gives greater insight into the phenomenology of MPA and illustrates different dimensions of the performance experience from the idiographic accounts; it gives a more detailed picture not possible in group analysis. Through documentation of performance anxiety a broader and more sensitive account can be given, allowing for qualitative support of the quantitative data in this study. By specific enquiries into cognitions weeks, days, hours before and during the performance itself, the self-report questionnaire (SRQ) allows for comparisons of the two performance experiences during this study, as well as with subsequent performances (Appendix 10.4). The commentaries given below illustrate the relationship between cognitions and performance outcome.

12.2 Self-report questionnaire

The SRQs completed at the end of each of the two performances in the research period allowed participants to reflect on mental perceptions regarding the performances. It enabled a more sensitive and broader idiographic account of cognitions, emotions and somatic/physiological symptoms which was not possible from the statistical tests alone. It was valuable in providing supplementary information on subjective anxiety in the weeks/days before the performances. Subjective commentaries from the questionnaires were illuminating and helped with the differential diagnosis of each participant determining the present category of anxiety. Below are the three proposed subtypes or categories of MPA (Stein & Stein, 2008) and referred to previously in Chapter 9, p.105:

- a) focal music performance anxiety
- b) social anxiety/social phobia
- c) panic disorder.

Participants in this study presented with diverse psychological issues and were spread across all three of the above categories. Mental cognitions of each forthcoming performance were enlightening; general and specific evaluative information most pertinent to MPA is given below.

12.3 Subjective comments: Cognitive anxiety at performance 1

In this study a significant decrease was found in perceived cognitive anxiety at the second performance in the therapy groups (but not in the Control group). It was found that anxiety began weeks before a performance and was strongest in the thirty minutes prior to performing. Cognitive anxiety manifested itself in many negative thoughts, and some participants began catastrophizing before their performance: fears of looking foolish, or letting themselves down in front of peers, and thoughts of making mistakes. In general feelings of nervousness grew stronger in the days leading up to the first performance. The overriding comments from the participants were the pre-conceived assumptions that: they would make mistakes, would look foolish, or would let themselves down in front of everyone, summed up succinctly by MS 12: “what would people think?” Although the majority of participants were known to each other and of a similar performance standard, a number worried that other participants would perform to a higher standard and that their peers would be judgemental. MS5 thought that “everyone else would have a perfect performance and mine would stick out like a sore thumb”. MS23 commented that “this was the worst type of situation!” This statement was somewhat surprising given that the performances were not assessed by the institutions. This participant was also extremely sensitive to extraneous movements from the audience within sight and hearing of the performers which affected her concentration and added to MPA. Several participants remarked on “not being prepared enough”. MS63 reported feeling slightly in denial of the forthcoming performance in the hope that this would relieve the negative cognitions which were increasing as the first performance approached; although this strategy was employed he still experienced distressing anxiety and catastrophizing at the first performance. Active suppression of aversive thoughts and feelings does not provide relief but appears to make them worse (Feldner, Zvolensky, Stickle, Bonn-Miller, & Leen-Feldner, 2006).

Several participants had thought of withdrawing from the research to avoid performing. MS21, one of the most experienced and competent pianists, had considered withdrawing on the day of the first performance. MS30 commented, “Last night I couldn’t sleep before midnight and this morning before the concert I felt very tired and nervous”. A different

perspective was given by MS44: “I was looking forward to the experience as I thought it would be really helpful in overcoming my performance nerves”. Two participants contacted me one/two days before the first performance informing me that they would not be able to perform because of illness. One had the highest trait anxiety level of the whole group. The information from the SRQ revealed that subjective cognitive anxiety regarding performance could begin weeks before the performance and grew stronger as the performance approached. The night before and on the day of the performance, anxiety could be heightened still further resulting in participants considering withdrawing at the last minute (MS5, MS21, MS65, MS66, and MS78): however all these participants remained in the research. Comments on subjective thoughts of withdrawal taken from the SRQ ranged from “I certainly considered it very strongly but once I’ve made a commitment I feel I should go through with it” to “I didn’t really want to do it but I didn’t want to let you down”. Cognitive anxiety was at its peak 15-40 minutes prior to performing. These findings are in accordance with Kemeny (2003) who found that cortisol levels peak 20-40 minutes prior to a perceived stressful event.

The highest cognitive anxiety score at performance 1 was experienced by MS65 (STAI Y-1: 75 out of a maximum possible of 80: Table 11.1, p.136). The subjective comments on the SRQ were enlightening. She felt unprepared for the performance and had self-defeating thoughts. Her thoughts and feelings prior to and during performance 1 (pre-therapy) exhibit extreme cognitive anxiety: “The hour before the performance I did consider dropping out due to my anxiety, I felt nauseous, anxious, upset, had no self-confidence or confidence that I could do it”. She had negative cognitions regarding her capabilities as a pianist and negativity regarding herself. It is important to note that this participant received the lowest independently-assessed performance mark of all the participants at the first performance. It might be that her state anxiety was so extremely high that this was detrimental to her performance. At performance 2 (post-intervention, CH) there was a marked decrease in her state anxiety levels (Table 11.1) and a noticeable improvement in her second performance.

In one case, as demonstrated by MS60, it was found that pre-conceived ideas of therapy play a large part in influencing therapy outcome. This participant had undergone hypnotherapy for smoking cessation two years previously (with another therapist); this had been completely successful. He believed in the efficacy of hypnotherapy; his subjective comment pre-therapy was “some anxiety about the performance itself but mostly excited at the opportunity to reduce my anxiety levels”. Following two therapy sessions of CH his comment on the SRQ fifteen minutes prior to the second performance was “felt positive about the reduction in my

anxiety levels”. Conscious and subconscious mental processes determine the outcome of responses to stressors (Cramer, 1998).

12.4 Subjective comments: Cognitive anxiety at performance 2

The most striking difference in cognitive thinking taken from the comments on the SRQs when comparing both performances was the positivity regarding the second performance, together with the feeling of increased control.

After quantification of the qualitative information from the SRQs a significant decrease in cognitive anxiety was revealed in the therapy groups at the second performance. Individual assessment showed that participants generally displayed less cognitive anxiety at the second performance with the exception of MS10 (Control, STAI Y-1: +13). It was shown that decreased cognitive anxiety co-varied positively with decreased somatic symptoms (Table 11.1, p.136). No participants thought of withdrawing. They were used to the venue, knew the standard of performance and the other participants. MS2 (Control) commented: “I wasn’t as nervous this time, I knew what to expect” and MS26 talked of the camaraderie at the second performance and how this seemed to make everyone feel less nervous. MS12 used the word “excited” three times when describing her thoughts and feelings, and was nervous but still looking forward to the performance: “I was much more in control than previously and wasn’t aware of any shaking, although my heart did seem faster but it didn’t bother me”. Many participants felt that they were more ‘in control’ at the second performance and two wrote that they were more ‘aware’ and felt that they played more slowly. Several commented about being more prepared the second time and this added to their confidence.

After two sessions of hypnotherapy MS65 had a decreased state anxiety score of 43 (STAI Y-1) 15 minutes prior to performance 2 and a changed category from high to medium (Table 11.1). Large decreases in her subjective anxiety were also reported at the same measurement point on the SRQ and this was supported by the quantification of the qualitative commentaries from the report. “I felt relatively calm in the week leading up to the second performance and as the concert approached.” 15-30 minutes before the performance subjective comments were: “I wasn’t as worried as I was for performance 1. My hands shook a little bit when I got a note wrong but it wasn’t severe”. There was a noticeable improvement in her playing in the second performance.

Another interesting and unexpected finding was that MS14 (Control), having received no therapy, experienced a decrease in state anxiety on the STAI Y-1 questionnaire of 29 points at

performance 2. Subjective anxiety from the self-report questionnaire decreased by 22 points and no somatic symptoms were experienced at the second performance (Table 11.1). The reason for the large decrease in cognitive anxiety became clear from the comments on the questionnaire and subsequent discussion at the start of therapy. This participant had experienced the largest increase from baseline in state anxiety of all the participants at performance 1, an increase of 27 points. However twenty minutes prior to the second performance (before completing the STAI Y-1 and Y-2) she requested that some of her friends be at the performance as “they made her feel more secure”. This duly happened, and it may be that this student benefitted enormously from their presence (audience support is discussed in Chapter 15, p.206). In the absence of therapy this participant experienced the second largest decrease in state anxiety at the second performance of all the performers.

MS2 (Control), one of the most experienced performers and highly competitive, had a decreased state anxiety level at the second performance of 16 points in the absence of therapy. At the first performance the general quality of playing was unknown to the participants and this could heighten anxiety; the levels of the stress hormone cortisol will increase prior to a threatening situation (Kemeny, 2003). At the second performance most of the participants had improved; however this participant now knew what to expect and realized that she was one of the more experienced performers. Her SRQ revealed that she experienced very little cognitive anxiety in comparison to the ‘build-up’ to the first performance, and in the discussion at the commencement of her therapy she said she “relaxed and enjoyed the second performance as I knew what everyone else was like”.

Comments on the SRQ at the second performance were valuable in eliciting and highlighting information which would not have been possible from the STAI questionnaire alone. MS12 (CH) experienced an increase of 9 points in trait level readings from baseline at this measurement point although her state levels decreased by 13 points. A possible explanation for this became clear from her comments on the SRQ. Interestingly, although her trait anxiety increased post-intervention, this did not impact negatively on her state anxiety (a strong relationship was not found between state and trait levels of anxiety at this measurement point). In therapy it was revealed that this participant was more apprehensive regarding the therapy than the performance situation itself. She did not like being ‘out of control’ in any situation, and felt that this would happen in hypnotherapy. In taking the subjective history, it became clear why she was so afraid of being out of control. She had recently experienced high trauma whilst in a third world country and although the situation had resolved itself, she had felt very vulnerable and totally out of control. Positive suggestions regarding the

forthcoming performance given in hypnotherapy were effective, as her state levels of anxiety decreased in the second performance. However during the subjective history, taken at the commencement of therapy, trait levels of anxiety would have been heightened when recalling high trauma (however briefly) and the core issues commensurate with this were not dealt with. CH had been allocated randomly to this participant but EMDR would have been a preferable therapy in this instance as it was designed to resolve high trauma (suitability of treatment is expanded on in Chapter 14, pp.189-190).

As well as eliciting information from the questionnaires the author, also being the therapist, was able to have detailed discussions with each participant at the start of each therapy. MS18 had written that, although feeling less anxious the second time he felt he hadn't played as well because he was "cold". The author assumed that this was a somatic symptom; however this participant was actually referring to the fact that before the first performance he had just played at a gig and so had felt properly "warmed up" and had not been able to do this before the second performance.

The comments from the SRQ of MS5, the participant who experienced a strong cognitive and somatic abreaction during the first performance, are given below (Appendix 14.1, Case Study 1):

In the days leading up to the second performance I didn't think that much about it, I was more intrigued to see if I was going to be calmer, I definitely didn't feel nervous at this stage. Fifteen /thirty minutes before the performance I wasn't tense and I still didn't have many thoughts about it; it was almost as if someone else was going to perform. My hands got a little sweaty but I wasn't shaking before the performance. Part of the way through I shook a little bit but I had more control at stopping itit didn't take over like last timemy head didn't go blank like before.

This participant had received two therapy sessions of EMDR between the performances.

In summary, participants in the main displayed less cognitive anxiety at the second performance than at the first. However this may not have been solely as a result of the effects of treatment. It would be expected that at a second performance (revisiting the same situation for the second time) anxiety would be lower, due to the familiarity of the situation.

12.5 Cognitive and somatic integration: Performances 1 and 2

The qualitative information from the SRQs indicates that there is a strong relationship between cognitions and physical symptoms of anxiety. In this study somatic anxiety was low until immediately before the threatening event but then rose sharply during the performance. Negative mental cognitions affecting bodily functions were apparent in performance 1 where

high cognitive anxiety in some instances resulted in multiple somatic symptoms of anxiety. MS69 experienced the highest number of somatic symptoms (six) and had the third highest cognitive score (64) at performance 1 (STAI Y-1). MS65 (who had the highest cognitive score at the first performance) experienced four somatic symptoms of anxiety: shaking badly, sweating, shortness of breath and feelings of nausea. Her comment on the SRQ was that due to her shaking and breath intake she missed notes. Previous studies have reported a strong relationship between cognitive and somatic anxiety (Hardy & Parfitt, 1991; Steptoe, 2001).

At the second performance where cognitive anxiety was significantly reduced in the therapy groups, fewer symptoms of somatic anxiety were reported on the SRQs (Chapter 11, Table 11.1).

As well as giving illuminating and sensitive information on the complex interrelationship of the cognitive and somatic aspects of MPA, the SRQs also gave greater insight into the behavioural aspect of performance.

12.6 Behavioural aspects of performances 1 and 2

At the first performance few participants ‘tried the piano’ and only one adjusted the stool out of the sample of 46 pianists; speaking as a professional piano teacher, one height does not suit all. There was much more of a sense of hurriedness and “let’s get this over with” than at the second performance.

Participants reported in their SRQs the following subjective feelings 15 minutes before and during performance 1:

- MS25: “terrified”
- MS14: “very nervous, like I might mess up the whole piece”
- MS21: “I realised I was imagining a catastrophic performance but at the same time I knew it was absurd to be anxious.” This participant was one of the most experienced and technically proficient performers yet his thoughts were still of possible disaster. An analogy of this is Frederik Chopin’s fearful performance experiences reported by Zdzislaw Jachimecki (1937): “I am not fitted to give concerts. The audience intimidates me, I feel choked by its breath, paralyzed by its curious glances, struck dumb by all those strange faces” (as cited in Kenny, 2011, p.1)

MS65 received the lowest independently assessed performance mark of all the participants at performance 1. Her performance contained many errors, both notational and rhythmic. There

is strong evidence here to suggest that the extremely high state level of anxiety exerted a detrimental effect on her performance. However the interrelationship is complex and the different factors affecting MPA are discussed in Chapter 15.

The acute anxiety displayed by MS5 during performance 1 (Chapter 14, Case Study 1) gave real insight into the severity of MPA; however this incident may have actually helped some participants waiting to play. MS20 said: “I relaxed at that point; I felt that my own reactions when playing would not be as bad”.

MS 22, an experienced performer who also teaches, depressed the sustaining pedal throughout her performance which resulted in a very blurred second movement of a Mozart Sonata. On the SRQ she reported being distracted by the audience, which appeared to be her main focus, and was unable to concentrate on her performance. After two sessions of CH this participant reported feeling “calm, ok and positive” and gave an overall accurate and sensitive second performance. The effect of the audience is discussed in Chapter 15.

Subjective comments regarding the second performance were generally far more positive:

- MS21: “I felt a little pressure after witnessing the improvement in some of the pianists but at the moment of walking to the stage I was far more relaxed than last time”.
- MS20: “I could sit with my nerves, whereas last time I had to distract myself by chatting to the other participants”.
- MS65: “I felt in control of myself emotionally and physically (surprisingly!)”.
- MS5: “I felt no tension at the second performance and wasn’t shaking and when I felt a bit shaky I could control it”. The quality of her playing and her confident approach was evident; the Assessment of Performance score of 26 marks at performance 1 increased to 44 at performance 2. This participant had experienced an abreaction at performance 1 but now had the largest improvement score of all the participants (Chapter 14, Case Study 1).

12.7 Summary

The phenomenology of MPA was considered from an idiographic approach through the commentaries taken from the SRQs. Observations of personal experiences of performance anxiety not only gave greater insight into this phenomenon but also highlighted the experience from a multidimensional understanding of human personality not possible through a nomothetic perspective. The former approach enables a much broader picture of MPA to be seen and qualitative observations show the strong negative perceptions that individuals hold

in regard to MPA, to the point of withdrawing from the performance situation. It highlights the anguish experienced weeks before the performance as well as during the performance itself.

It can be seen from the commentaries that the therapies were effective in changing negative perceptions of performance resulting in decreased cognitive anxiety, and were also effective in reducing the somatic and physiological symptoms of anxiety displayed in performance. A comparison of the comments regarding the performance itself clearly shows the change in cognitive perceptions which impacted positively on performance outcome. The evaluative comments post-therapy further support the results from the quantitative data (STAI questionnaire and Assessment of Performance) which showed the effectiveness of the therapies in reducing performance anxiety and in enhancing performance.

It is both informative and valuable to compare the qualitative information given in the SRQs during the main research period with the longitudinal experiences of performance as recorded on the log of experiences post-research, which is now reported in Chapter 13.

*Chapter 13***Qualitative Investigations: Log of Experiences Post-Research*****13.1 Introduction***

During the main research period the SRQs gave valuable information on the phenomenology of MPA adopting an idiographic approach. It was important to look at performance anxiety at different points in time subsequent to the main research to assess the effect of the therapies longitudinally. This was achieved through completion by participants of the Log of Experiences Post-Research (LEPR): see Appendix 10.5.1. Qualitative information pertinent to MPA taken from the LEPR is given below and allows for comparisons to be made with the subjective comments on the SRQs completed at the time of each performance pre- and post-therapy during the main research period.

It was important to review individual trait levels of anxiety as well as performance experience to ascertain from a qualitative idiographic perspective whether a relationship exists between trait levels of anxiety and music performance anxiety on a longitudinal basis. The main study has shown that a positive correlation exists between trait and state anxiety levels (Chapter 11, p.127). Longitudinally it was not possible logistically for respondents to complete the STAI Y-1 questionnaire (state anxiety) to enable a comparison of scores to be made with this questionnaire completed at the first and second performances of the research. This would have required completion immediately before each individual performance experience, which for some participants were many; each respondent therefore gave a qualitative assessment of their subsequent performances on the LEPR.

By monitoring both trait anxiety and individual experiences of performance during the research period (pre-therapy) and longitudinally (post-therapy) an overall picture is given, enabling qualitative observations and comparisons to be made on performance outcome and the effect that trait anxiety exerts on this.

13.2 Longitudinal assessment of performance: Four months and one year post-intervention

In order to assess the efficacy of the therapies at this period, respondents were asked to complete four categories in the log.

Participants were asked to comment on as many performance experiences as possible covering cognitions, thoughts and emotions before, during and post-performance, and any somatic or physiological symptoms experienced during the performance. The majority of evaluations were of music performances; however as some respondents had not had any music performances at the four-month period, they chose to evaluate other experiences such as oral examinations or presentations where they felt they were ‘on show’.

Post-therapy participants had been informed that the author’s CD (either CH: ‘Self-Confidence for Musicians’ or EMDR: ‘Relaxation’) should be listened to as often as possible for continued enhancement of therapy. It transpired that some participants did this but others did not; this appeared to make little difference to longitudinal scores of trait levels of anxiety. However the regularity of listening to the CD could have impacted somewhat on subsequent experiences in performance and benefitted those participants more.

Documentation is given in the form of nine short case studies of those participants who experienced the largest decrements in trait anxiety from baseline, or those maintaining a lowered trait category, at the longitudinal points of measurement (STAI Y-2 questionnaire). A brief summary of the subjective logs is now given, illustrating the relationship between cognitions and performance outcome. They include the data from the trait portion of the questionnaire completed at different points in time (Appendices 11.3 and 11.4); and the logs of performance experiences over this same period. Because of the large amount of information given on some logs (the detail varies considerably), these can be found in full in Appendices 10.5.2 - 10.5.10.

13.3 Qualitative investigations

The following questions were reviewed by the author:

- a) What impact, if any, did decreased trait anxiety exert on cognitions pre-performance, during and post-performance?
- b) What effect did this have on performance outcome?
- c) How did this compare with performance experience prior to therapy?

MS65 (CH) four-month monitoring (Appendix 10.5.2)

Baseline score (STAI Y-2)	55	Medium category
Performance 2 post-intervention	39	Low (-16 below baseline)
Four month score	31	Low (-24 below baseline, maintaining category)

This participant experienced the largest reduction in trait anxiety levels of all the participants in the study and her change of category from medium to low was still maintained at the four month monitoring with a further reduction.

Her comments at the four-month monitoring regarding three subsequent performances were extremely positive; she used the word “excited” three times. Although slightly shaky at the first performance (25/04/2014) she added that this was not intrusive, and she experienced no somatic symptoms at the next two concerts. Her post-performance thoughts and feelings were of being “happy” and “pleased with myself”.

This can be contrasted with her thoughts and feelings prior to and during performance 1 (pre-therapy) when she exhibited extreme cognitive anxiety and physiological symptoms of anxiety, which may have been exacerbated by lack of preparation, and had considered withdrawing at the last minute (see Chapter 12, p.145). Her state cognitive score fifteen minutes prior to the first performance was 75 (STAI Y-1: the highest score of all participants in the study, and designated high category). MPA was manifested through cognitive processes and distressing physiological symptoms. She felt nauseous prior to the performance, and during her performance experienced four different somatic symptoms of anxiety: shaking badly, sweating, shortness of breath and feelings of nausea. A strong relationship has been found between cognitive and physiological/somatic anxiety (Hardy & Parfitt, 1991; Shoup, 1995; Steptoe, 2001). The cognitive and physiological manifestations of anxiety impacted negatively on her performance through many notational and rhythmical errors.

It should be noted that this participant experienced large decrements in both state and trait anxiety post-therapy which were significantly lowered in response to the treatment provided. Her state anxiety score decreased by 32 points at the second performance to 43 (STAI Y-1, Chapter 11, Table 11.1). The different factors operating in this case are complex; however it demonstrates the interrelationship between general anxiety levels (trait anxiety) and performance anxiety (state anxiety) and how these relate to performance. Wilson (2002) suggested three major categories as sources of stress in performance: trait anxiety, state anxiety (situational stress) and task mastery. This participant had positive cognitions prior to and during three subsequent performances post-therapy. Pre- and post-therapy there was a marked difference in her perceptions regarding performance; the former negativity had been replaced with positive thoughts and feelings.

It could be posited that the marked difference in cognitive and somatic anxiety in this respondent is as a result of the decreased trait anxiety level which remained in the low category of general anxiety, giving her a more positive attitude towards performance. Her subjective qualitative assessments of each performance support this.

MS64 (Control/EMDR) four-month monitoring (Appendix 10.5.3)

Baseline score (STAI Y-2)	54	Medium category
Performance 2	51	Medium
Post-intervention	32	Low
Four month score	37	Low

This participant, originally in the Control group, did not receive therapy until the end of the research period, in the two weeks following the second performance. He had taken part in four performances since receiving therapy. Post-therapy he experienced the second largest decrement in trait score from baseline and a changed anxiety category from medium to low (Appendix 11.3). This category was maintained at the four-month monitoring of trait anxiety. However the decreased general level of anxiety at his first performance post-therapy (Appendix 10.5.3) did not appear to have exerted much of a positive impact on this performance.

He reported feeling very nervous and not looking forward to the performance: “during the performance my mind went blank and slightly hindered my ability to perform”. He relaxed as the performance continued but wanted it to be over, experiencing tension in the body and somatic symptoms. This participant had a high expectation of himself and was overly concerned with small flaws and mistakes which became of prime importance. Perfectionism as a personality trait in musicians is well documented in the literature (Kemp, 1996; Marchant-Haycox & Wilson, 1992). Perfectionists tend to be very self-critical and as a consequence suffer low self-esteem, have unrealistic self-expectations, and a tendency to focus on negative happenings in performance as opposed to positive (Bourne, 1995). Post-performance this participant experienced negative perceptions and felt upset; however on hearing the opinions of other audience members which were encouraging, his self-perception of the performance improved. Performance anxiety represents a fear of negative evaluation by others (Cox & Kenardy, 1993; Steptoe & Fidler, 1987). The positive comments that he received from his peers post-performance increased his feelings of self-worth. Audience evaluation is of prime importance to those individuals who are inclined to be anxious and perform worse under scrutiny (Graydon & Murphy, 1995).

At the second performance he was nervous but confident, and the nervousness decreased during the performance: “my mind went blank but it did not affect my ability to perform the piece from memory”. Although he still experienced somatic symptoms they were not disruptive to the performance, and he had a positive reflection of the performance. The third performance was a positive experience; he was not particularly nervous and reported that it was “almost enjoyable to play in front of a group of people I know”. At the fourth performance he reported no nervousness beforehand and felt “composed, prepared and positive” during the performance. Post-performance he was positive and happy, and was confident regarding his ability to perform under pressure.

A comparison with his SRQ prior to therapeutic intervention reveals that he felt agitated in the days leading to the first performance and this increased on the day. During the performance he had negative perceptions, and despite being less worried in the days leading to the second performance, he became very worried within hours of this performance. 15 to 30 minutes pre-performance he stated “was my most worried since the first performance” and during the performance “my right leg began to shake during the middle of the performance using the pedal, and my arms also shook a little bit. The symptoms definitely affected my performance in a bad way”.

Both performances prior to therapy caused cognitive anxiety as well as somatic symptoms and this exerted a negative impact on his performance. At the first performance post-therapy he still experienced strong negative effects and wanted the performance to be over; however with each subsequent performance the negativity was being replaced with more positive thoughts. A desensitisation process appears to be operating here. At the fourth performance, the last one reported (27/05/2014) and the most important of the four, the recital performance module, he used the word “positive” three times. He felt prepared and happy and stated “Overall, I felt like my ability to perform under pressure was at its best during that performance than it has ever been”.

It could be argued that the greater positivity and confidence that this participant experienced was due to the exposure that he received from performing on a more regular basis, and not to the therapies that he had received; but equally it could be hypothesised that this was due to a combination of both. Before taking part in the current research there had been few opportunities for this participant to perform in front of peers. A process of desensitisation could be operating in this case (see Chapter 3, p. 23). However, the trait level of anxiety of this participant four months post-intervention was still 17 points below baseline level, and as

such remained in the low category of general anxiety; it could be argued that the greater enjoyment and positivity that he experienced was due to the reduction in trait anxiety. It could further be argued that without the lowered trait anxiety, desensitisation of each performance might not have occurred. It is hoped that this respondent will be monitored at the one-year point so that further information can be obtained on both experiences in performance and trait levels of anxiety.

MS21 (EMDR) four-month and one-year monitoring (Appendix 10.5.4)

Baseline score (STAI Y-2)	52	Medium category
Performance 2 post-intervention	47	Medium
Four month score	37	Low
One year score	39	Low

This participant, a very experienced pianist, not only maintained the decrease from baseline post-therapy but this score decreased further at four months taking him into the low category of trait anxiety. This was still maintained at one year, however, with an incremental rise in anxiety of two points. Investigations into therapy outcome over time suggest that some beneficial outcomes post-treatment are on-going and are systematically increased over time (Steenbarger, 1994).

Very detailed accounts of diverse performances have been reported at both monitoring periods (Appendix 10.5.4) and a brief synopsis is given below.

The Mozart Concerto (12/05/2013) was the first public concert since receiving therapy. This participant reported that for a whole month prior to the performance he was relaxed; however several nights before the concert he became a little worried and had difficulty sleeping. For some individuals MPA is not an isolated incident occurring solely on the day of the performance but can begin days or even weeks beforehand, and this supports prior investigations (Kirchner, 2003). During the first movement of the concerto he had negative cognitions and began catastrophizing; he had self-doubts, and was overly concerned about the audience and small mistakes. This was an experienced performer yet he overestimated the probability of an impaired performance and underestimated his coping strategies. In their investigations into social anxiety, Beck and Emery (1985) state that the perception of a threat is a trigger for an anxiety response. However during the second and third movements he was able to concentrate on the music and had positive thoughts; the catastrophizing had dissipated and not taken over and he was able to control the somatic symptoms of anxiety “producing a

nicer sound, with more tone”. His comments regarding the first movement are interesting; he was uncomfortable with his playing and felt that he needed to apologise. However post-performance he was relieved and happy with the general outcome: “... it turned out that everyone was happy with my performance....Later I saw the video of my performance and it was very good, and it doesn’t come across how uncomfortable I was during the first minutes of the performance”. Sometimes performers feel that they have not achieved the desired standard of playing when the audience are often unaware of any decrement in performance (Kenny, 2011).

During the Chamber Music Recital (04/07/2013) he reported not thinking and worrying about himself, he focused on the music and was pleased with the outcome. In his piano recital examination (04/06/2013) he aimed to keep calm during the hour prior to the performance and was aware that he should think positively and not allow negative cognitions to take hold. He found the recital challenging but managed the situation well, “just sitting for some minutes and staying away from people trying to be aware of my physical sensations”. This participant had benefitted from the therapeutic effects of the treatment received during the main research period which was on-going. The aim of emotional learning should be permanent, in that maladaptive behaviours have been replaced by adaptive behaviours (Malan, 1979).

Regarding the performances in 2014, pre-performance cognitions were of feeling confident and excited; sometimes during performances he felt uncomfortable and could become distracted by the audience, but post-performance he was able to analyse the reasons for this and devised positive solutions “I just thought I need to perform a lot more often to get used to it.....also that it would be nice and pleasant to do it more frequently” (recital, 22/10/2014). His general comments on the LEPR regarding all of the performing experiences since receiving therapy were: feeling better physiologically, being more aware in general, and being able to handle situations better since taking part in the research. Being less anxious encourages more participation which then opens up the possibilities of complementary benefits of desensitisation. Lehrer (1987) discusses the relationship between engaging in performance frequently and anxiety levels. He suggests that this is a beneficial strategy for dealing with the problem. An early investigation showed that long periods of non-performance can lead to an ‘incubation effect’ in which anxiety is allowed to build up (McAllister & McAllister, 1962). However this participant, as an experienced performer, prior to the main research period participated regularly in public performances.

A comparison should be made with his comments on the SRQ before receiving therapy preceding the first performance:

Even though I tried not to think too much about it I got more worried when the date approached. At a certain point I thought of cancelling (the night before).....as my turn approached I became more anxious I realized I was imagining a catastrophic performance. My heart beat faster, loss of muscle control (hands), tension on the feet.....this adversely affected my performance.....poor quality of sound, a feeling of lack of concentration, failed notes.

Since therapy he has demonstrated a more positive attitude generally towards his playing. The performances in the current study were with an audience of peers only, and yet this very experienced pianist had negatively valenced cognitions. In comparison, pre- and during the high-powered recitals he has given since therapy, he has been generally more positive and relaxed. Although he still experienced anxiety and physiological symptoms on some occasions, he was more focused and able to concentrate on the performance without the previous catastrophizing. It can be posited that the decrease in the trait level of anxiety, which has been maintained a year since the intervention, has had a positive effect on cognitive thinking, physiological symptoms in performance and performance outcome, making the experience more pleasant and rewarding for him.

MS45 (EMDR) four-month monitoring (Appendix 10.5.5)

Baseline trait score (STAI Y-2)	51	Medium category
Performance 2	39	Low (-12 below baseline)
Four month score	39	Low (decreased level maintained)

This participant post-intervention is now in the low category of trait anxiety which has been maintained at the four-month monitoring. She reported on one performance post-therapy, a solo performance examination.

This experience was difficult to assess. On the morning of the performance she had positive cognitions, felt calm, and stayed calm for the majority of the performance without any negativity; she experienced no physiological symptoms. The word “calm” was used three times when describing her feelings pre-performance and during the performance, even though many mistakes were made. The many errors in her performance did not impact negatively on her thoughts as she played through to the end: “I managed to keep my cool and kept playing as best I could”. However post-performance she was anxious regarding the outcome; this was her performance examination and, given that she had made many errors, this would be a natural concern.

On the SRQ completed post-performance 1 (pre-therapy) she also reported being fairly calm in the days/weeks leading up to the performance; however during the performance she felt more anxious: “my nerves increased when I actually sat at the piano to play, I tend to tense my shoulders while performing, and my wrists sometimes become tighter, my hands were slightly trembling”. At the second performance (post-therapy) she reported being generally very calm; however although somatic symptoms were reduced during the performance she still experienced tension in the back and shoulders.

At the longitudinal reporting the reduction in trait anxiety appeared to be exerting a positive effect on both cognitions and somatic symptoms of anxiety; she was not anxious at all either pre- or during performance. However this did not have a beneficial effect on her playing. Perhaps in this instance she was too relaxed (she reported no nerves); some nervous tension is good in performance, to give the optimal level of performance. However the interrelationship of arousal and performance is complex with the individual optimum level varying, described as the ‘individual zone of optimal functioning’ (IZOF) (Hanin, 1986). It is accepted that the quality of performance is related to arousal, and that low arousal levels are insufficiently motivating and can have a detrimental effect on performance outcome (Wilson, 2002; Wilson & Roland, 2002). Another possible explanation for the many errors in performance may be due to insufficient practice; this will certainly impact negatively on the performance outcome, but it is difficult to assess.

MS66 (EMDR) four-month monitoring (Appendix 10.5.6)

Baseline trait score (STAI Y-2)	68	High category
Performance 2	54	Medium (category change: -14 below baseline)
Four month score	57	Medium (category maintained: -11 below baseline)

This respondent was the only individual in the research with a high trait category baseline reading. Post-intervention this decreased to medium category which was still maintained at the four month monitoring period. Only one performance was reported on the LEPR sheet, an informal performance during a lecture.

This appears to have been a negative experience. Negative thought processes (catastrophizing) began before he started playing: “Hopefully I won’t mess up”, and during the performance: “I don’t want to lose my place in the music” (presumably he was reading from the score, he doesn’t report that he was playing from memory). Destructive thought processes appear to have affected his concentration and distracted him from the performance task. Kirchner (2003) in a study with solo pianists found that negative cognitions left pianists

unable to control their thoughts whilst performing, producing an uncertainty of where they were in the score. This participant also experienced two somatic conditions (both leg and hands shaking), the leg to such an extent that he was unable to control the pedal. Post-performance he expressed disappointment at not playing well and blamed this on lack of pedal control. It has been found that the most troublesome symptom in performance is poor concentration, and a further symptom which causes impairment is trembling, which also affects concentration (Wilson & Roland, 2002). It is not surprising that post-performance this participant had very strong negative cognitions: “Thank god it’s over”.

It is important to compare this experience with the subjective comments on the SRQs at the two performances in the main study. In the weeks prior to the first performance he had negative cognitions and was already catastrophizing: “I hope I can remember to play the piece, stopping in the middle would be a disaster”. He felt nervous and was regretting taking part and considered withdrawing at this time. Thirty minutes pre-performance he experienced four different somatic symptoms of anxiety: “jittery, weak (physically), nervous, flushed” and during the performance he had an elevated heart rate, felt shaky and sweaty. His experience at the second performance (post-therapy) was much more positive. The two treatments provided appeared to have exerted a positive effect. He hoped that the therapy would have an effect and felt less nervous in the days prior to the second performance. Thirty minutes before the performance he was “surprisingly calm” and during the performance he was “a bit jittery and my hands shook a bit but less so than the first performance”.

The evaluative comments that this respondent made regarding his performances, both during the research period and longitudinally, are illuminating. A comparison of subjective cognitions and physiological symptoms regarding the two performances during the research revealed that post-intervention the decreased trait anxiety (and lowered category of anxiety) had a positive effect on both his cognitions and physiological/somatic symptoms at the second performance. He no longer catastrophized, he felt calm and experienced only slight somatic symptoms of anxiety. However at the four-month monitoring period, although his trait anxiety was 11 points below baseline (maintaining the medium category), this did not impact positively on his subsequent performance. It is difficult to explain this result, but it might be related to his non-listening to the ‘Relaxation’ CD post-therapy. This CD helps support and maintains the therapeutic outcome; however there were other respondents in this research who similarly did not listen to their CD but still had positive experiences of performance.

As stated above, MS66 was the only respondent in the high category of trait anxiety pre-intervention in the main study. At the four-month monitoring, although his score of 57 (STAI Y-2) was still 11 points below his baseline levels, this was only 3 points below the high category of anxiety, and this could be a possible explanation for the continuation of negative perceptions of performance. It may be that two therapy sessions were not sufficient to deal with the complicated psychological issues that this participant presented with and more therapy would be required.

MS2 (Control/CH) four-month and one-year monitoring (Appendix 10.5.7)

Baseline trait score (STAI Y-2)	53	Medium category
Performance 2	56	Medium
Post-intervention	53	Medium
Four month score	45	Medium (-8 below baseline)
One year score	37	Low (-16 below baseline)

This participant, another experienced performer, was in the Control group, but subsequently received two treatments of hypnotherapy at the end of data collection. Her longitudinal experiences of diverse music performances (chamber work, piano accompanist/concerto competition, and a prestigious solo recital) and one music presentation are enlightening (Appendix 10.5.7); however a brief summary is given here.

Although this participant had experiences of feeling nervous pre-performance in three instances, her main comments were of being nervous but under control. She reported no physiological symptoms at three performances; however at her solo recital (12/06/13) she experienced two somatic symptoms of anxiety but reported that this was possibly due to tiredness rather than nerves. During a one-hour recital (02/12/13) she experienced blurred vision, fingers shaking slightly and she had difficulty in concentrating during the first 20 minutes. Regarding this performance she reported “Was not too happy with the way I played”; however the feedback that she received from friends/audience was “... that it was quite a good performance”, and it was reviewed positively in the press. This participant had high standards both self-imposed and those imposed by significant others. She was still not totally confident in her abilities as a performer: “who on earth would *pay* to come and watch me play”. A reduced confidence in one’s ability to perform is believed to produce self-defeating thoughts and distress, diminished behaviour mastery and heightened arousal (Bandura, 1982). Overall however her post-performance comments were encouraging, as she

used positive descriptive words: ‘elated’, ‘exhilaration’, ‘having fun’. She was exploring new avenues in her music career “looking into playing more chamber works”.

It is difficult to compare her comments on the SRQ regarding the performances in the research; as one of the most experienced performers of all the participants the concerts were fairly low-key for her. 15 minutes prior to the first performance she “started to get a little tense”, and experienced hands shaking whilst playing and catastrophizing: “I was worried that I would have a memory slip or make a mistake”. There were interesting comments on the SRQ after each of the performances: performance 1 “perhaps the nerves helped the performance a bit, with the adrenalin rush, but I’m always a little scared that it would work against me”. At performance 2 (without therapy, being in the Control group) she experienced no nervousness or anxiety before or during the performance; however she felt that her playing was not as good: “I feel that I didn’t play as well or with as much expression as I would have if I felt nervous. I think that being a little nervous actually helps me play better”. A small amount of anxiety can help the quality of performance give the optimum level (Gellrich, 1991). This participant was aware that a small amount of anxiety was beneficial for her performance; this knowledge is helpful as she can now be aware of the optimum level for her and embrace this.

There was no sign post-therapy in her varied performances of the catastrophizing that was experienced in the first performance of the research study. Although she was nervous at the beginning of her hour-long solo recital her mental attitude was more positive: “nervous for the first 20 minutes or so, then it got much better”. Lowered trait anxiety did seem to be exerting a more positive effect on her mental attitude; she had rewarding outcomes (she raised \$800 for a charity fund) and when she was not too happy with her performance she analysed why this might have occurred.

MS25 (EMDR) four-month and one-year monitoring (Appendix 10.5.8)

Baseline score (STAI Y-2)	52	Medium category
Performance 2 post-intervention	45	Medium (-7 below baseline)
Four month score	45	Medium (-7 below baseline)
One year score	40	Medium (-12 below baseline).

This respondent reported on three singing performances (voice is her main instrument and pianoforte her second instrument). At the four-month monitoring two performances were reported; the first a performance class and the second her final recital at University.

Regarding both, she felt nervous and “very nervous” prior to her final recital; however for both performances she felt “in control” whilst singing. She experienced physiological symptoms of increased heart-rate, tightness of chest and some breathlessness, but after both performances she felt “mostly happy with how I performed ... pleased with my final performance.” At the one-year monitoring period with an even greater decrease in trait anxiety of 12 below baseline, prior to a solo performance in a choral concert she described feeling very positive and excited, and although nervous during the concert was pleased with the outcome and experienced a positive post-performance feeling of “happiness”.

A comparison with the SRQ prior to therapy indicated that weeks before performance 1 she had feelings of nervousness and felt worried but “tried not to think about it”. The feelings grew stronger as the performance approached to the extent that she wanted to withdraw from the research. 15 to 30 minutes prior to the performance she felt “terrified” and during her performance she experienced the following somatic/physiological and cognitive symptoms: shaking hands, racing heart and not thinking clearly. Her subjective comments were that the combination of these symptoms had an adverse effect on her performance. This participant has described the three most prevalent symptoms of MPA: poor concentration, rapid heart rate and trembling/shaking. In their investigative research into the incidence of physiological symptoms amongst music students, Wesner et al. (1990) found that the above symptoms were reported as being the most troublesome and had the highest incidence. At performance 2 post-therapy she felt slightly more confident than at the previous performance and had no feelings of nervousness until a few minutes before playing. 15 minutes prior to her performance as she waited her turn to play she reported being “Okay! Quite calm and positive”. During the performance she had “... slight nerves and shaky hands but I don’t think they affected my performance ... I tried to control them and focused on breathing as I performed”.

This participant’s experiences since receiving therapy were far more positive than prior to therapy. Although still experiencing some physiological symptoms she felt less anxious generally about her performances. The negativity of feeling terrified, worried and wanting to withdraw had been replaced with a more positive attitude towards her performances. However it could be argued that as a singer having to play the piano in front of very competent pianists (albeit having Grade 8) she would not have had as many performing experiences as some participants in the research and this could have been the cause of the very strong negative word “terrified”. It could further be argued that had she performed in a singing capacity she might not have been as nervous. However, contrast this with the

positivity at the second performance where the situation was the same (again she was playing the piano). It could be posited that the change in her perceptions was as a consequence of her reduced trait anxiety. This had been maintained a year since therapy (and has reduced further from the four-month monitoring point) and was having a positive effect on subsequent performances. It could be hypothesised that although therapy was given for anxiety in piano performances, it is transferable to other instruments/or performance situations and this is why this participant felt so much more at ease in her singing performances. Performance anxiety is borne of a situation where an individual is ‘in the spotlight’, feels exposed and vulnerable, and fears failure, or not living up to their own, or important others’, expectations; it is a form of social anxiety (Crozier & Alden, 2005; Wilson, 1997). However it could be further argued that some instruments and performance situations are likely to cause more anxiety than others. It would appear from the very nature of the piano and the great technical and cognitive demands required for performance at Grade 8 level that these features could instigate and exacerbate anxiety. However, speaking as a professional pianist and singing teacher, singers are unique in comparison to other instrumentalists as they are more exposed to the audience. There is no tangible instrument to hide behind or blame when mistakes are made, the performer being reliant on the vocal sound that emanates from the body which can add to the feelings of anxiety (Brooker, 2009).

**MS23 (one therapy session only, CH) four-month and one-year monitoring
(Appendix 10.5.9)**

Baseline score (STAI Y-2)	34	Low category
Performance 2 post-intervention	25	Low (-9 below baseline)
Four month score	27	Low (-7 below baseline)
One year score	25	Low (-9 below baseline)

This participant, having had only one therapy (she was unable to keep the second appointment), had a decreased trait anxiety score which was maintained after one year.

The majority of her performance experiences had been centred round examination accompaniment; however she also reported on her ATCL (Associate Trinity College London) pianoforte examination. Regarding this examination experience she felt calm beforehand “but I made a silly slip in the Mozart which I thought huge”; at this point her concentration was broken and this affected the rest of the performance. Despite meticulous preparation she experienced distracting thoughts and continued to worry about a past mistake. Kirchner (2003) found that worrying thoughts directly relating to the music being performed produced

uncertainty and lack of concentration. In a subsequent conversation with this participant she intimated that this had been a learning curve for her and she realised that you can “get away with more in performance than you realise”; it transpired on receipt of the examination mark sheet that the examiner had barely noticed the mistake.

In her role as accompanist she felt slightly nervous beforehand (on two occasions), but using her mantra ‘focus, calm, confident’, words which were anchored in hypnotherapy, was able to calm herself (see Hypnotherapy Text, Appendix 4.1). She experienced no or few physiological/somatic symptoms of anxiety in performance: a slight handshake which settled rapidly (07/07/2013). Her comments on examination accompaniment are interesting: “...it’s not me they’re listening to.....the person I was accompanying had a lot more to worry about than me! I am the support”. She was no longer ‘on show’ or the centre of attraction and analysed the situation well with positive cognitions, concentrating on her role as accompanist. The outcome was slight nervousness (the optimum level for performance) and only one somatic symptom, which soon dissipated.

A comparison with her thoughts and feelings taken from the SRQ (performance 1) revealed that on the day she felt apprehensive and anxious: “... I became more nervous due to the fact that I was playing in front of peers - a critical audience”. Peer pressure is widely accepted as a situational factor which may exacerbate MPA (Kenny, 2011). In performance she experienced tightening of the shoulders, shallow breathing and flushed cheeks, she reported being unable to immerse herself in the music and “... made mistakes that I do not usually do, yet the area I would slip on was OK”.

Although this participant did not suffer from severe debilitating MPA prior to therapy, it was sufficient to give uncomfortable somatic/physiological symptoms during her performance which were detrimental to her playing. She was now more positive in her approach to performance, analysing situations in a helpful manner both for herself and the person she was accompanying. Her reduction in trait anxiety from baseline was maintained during the year with further decreases at the one year monitoring. The reason for this phenomenon is not clear; however she continued to listen to the ‘Self-Confidence for Musicians’ CD given at the end of therapy and this may have something to do with the continued decrement which appeared to exert a positive effect on her performances in general.

MS14 (Control/CH) four-month monitoring (Appendix 10.5.10)

Baseline score (STAI Y-2)	41	Medium category
Performance 2	42	Medium
Post-intervention	40	Medium (-1 below baseline)
Four month score	36	Low (-5 below baseline)
One year score	34	Low (-7 below baseline)

This participant reported on eight performances at the four-month monitoring point since receiving therapy which were diverse in nature. They included a harpsichord accompaniment in a chamber orchestra concert; a piano recital assessment; and the role of accompanist with a chamber choir (which was recorded). Unfortunately it is not possible to ascertain the effectiveness of the intervention on performance experiences at the one-year monitoring as this participant declined to report further as she had too many commitments and could not comply.

The LEPR indicated that when this participant had negative cognitions of worry and doubt she was able to dispel them: “I was focused during the performance and calmed down a lot quicker than usual”; this was her first performance post-therapy (08/03/2013). The former maladaptive cognitions that had previously psychologically undermined her self-confidence have been replaced with adaptive thoughts and behaviours. She used the word “relaxed” in four different performances and gave very positive descriptions of post-performance thoughts and feelings in seven instances. However at the beginning of the Chamber Orchestra Concert (11/05/13) she was acutely nervous but then relaxed and experienced no physiological or somatic symptoms; her comment “I don’t like playing the harpsichord” is very revealing and could explain her initial high anxiety. Overall, during the eight performances she experienced few somatic symptoms: slight leg shaking in one instance pre-performance and slight hand shaking on one occasion during performance.

This can be contrasted with the somatic symptoms during her performances in the main research: “... shaky arms quite badly, I have never experienced this before, normally shakiness in the legs” (subjective comments from SRQs). A negative covariance was shown with cognitions at this time, where 30 minutes prior to performance 1 she felt “very nervous”. At performance 2 however, in the absence of therapy, she was more excited than nervous: “I knew what to expect”; however several of her friends attended the second performance and her comments were that this support helped her anxiety, making her feel less anxious.

Audience members who are friends can add to feelings of security which aids performance anxiety; this accords with the findings of McPherson and Schubert (2004).

The decreased trait anxiety level which placed her in a lower anxiety category impacted on her cognitions so that, although sometimes she still felt nervous (depending on the situation), she felt more comfortable with the performances and the performance outcome: “I was happy”, “Couldn’t be happier”, “Had great fun”, “I was glad to be performing again” (comments taken from different performances). In general the performances that she experienced since receiving therapy were assessed or recorded, and were formal situations in which she coped extremely well. It can therefore be posited that the intervention had a positive effect on her trait anxiety levels at the four-month longitudinal monitoring, and impacted positively on the subsequent performances.

13.4 Summary

Longitudinal investigations into trait anxiety, and the effect that the mutability of these exert on performance experiences, were reviewed critically. An important finding which has not been reported previously in research was that in several instances the category of anxiety decreased, and was maintained over the period of one year. It was also somewhat surprising to find that in several cases, in the absence of further therapy (other than listening to the CD), trait anxiety continued to reduce; a decremental effect was operating. The reason for this is not entirely clear, other than there appears to be an accumulative effect over time. In some instances a noticeable effect was found between decreased trait levels and positive cognitions pre-performance, during and post-performance, and a similar effect was found in somatic and physiological symptoms experienced. However in one instance a decreased trait level which resulted in a changed category level exerted no beneficial effect on cognitive perceptions, somatic symptoms of anxiety, or performance outcome. It was further shown that a reduced trait anxiety level and trait category had a positive effect on cognitions and somatic symptoms; however this did not always exert a reciprocal effect on performance outcome. Further studies on this topic need to be undertaken to establish more fully the relationship between trait anxiety and performance outcome.

Chapter 14 now reports on and critically reviews three reflexive case studies conducted by the author, who is also the clinician, using the two therapies researched in this study: EMDR and CH.

Reflexive Case Studies: Anxiety/Music Performance Anxiety

14.1 Introduction

A review of the interventions was given earlier in this study in Chapters 4 and 5 and the effects were tested in the main empirical research using a nomothetic approach of group assessment. This part of the research now focuses on an idiographic approach, which gives a more detailed and descriptive view of CH and EMDR in much greater depth by focusing on three individual case studies. It gives a much broader overview of the assessment and treatment of anxiety-based conditions and describes in detail the effect of the interaction of the therapy with the subjective experience. Documentation is provided of therapy effects on subjective anxiety, and explanations given for the use of alternative therapies and the plausibility of their effectiveness. The reflexive studies emphasise the relationship between the therapist's assessment of the presenting issues and the clinical intervention, and give idiosyncratic case conceptualisation and therapeutic change methods. They further offer the researcher's reflections on the suitability of the treatment and provide a comparison with other treatment approaches for MPA.

A case study is an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context; it enables the sequential tracing of events over time and unearths key subjective phenomena (Yin, 2009). The rationale for the inclusion of the studies presented here is their contribution to the overall thesis, allowing much greater insight into subjective cognitions and emotions than would be possible in the empirical research conducted in the PhD study. Three case studies are presented looking at the phenomenology of MPA; the author is also the clinician in these studies. An idiographic approach was adopted using subjective-orientated narrative. One study was conducted in private practice in 2010 and had an intriguing outcome. This warranted further investigations into MPA using a large sample of musicians and would ascertain whether a similar effect might be replicated. This led to the author's commencement of the PhD study in 2011. Two further case studies were documented in 2013 using participants in the research at the University of Leeds. The case study subjects were selected as having particularly interesting outcomes post-therapy which the author deemed useful for scientific research.

The main aim of the case studies was to investigate further the effects of the interventions and to provide opportunities to analyse and critique the therapies adopting a qualitative approach;

however in two studies both qualitative and quantitative assessments are made. A mix of non-randomised (private practice) and randomised (PhD research) treatments are included allowing for comparisons to be made. Explanations for therapy outcome and the plausibility of a similar effect being possible if an alternative treatment had been used are considered. In two cases the outcomes of the interventions are reported longitudinally (there were insufficient data to do this for the third case), providing valuable insight into their long-term effectiveness. A number of important issues are raised which are discussed in the summary of this chapter.

14.2 Methodology

14.2.1 Participants

The sample consisted of one male and two female musicians aged 21-61 having similar levels of expertise (Grade 8, Associated Board of the Royal Schools of Music). The instruments were: piano (two participants) and clarinet. Both pianists were students at the University of Leeds (both aged 21) and were participants in the empirical research conducted by the author. The remaining participant was not at the University but was a private patient of the clinician. Ethical clearance was given by the University Ethics Committee (approval number PVAR 10-042) and the participants were given detailed information regarding the research. All signed Consent Forms before the commencement of the proceedings. Names of individuals in each case study have been changed to ensure anonymity.

14.2.2 Design

Each study contains an abbreviated description of the progression of treatment, giving insight into the process of therapy by exploring the internal thoughts, feelings and experiences of the participants. The case studies are presented using the participant's own words as the subjective voice is important. "Subjective" refers to the participant's own interpretation of events and feelings and "objective" to the therapist's interpretation of these. All were given the author's CD at the end of the first session designed to enhance the effect of therapy.

14.2.3 Procedure

A descriptive format of the procedure is given to allow for replication across further studies (Appendix 4.1, CH text; Appendix 5.1, EMDR protocols). The analytical therapy was constructed so that in the initial interview the subjective narratives, 'life history', were related to the therapist. Subjective remembering of experiences which are retold in therapy is a

process of ‘narrativization’ termed ‘narrative smoothing’ and allows the traumatic experience to be revisited in a safe environment and expressed verbally. Schafer (1978) proposes that it gives greater understanding of the emotional experience, and reports that by reconstructing the narrative, the individual asserts more control over the story leading to psychological well-being. As Spence (1986, p.62) argues “A coherent self-narrative is a precondition for psychological well-being” and by taking the narrative approach, causative factors can be determined that underlie and maintain the root of the problem.

Each case study presented here begins with the participant’s subjective narrative. The general protocols and procedures adopted prior to the onset of treatment are outlined.

The therapeutic session generally moves through three distinct stages:

Discrete observation and narrative smoothing: from the commencement of the first session the therapist observes any discomfort displayed by the subject (usually physiological/ somatic) this can be during the subjective history or during narrative smoothing (relating the details of past/present experiences).

Intervention: an explanation of the intervention to be applied given by the therapist. Questions or misapprehensions that the subject might have regarding the therapy is addressed at this point before the therapy is applied.

Changed behaviour post-intervention: during or after the treatment/treatments, the subject discusses with the therapist any noticeable changes in behaviour.

These stages are broken down into subsets shown in the table below.

Table 14.1 Case Conceptualisation and Therapeutic Change Methods

1	Referral
2	Case history
3	Circumstances: Past context to present (then and now)
4	Presenting problem
5	Motivation and incentives for change
6	Prime issues to address: negative cognitions, physiological/somatic symptoms, behavioural
7	Critical analysis by therapist: aims/objectives
8	Treatment plan
9	Subjective/objective assessment of treatment
10	Longitudinal outcome

Adapted from Praxis CBT NHS Foundation: Anxiety Case Study (2013)

14.3 Case Study 1

Jane: music performance anxiety (piano)

Identifying information:

Age: 21 years

Gender: Female

Occupation: Third year undergraduate student at the University of Leeds: a participant in the author's research into music performance anxiety

Case history: Jane's narrative from the first treatment session

Since my mid-teens I suffered from anxiety and hyperactivity and was diagnosed with Attentional-Deficit/Hyperactivity Disorder (ADHD). I feel depressed almost continually. During year 3 at junior school I was bullied and this continued for a whole year. I felt different to everyone else as I had so much energy and didn't know where it was coming from. I didn't understand this, it made me feel both sad and angry and that things were not fair. Academically I was very good at school, although I always had to work very hard. Before I reached my teenage years around the age of 8/9 I had a fear of failure and felt that perfectionism had crept in which plagued me right throughout my teenage years. When I first came to university friends seemed to sympathise with me, but I soon felt isolated and that no-one understood my condition. I have continual negative thoughts, and feelings of "black" depression. I've had CBT and counselling and neither have worked.

My past experiences of music performance have varied. I felt that I never had enough time to practise as much as I would have liked, and that it was always “slap dash” with my piano and clarinet practice. I never enjoyed performing and became very nervous and worried weeks before the performance. The most recent experience in music performance was Grade 8 piano where I was crying and shaking during the examination with my hands slipping off the keys. It was similar for my Grade 8 clarinet where I felt very confused. What makes matters worse is the fact that my younger sister loves performing.

My performance this afternoon was an awful experience (Self-Report Questionnaire Appendix 6.1). I had worried weeks before that I wouldn't be prepared enough and that everyone else would have a perfect performance. My feelings grew stronger as the weeks went by and at one time I had wanted to pull out but I was persuaded not to. My hands were already shaking and sweaty fifteen minutes before playing and during the performance it got much worse. My heart was beating quickly and I was trembling throughout my whole body, my vision was really cloudy and I was unable to hit the keys, it seemed as if I was having a panic attack.

Case formulation

Therapist's interpretation

Caution must be taken in developing a case formulation from one in-depth interview. What follows is the therapist's interpretation of the possible dynamics underlying the anxiety/depression and distress and severe intractable symptoms of this participant.

Jane presented with the following negative schemas (these are her direct quotes):

“Not good enough no matter what I do”

“Hurting myself”

“I am afraid”

“I feel isolated and lonely”

“I am scared”

Jane's physiological/somatic sensations prior to and during performance:

Quickened heart rate

Violent shaking of whole body

Tension throughout body/tight muscles

Therapist's summary of Jane's comments

There are strong incentives for change in this participant. Jane's depressed state (which has never been clinically diagnosed) and ADHD, which has, are affecting her life in a negative

way.² Her feelings of isolation and abandonment are compounded by loss of friends, who although initially sympathetic now show impatience and lack of understanding, adding to her depression. Important forthcoming assessments at university are impacting on the anxiety and compounding the situation. Her self-perception is extremely negative, with low feelings of self-esteem. There is a strong negative bias regarding social activities and circles of friends, as well as in her academic work. She is particularly fearful of situations where she feels that she is in the spotlight, in particular solo performance of any kind. Jane wants to feel in control and be able to perform in any situation, without the crippling negativity which has haunted her for years.

Critical analysis: therapist

There is sufficient evidence here to conclude that Jane is suffering from social anxiety/social phobia: she anticipates disaster, failure and negative scrutiny by others, and this is her prime focus. Social phobia is a response to threats to social status and reputation (Nesse, 1998), a fear of not matching up to one's own expectations (Chapter 2, p.5), and this is clearly indicated by her narrative comments: "around the age of 8/9 I had a fear of failure and felt that perfectionism had crept in which plagued me right throughout my teenage years". Her depressed state is due to the combination of her perfectionism together with her cognitive negativity.

Aims and objectives

The critical objective is to change the subjective negativity held since the age of 8 years into positive perceptions. This will increase feelings of self-esteem and affect positively this participant's depressive state. Self-focused negative attention of forthcoming events plays a key role in the maintenance of anxiety in performance (Coles et al., 2005). Physiological reactions to emotional experiences, and the cognitive perception of these, are stored in memory together (Lang, 1979). Desensitising the memory of both past and present traumatic experiences and then reprocessing these into more positive perceptions should achieve the therapist's primary objective. The extreme anxiety and somatic symptoms experienced during this participant's music performance should decrease once the negative perceptions have been changed, making the behavioural aspect of performance far more pleasurable.

² Depression and ADHD can be intertwined. Some symptoms of ADHD overlap with signs of depression, making it difficult to differentiate between the two conditions. Restlessness, worry, fear of failure can be symptomatic of both ADHD and depression (Diler et al., 2007).

Treatment plan: EMDR

As a participant in Tranche 1 of the author's empirical research at the University of Leeds, Jane had been randomly allocated to the EMDR therapy group within the three groups (CH, EMDR and Control).

Before the onset of treatment the process of EMDR is explained carefully. (The technique employs bilateral movements; this helps to eliminate emotional distress associated with trauma: see Chapter 5, p. 68). It works on the principle of targeting the most traumatic memory first. Participants are informed that recall of traumatic memories may cause upsetting physical symptoms as well as disturbing thoughts and images, but that these should dissipate as the treatment progresses; they are given short frequent breaks during the procedure. During this time subjective thoughts, feelings and images are related to the therapist and are regularly monitored on the Subjective Unit of Disturbance (SUD) Scale.

Included as Appendix 5.1 are the protocols from the AIP model adopted for music performance anxiety and used during therapy.

First treatment: 11 February 2013

This treatment (1 hour 15 minutes) was given as soon as possible after the first performance (within one hour).

Jane appeared nervous and on edge at the beginning of therapy but had somewhat recovered from her earlier symptoms. A full history was taken of past experiences (subjective narrative smoothing) during which time she became very upset; Cousineau and Shedler (2006, p.428) report that narratives 'tap implicit psychological processes not accessible via self-report'. The main principles of EMDR were explained; however she was very sceptical: "I've had CBT and counselling and neither worked".

After Jane's narration the experience causing the highest trauma was rated on a Likert scale of 0-10 where 10 is the highest trauma (Chapter 5, p.64). The primary target was her "black depression", subjectively described as the worst experience of her life: this was rated 10 (high trauma) on the SUD scale. She became intensely agitated when recalling the worst part of the memory, and experienced extreme somatic symptoms: her whole body was shaking and her feet repeatedly banging the floor. However she wished to continue and required few breaks in the proceedings. After desensitising the memory to 5 on the SUD scale the somatic symptoms decreased markedly in the upper body; however it continued in the legs and feet.

Further desensitisation resulted in a rating of 2 on the SUD. At this point she felt “much calmer”, all physical symptoms had dissipated and her feelings of loneliness had diminished. Further desensitisation brought the SUD to 1; the tension in her body had gone, and she was able to look more objectively and rationally at the worry and frustration that she had been feeling. The whole process of desensitisation of the strongest memory had taken 25 minutes yet it had had a significant impact.

In the same session the second target (bullying at school) was subjectively rated as 7/8 on the SUD scale. Recalling the memory of this experience, Jane’s strongest thoughts were of being different and not understanding why she had been singled out as a victim of bullying. Her strongest emotions when recalling this memory were of anger, frustration and sadness. Her original rating on the scale was lowered rapidly to 0. This indicates a resolution of former dysfunctional cognitions and emotions (Hofmann & Luber, 2009). On reviewing the memory Jane’s perception had changed: “It wasn’t my fault, it doesn’t seem important now, I don’t need this any longer”.

At the end of the first treatment she described her feelings:

I felt I’d been underneath a table for all of these years and now I’m above the table looking down upon it. I feel positive again, light and free, I haven’t felt like this since before GCSEs, it feels like a detox.

Jane was given the author’s ‘Relaxation’ CD and asked to listen to this each day until the next therapy.

Second Treatment: 18 February 2013

Jane had maintained the positive cognitive changes since the previous treatment as well as the emotional change of happiness and a feeling of “lightness”. She felt calm, had feelings of positivity and no longer felt depressed. Jane had rung her parents on the evening of the first session and told them how different she felt and was told that they could hear the difference in her voice.

The second session targeted the traumatic performance experiences: Grade 8 Piano and Clarinet examinations, Aural language examination at University, and the most recent experience: participating in Performance 1 of Tranche 1 (the author’s research into MPA).

Recalling these experiences revealed disappointment as the overriding emotional feeling; other emotions were anger and frustration. Negative cognitions were of worry and fear. Music examinations were rated as 7/8 on the SUD. Jane’s subjective rating of negative thoughts and feelings of the experiences decreased to 1 on the SUD scale after 20-30 minutes.

Having dissipated the negativity, the positivity was then reinforced through the Validity of Cognition (VOC) Scale (Chapter 5, p.63). Jane chose three words of prime importance for her in enhancing future performances: Confident; Calm; Focused; and these became her Key Words. Using positive imagery regarding her performance together with the key words, her level on the VOC scale quickly rose to 7 (the highest level) indicating substantial positivity.

After a brief discussion, Jane indicated that she was feeling calm, positive and looking forward to the second performance in which she was playing Liszt “Au Lac de Wallenstadt” (the piece she had played ten days previously in the first performance).

Participant’s assessment of treatment (subjective)

Pre-treatment: Jane’s description

I don’t think EMDR will be very effective, because I don’t understand why I get so nervous. When I perform it’s like my body takes over, and I have no control; it’s just like irrational panic. Consequently, because I can’t isolate an event or reason as to why I have such a reaction when performing, I never believed it had a solution. I’ve tried CBT and counselling before and neither worked. (Oral, 11 February 2013).

Post-treatment: Jane’s testimonial

I only recently became aware that I had depression, but I had been unknowingly suffering from it for many years; that’s one of the problems with depression, it can be a slow poison. It slowly corrupts and warps your notion of normality until you forget a happy version of yourself ever existed. I could never understand why I suffered from it, as I couldn’t pinpoint an event or attribute a reason as to why I felt like I did. I always thought such therapies would only work if you knew why you were depressed, but I couldn’t have been more wrong. Eye Movement Desensitisation and Reprocessing (EMDR) helped me let go of my negative thoughts and snapped me out of depression’s vicious cycle. After just one session, I left feeling so unburdened, I felt physically lighter; I remembered that forgotten feeling of happiness. For me, EMDR was like an EMotional Detox Remedy; once again I have the strength to fight back when life throws its curve balls. (Text, April 2013).

Therapist’s assessment of treatment (objective)

A clear underlying model structure of the treatment was offered. To maximise the effects, the therapy focused on both past and current problems relevant to this participant. Distant memories were targeted alongside more recent events and situations. Memories of present-day unique experiences are coded as inputs in the brain and filtered according to past experiences (Alder & Heather, 1999).

By working through the experiences relating to the highest trauma level and desensitising the memories, the subjective negative schemas were addressed and replaced with a sense of positivity. The bodily sensations that had been experienced when recalling each trauma had

gone. This participant no longer felt depressed; the cognitive negative bias was replaced with a positive bias. She had been randomly assigned to EMDR therapy and therefore it is possible that this may not have been the most effective therapy for her. However the clinician's assessment of the efficacy of the treatment was that it had been beneficial in this instance; the desired effect was achieved, bringing about rapid change. As well as a qualitative assessment of anxiety, a quantitative analysis of cognitive anxiety was obtained using Spielberger's STAI Y-1 and Y-2 (state/trait) questionnaire. This allowed for comparisons with baseline levels of state/ trait anxiety with levels fifteen minutes prior to performance 1 and 2 (pre-post the therapy). Jane's baseline state (performance anxiety) indicated a score of 33 within the low category of STAI Y-1; however this rose sharply to 59 (one point below high category) 15 minutes prior to the first performance. This is a substantial increase in state anxiety and gives further evidence of social anxiety/phobia. Post-therapy this score decreased to 39 prior to performance 2 showing the effectiveness of the therapy for her music performance anxiety. Jane's trait baseline level of anxiety (general anxiety) pre-intervention was 50 (medium category) which decreased to 36 (low category) post-intervention, taken 15 minutes prior to the second performance (Appendix 11.3, trait scores). This indicates that having desensitised the former traumatic experiences and memories the general level of anxiety also decreased substantially.

This study set out with the aim of assessing the effectiveness of EMDR for the treatment of MPA. In this instance the deep seated negative issues were the primary targets and were addressed first before focusing on the current problems relevant to this participant. A strong relationship was seen to exist between the past trauma and the present-day presenting issues (cognitive and physiological) which were resolved satisfactorily (the participant's comments verify this: see p.183). The methods used were effective in achieving the desired goals, bringing about therapeutic change. This participant took part in the subsequent music performance, no longer experiencing the former anxiety or crippling physiological symptoms felt in the first performance.

However EMDR is a relatively new psychotherapy, and as such rigorous comparisons need to be made with other therapies and effects which could give a similar outcome to give credence and standing in the scientific world.

Researcher's reflections on treatment suitability

There can be no doubt that the treatment was effective; however reflecting on this as a researcher there are other possible explanations for the resolution of the problems presented

here which need to be explored.

These outcomes may be explained by a number of different factors. For instance some individuals improve because they have entered therapy, regardless of the specific treatment: a variant of the placebo effect. Fascinating research has been conducted into the well-known phenomenon of the placebo effect with various medical conditions: headaches, pain reduction and even the visual effects of packaging in headache tablets. One study by Blackwell, Bloomfield, and Buncher (1972) showed that the visual effects of packaging in headache tablets can exert a placebo effect. A further study into this phenomenon found that headache pain was reduced where the treatment was placebo tablets (Branthwaite & Cooper, 1981). Another study showed that pain reduction can occur when no specific pain relief has been given, only sugar-based placebo tablets (Montgomery & Kirsch, 1996).

It could also be suggested that ‘narrative smoothing’ plays a large part in resolving psychological issues, and many psychotherapists support this view (Brandchaft, 2007; Sroufe & Waters, 1977; Stolorow, 2007). The process of reconstruction of the initial narration gives more control over the story and can change the patient’s perception into something more positive; this underpins the central goals of therapy (Schafer, 1978). Jane’s narrative was highly charged with specific negative experiences and relating this allowed a different subjective perception.

Cognitive behavioural therapy (CBT) might also be effective as a therapy in this instance as it similarly uses narration in therapy but treats the presenting symptoms rather than the cause (Chapter 3, p. 30). CBT has similarities with psychodynamic therapies but there are a number of different elements which are distinctive (discussed in Chapter 1). CBT treats the symptoms rather than the cause and as such this may only provide a short-term solution to the problem or, in this participant’s case, no solution at all. Psychodynamic therapies specifically target internal conflicts, wishes and expectations (Kenny, 2011).

Jane’s dysfunctional thoughts relate to her beliefs that she is “not good enough no matter what I do” and “I am afraid, I feel isolated and lonely, and scared”. On a deeper level these negative schemas are best addressed by focusing on the root cause of the problems, which is one of the main premises of EMDR. This participant has already received various forms of psychological treatments (CBT and counselling) which have failed to bring relief and have compounded her sense of anxiety in achieving a resolution to her symptoms.

The author is a neuro-linguistic programming (NLP) practitioner and it could be argued that NLP might also have positive effects for this participant. NLP therapy focuses on positive

imagery and reframing past negative images and experiences. The principles and techniques enable the individual to deal with problematic situations in a creative and resourceful way. The main aim is the achievement of personal goals quickly and effectively (Chapter 15 pp. 212 further describes NLP). Although this participant would benefit from some of the protocols of NLP (positive reframing, achievement of personal goals), the experience of trauma, particularly if long-standing, needs to be targeted specifically. NLP works on the basis that by changing the upper conscious levels of neurological thought this will always change the lower subconscious level (Alder & Heather, 1999). However the author/clinician would argue that where there is long-standing trauma and social phobia, a more psychodynamic/ psychoanalytical therapy is necessary, where the deep subconscious thoughts are the primary targets enabling treatment of the underlying root cause of the problem.

It can be argued that EMDR may be a variant on standard exposure treatments (McGlynn & Lohr, 1998) and that bilateral movement is not an essential part of the treatment (DeBell & Jones, 1997): see also Chapter 5, p.67 of the current study. However empirical research has expanded rapidly since these early studies and rigorous scientific testing has shown that bilateral movements assist the brain's information processing system, enabling rapid modification of problematically-stored memories (Begley, 2009; Doidge, 2008; LeDoux, 2002). It could be hypothesised that the rapid resolution of the issues presented by Jane in this case study corroborates the importance of bilateral movements in this therapy.

Longitudinal outcome

Within a few days of the therapy this patient played in the second performance of the author's Tranche 1 research. Her comments written on the self-report questionnaire, completed immediately after the first performance, are very revealing (Appendix 14.1). The self-report questionnaire completed after the second performance is also included in the Appendix so that a comparison can be made.

At a four month follow-up this participant still shows the beneficial effects achieved during the therapy. A quantitative assessment of the trait scores over time taken from the STAI Y-2 questionnaire shows a decrease of 9 points below baseline reading:

Baseline: 50

Performance 2 (post-therapy): 36

Four month post-therapy: 41.

Her longitudinal experiences have been recorded in a log and are reported here. She has taken part in a solo performance/presentation (non-musical), which was an examination, and reported not feeling overly nervous beforehand:

Before the therapy I would have imagined every worst possible outcome and then replay it in my head, I didn't do that, it was like I wasn't thinking about it at all; it was no longer something I feared, it was just another task, whatever happens, happens. I could almost detach myself from it. During my presentation I could feel my heart rate accelerate a little, but I managed to keep control, and steady my breathing. I just focused on my sheet in front of me.

Jane broke her arm in December 2013 which meant that she was unable to participate in sport and music activities. This resulted in chronic insomnia and the return of former levels of anxiety, as she was unable to manage the excess energy experienced from her hyperactivity disorder (ADHD). Her trait level of anxiety at this time returned to near baseline (STAI Y-2: 49, see Appendix 11.4). However in an email dated 28.02.14 she reported that the arm was fully recovered and that she was “almost back to where I was before I broke my arm with respect to my moods and anxiety”. This incident was an unfortunate occurrence and makes it more difficult to assess the effect of EMDR one year post-therapy.

Below is the second case study which follows a similar overall format to the first but uses hypnotherapy as the intervention, enabling comparisons to be made.

14.4 Case Study 2

Dan: music performance anxiety (piano)

Identifying information:

Age: 20 years

Gender: Male

Occupation: Second Year Music Student at the University of Leeds: a participant in the authors' research into music performance anxiety.

Case history: Dan's narrative from the first treatment session

My main instrument is piano but I also play electric guitar and keyboards as part of a group. I have generally never experienced much anxiety performing as part of a group, compared with solo piano performance. I may have at times felt slightly nervous, self-conscious or not fully relaxed playing guitar at gigs but not to a great degree, and I always

enjoy it. It's a different story with piano, especially when I am being assessed for my performance. I do get angry with myself for making stupid mistakes and afterwards I never feel that I have practised enough. I always worry that things will go wrong and I will embarrass myself in front of everyone. My hands usually shake and can feel sweaty and can easily slip off the keys. I can get very stressed during a performance and annoyed with myself.

I can start to worry weeks before a piano performance, and this usually gets worse as the time gets closer, even if it's a class performance and everyone else is 'in the same boat'. It's so different playing my guitar or keyboard in the group, I don't feel isolated at all as I'm not playing on my own; we all support each other and are having fun. I don't remember always being like this with the piano until I took Grade 5 in my early teens. It wasn't a good experience, I got completely lost in one of the pieces and had to stop playing as I couldn't pick it up again. The examiner made me feel worse as he didn't seem at all sympathetic. Now I play from memory, even if I have the music in front of me, but I'm still worried that sometimes I'll have a memory lapse. With Grade 8 I just passed and I was hoping for a distinction. I would have done the Performance Module here if I had had a distinction.

At the piano performance for your research a few days ago I was nervous, but not hugely so, as I knew that I wasn't being marked or judged, but 15/30 minutes before the performance started I felt strangely uneasy. I had the music on the stand for safety, even though I knew the piece from memory, but I was unable to concentrate on the music or where my fingers were and my hands felt slightly lighter; towards the end of the piece they were sweating. I had all these thoughts going through my mind about making silly mistakes and losing my place in the music and not being able to pick it up. I'd love to be able not to worry in the weeks before a solo performance and to feel confident when I'm playing and really focus on the music and enjoy it. I'd like to get rid of all the shakes and quivery feeling that I sometimes get and off-putting thoughts when I'm playing. I never have any of these physiological symptoms when playing the guitar or keyboard in the group and would love to be the same for piano.

Case formulation

Therapist's summary and interpretation of Dan's narrative

As a participant in the author's research into MPA at the University of Leeds Dan had been randomly assigned Cognitive Hypnotherapy.

His narration highlights his unique experiences in both piano as a soloist and as a group musician playing electric guitar and keyboard. The nature of the performance setting governs the level of his performance anxiety. His enjoyment of playing in the band where he only experiences slight nervousness contrasts with his anxiety and negative cognitions regarding solo piano performance where he displays fear of negative evaluation. His comment regarding the piano examination is very revealing: 'I don't remember always being like this with the piano until I took Grade 5 in my early teens. It wasn't a good experience'.

Critical analysis: therapist

This musician describes highly circumscribed experiences of MPA. His anxiety regarding solo piano performance is not a generalized fear of the performing situation, it is domain specific. He is happy and only sometimes slightly nervous when playing as part of the band; however he can experience severe performance anxiety both before and during a piano performance.

The therapist's interpretation of his narrative is that Dan is suffering from focal anxiety, a condition that exists in an otherwise healthy, functioning musician. Focal anxiety is confined to very specific situations (Kenny, 2011); the disorder is the result of specific conditioning experiences (Stein & Stein, 2008). The Grade 5 piano examination is such an example, a disorder that is a manifestation of an earlier experience. There may also be strong determinants to focal anxiety which exacerbate the situation, for example feeling underprepared for a performance can cause a strong anxiety response; his narrative describes how he feels that he has never practised enough.

Aims and objectives

The main objective is to change the negative perceptions that he has held regarding his solo piano performance since his early teens. The aims are to decrease his anxiety both in the weeks prior to and during the performance as well as to desensitise the physiological/somatic symptoms he experiences during performance which exacerbate the situation. A strong relationship has been shown to exist between mental cognitions, physiological symptoms and performance (Barlow, 2002a, p.84).

The desired outcome is to make piano performance more enjoyable by alleviating the concern and anguish that he experiences. Realistic goals and positive cognitions need to be established. The somatic symptoms that he is experiencing, "hands feeling lighter and sweaty", are highly likely to be manifestations of cognitive anxiety (Lang, 1971) and would be expected to dissipate once cognitive perceptions have been changed.

Treatment plan: Cognitive Hypnotherapy

Dan had been randomly assigned to the CH group and would receive two one-hour treatments during the ten days between the first and second performances. The hypnotherapist induces a hypnotic state to increase motivation or alter the behaviour pattern of the participant by use of Ericksonian Hypnotherapy (Chapter 4, pp. 53-54).

Treatment focuses on:

- Clinical history
- Establishing rapport
- Explanation of the therapeutic process
- Goal setting.

A detailed clinical history is taken to identify the psychological, physiological, social and environmental aspects of the experienced behaviours. Cognitive distortions, negative self-instructions, irrational thoughts and beliefs can then be targeted during hypnosis.

It is important to gain rapport with the participant. This can best be achieved by listening with empathy to the narrative description of the frustrations, distress and symptoms, and acknowledging their frustration and disappointments with the problem (Alladin, 2008). The therapist then prepares the participant to enter the hypnotic state by explaining what will be experienced. Hypnotherapy allows for thoughts, feelings and association of situations to be viewed in more positive and improved ways (Beck, 1976). Appendix 4.1 outlines the therapist's/author's own script 'Self-Confidence for Musicians' used during therapy.

First treatment: 13 February 2013

The first treatment (one hour) was conducted two days after the first performance.

Dan had a negative bias regarding hypnosis. At the first session he intimated that he was very sceptical and believed that he would not be a receptive subject. He found it difficult to relax and thought that he would feel "out of control". However his MPA regarding piano performance was so distressing that he wanted to participate and was intrigued with the explanation of the hypnotic procedure (explained in some depth). It was deemed by the therapist that rapport would be gained more quickly if the procedure was explained prior to discussing the Self-Report Questionnaire and taking a full clinical history

The conversation began by focusing on the self-report questionnaire, completed by Dan at the end of performance 1. In the days prior to the performance his anxiety had gradually increased and was particularly high the night before the performance. He was most nervous 15 minutes prior to and during the concert. This was substantiated by his state anxiety score on the STAI Y-1 (Spielberger et al., 1977) which had increased from 36 (baseline) to 42, indicating that he was experiencing enhanced cognitive anxiety. He had also experienced two off-putting somatic symptoms during the performance: lightness in the hands/fingers and sweaty hands.

Dan's narration of past musical experiences was followed by his aspirations for future performances and goal-setting (his subjective view of his optimal piano performances). He chose three key words to enhance performance: Control; Focused; Enjoyment. Key words are anchored by the therapist on the dominant wrist at appropriate times during therapy.

He was given the author's CD 'Self-Confidence for Musicians' and asked to listen to this as often as possible until the next session, as it would enhance treatment.

Second treatment: 18 February 2013

The second treatment focused on reviewing his thoughts and feelings in the five days since the first therapy.

Dan reported that no beneficial effects had been noticed after the first treatment and he had been too busy to listen to the CD. He was however interested to see if there might be any differences in his second performance. He had completed the first question on the self-report questionnaire regarding the second performance; these comments were more positive than those regarding performance 1. He had written that he was not worried or nervous at all but felt a strong need to practise as assurance.

The remainder of the therapy followed the same format as the previous session with hypnotic induction and positive visualisation of performance situations, including the second performance. He was asked once more to listen to the author's CD and left looking forward to the second performance (although more from an experimental stance) as he still appeared to be sceptical.

Dan's self-assessment of treatment

Prior to treatment, all participants in the author's research had subjectively rated the effectiveness of the therapies on a Likert scale of 1-10, where 10 is the most effective and 1 is the least (see ratings of therapy sheet, Appendix 10.1). Dan rated his initial perception of the therapies as 4, and post-therapy after the second performance as 6.

Dan completed the Self-Report Questionnaire immediately after the second performance and wrote: "I felt okay until approaching/entering the room, when I became a lot more nervous but focused, even more so than in the first performance. I wasn't having a great start to the day either which didn't help". His written comments on his experience during his performance were:

I felt uneasy and my limbs were quite quivery, more so than in the first performance. Interestingly I think this may have helped the overall sound (dynamics, crispness etc.) but I made three noticeable mistakes in this performance rather than one mistake in the first performance. This could have been due to a more relaxed practice regime however, and behind the piano I didn't feel as comfortable as I did at the first performance from a technical perspective, but was more in control of the sound.

Therapist's assessment of treatment

In reviewing this case the therapist believes that overall CH was not effective for this participant for the reduction of MPA although it may have enhanced his playing somewhat at the second performance.

Dan entered a 'very light' trance state post-induction in both sessions; this is not as conducive to positive suggestion and goal setting as a deep hypnotic trance. After hypnotic induction eye catalepsy was introduced: the challenge to open the eyes. In a deep trance the participant is unable to do so, however Dan opened his eyes fully in the first session and partially in the second, indicating a light trance-state. This may be due to four factors:

- a) During both treatments extraneous noises outside the room (which were sometimes sudden and loud) could be heard very clearly in the therapy room; extraneous noise if strong enough can inhibit full induction into a deep trance state (Alladin, 2008).
- b) Feelings of not being 'in control' during the treatments. This would precipitate an inability to 'let go' and relax (ibid).
- c) Scepticism regarding the treatment. A strong relationship exists in non-belief of treatment effect with a neutral /negative outcome (DePiano & Salzberg, 1981).
- d) Resistance to hypnosis. Even when full co-operation of the subject has been obtained, there can remain innate difficulty in some patients to respond to suggestions; this may interfere with the hypnotic process (Barnett, 1989).

Any one of these factors can inhibit entering into a deeper trance state.

His statements on the Self-Report Questionnaire reveal that during the second performance (post-therapy) he felt more anxious than during the first performance. This is not borne out by his scores on the STAI Y-1 Questionnaire completed 15 minutes prior to each performance as he scored 42 each time. However this does show that the therapy had not been effective in decreasing Dan's cognitive/state anxiety at the second performance. He made more notational errors in the second performance and felt less comfortable than in the first. However he does note that he felt more in control of the overall sound, dynamics and crispness of sound. This is interesting as Dan's primary key word for enhancement of

performance was 'control'. His perception of the second performance should also be noted; he states that he was more nervous, but more focused (a second key word). Although he made more mistakes in this performance he notices a positive difference in his playing. The therapist/researcher recorded both performances and can relate that his second performance (also assessed by an independent assessor) was a more thoughtful interpretation than the first, with more attention to dynamics and semiquaver runs more controlled.

The therapist is of the opinion that it would have been more beneficial for this participant if the traumatic experience of the piano examination in the early teenage years had been initially targeted through systematic desensitisation. However this was not in the remit of this therapy in the circumstance of this research. The therapist believes that EMDR would have been more effective in this instance.

As this participant is not a good subject for hypnotic induction, therapies conducted on a conscious level may be more beneficial for him.

Researcher's reflections on treatment suitability

There are several possible explanations for the negative outcome in the present case study.

This participant was highly sceptical of the hypnotic process; therapies that operate on a conscious as opposed to the unconscious level may be more effective. Mental Skills Training (Chapter 3, p.21) is such a therapy; used initially in the sports domain the main principles are now being applied to musical performance. It offers performers a range of musically validated techniques for honing their mental skills in order to enhance performance (Connolly & Williamon, 2004). It concentrates on relaxation, cognitive imagery, performance goals, mental rehearsal, and role modelling, designed to reduce anxiety and enhance performance.

During the participant's first treatment a highly emotionalized fear was uncovered: the piano examination in his early teens. Re-educating implicit processes in the mind through creative reprogramming is the ultimate goal of hypnotherapy; however research shows that if trauma exists from a past experience, the trauma should be the primary target, using a desensitisation programme (Skinner, 1953). When the incident has been fully desensitised, through exposure therapy such as behavioural therapy (Chapter 3, pp. 22-23) or EMDR, and closure has been achieved, the participant will be ready for further therapy (Shapiro, 1997). The subconscious mind can be re-educated through positive programming and at this juncture CH could be introduced.

The outcome of this case study indicates that hypnotherapy is not effective for everyone and raises some important issues regarding randomized assignment of psychotherapies for research purposes. Randomized assignment may not always give a true effect of a therapy as the methodology must be adhered to and as such may give a less beneficial or even a negative outcome. This supports Yin (2009) who found that randomized trials do not give a true indication of the real effect of the intervention. Evidence suggests that matching of treatment to a patient's beliefs and characteristics increases the therapeutic outcome (Beutler, Clarkin, & Bongar, 2000). In contrast to the random assignment of therapies in the present research, in private practice once the clinical history has been taken and diagnosed the therapist ensures that the most appropriate treatment is given to obtain the most beneficial outcome.

Longitudinal outcome

In two follow-ups, at four months and one year post-therapy, Dan reported that as he is not on the Performance Module there had been no solo piano performances and only two band performances (guitar). The therapist/researcher is therefore unable to reach a conclusion as to the effect of the therapy.

14.5 Case Study 3

The author deemed it important to include a case study that used both EMDR and CH as a combined treatment. The efficacy of the therapies given in one single session is reported here.

Sarah: music performance anxiety (clarinet)

Identifying information:

Age:	61 years
Gender:	Female
Occupation:	Peripatetic woodwind teacher and private teacher

Referral

Sarah contacted me through a colleague who was a fellow musician. She first approached me during the interval of a concert at which she was playing when we talked briefly about the anxiety that she was experiencing before and during performance.

Case history: Sarah's narrative from the first treatment session

I am a woodwind teacher of many years' standing and have always felt that I am a competent and successful teacher. I teach clarinet/saxophone/flute, and my first instrument is the clarinet. I am also first clarinettist in a prestigious amateur orchestra consisting of professional musicians. The orchestra gives four/five concerts each year often having well known professional soloists. I also have other amateur engagements involving ensembles and solo work as well as my instrumental teaching. I never feel anxious when teaching; however I experience exaggerated anxiety when having a solo performance, even if it's only a few phrases, in the ensemble and in the orchestra.

I've had huge performance anxiety for several years but recently it is so bad that on several occasions I've just panicked, I've given excuses and pulled out of playing. At times when I've performed I shake uncontrollably and I know that I'm not giving a good performance. I feel that I'm letting the other musicians down and not showing what I can really do, it's like hiding my light under a bushel. I have a particularly demanding concert on the horizon in several months' time where I have to play a difficult clarinet solo with the orchestra. I know I will feel particularly exposed and I don't want to let the orchestra down. I am already worrying about the forthcoming performance and feeling sick at the mention of it even though it is months away. I know that I am a very good clarinettist and love playing, yet I am not able to overcome my fear of performing in public. I've thought about drugs (beta blockers) and also alcohol to help my confidence; however I've decided that I don't want to follow this route and so I am seeking help.

Both my younger sister and I learned woodwind instruments as children and enjoyed playing and entering competitions without any signs of accompanying anxiety. However when I reached secondary school my father was against my music and I was constantly being told that I should give up my music and concentrate on my academic work. My father had a very domineering personality which made me feel uncomfortable, anxious and panicky when he was around. To a certain extent I was afraid of him, but I loved music and felt that it was something that I did really well, and so was determined to continue. However it got to the stage where I would aim to do the majority of my practice when my father wasn't around to avoid any further confrontations; this situation continued throughout secondary school. My father never encouraged me in any aspect of music and never attended any of my performances even though I was awarded a Diploma of Licentiate in Clarinet Teaching from a prestigious musical institution.

Case formulation

Therapist's summary and interpretation of Sarah's narrative

There are a number of interesting features in this narrative. First, this experienced musician knows that she is talented with a lot to contribute; however she described her playing in public as "hiding my light under a bushel". She is not performing to her optimal level due to her anxiety which begins weeks before a performance. She is prevented from doing the things that she really wants to do: "on several occasions I've given excuses and pulled out of playing". The changing nature of the performance setting and the increased attention in solo sections from the other musicians in the orchestra/ensemble cause exaggerated cognitive and

somatic anxiety: “I feel that I am letting other musicians down”. This anxiety in performance was never experienced as a child, when she enjoyed performing.

Critical analysis: therapist

Her narrative indicates that she is suffering from acute MPA in the form of a type of non-generalized social phobia subtype: anxiety experienced only in settings in which the individual is being scrutinized and reserved for a small number of performance situations (Turner, Johnson, Beidel, Heiser, & Lydiard, 2003). In this instance this specific social phobia subtype manifests itself as a focal anxiety disorder. Although her performance anxiety is severe it is confined to specific situations such as infrequent requirements to play solos as an orchestral section leader; her panic does not occur when playing as a *tutti* clarinetist with the orchestra. She experiences no other significant anxieties in other areas of her life. The possible dynamics underlying this condition are the psychological issues from past experiences with her father which are impacting on her present-day performances (Barnett, 1989). She enjoyed playing and entering competitions as a child “without any signs of accompanying anxiety”. However as a teenager she was made to feel that academic work was of prime importance, and that music was of no value and should be discontinued. Her father’s domineering personality, negativity and lack of encouragement regarding her music caused discomfort and confrontation which resulted in her fear and in her practising when he was absent from home (she hid her talent in order to continue with her music). The therapist/author suggests that this could be a crucial link to Sarah’s MPA in her statement “hiding my light under a bushel”. The lack of support and encouragement throughout secondary school culminating in the non-attendance of her father at the award ceremony of her Licentiate Diploma also gave a clear message from an important person in her life of the non-importance of her chosen career.

In therapy Sarah presented with the following negative schemas regarding her performance anxiety (direct quotes):

“I’m afraid”

“I’m anxious”

“I can’t do what I want to do”

“I’m letting myself down”

“I’m embarrassed”

“I can’t control my thoughts”

“It’s affecting my sleep”.

Her somatic symptoms of anxiety were:

Shaking uncontrollably

Feeling sick

Wanting to go to the toilet constantly

Heightened breathing

Tension throughout her body (including feet).

Aims and objectives

Sarah has many negative thoughts both weeks before and during concerts. The therapist purports that negative past experiences are impacting on her present day performances causing uncomfortable psychological cognitions both weeks before and during performance, as well as accompanying somatic symptoms of anxiety. The level of cognitive and physiological arousal experienced by this clarinettist is extremely aversive. At the thought of the performance she feels sick months before, and has uncontrollable shaking during the performance. The main aim is to desensitise the past trauma and replace the present cognitive anxiety and uncomfortable emotional feelings with positive thoughts and feelings, enabling her to look forward to performances instead of dreading them. The primary emotion of fear can masquerade as anxiety or panic and should these emotions be denied their rightful expression they will persist throughout the lifetime unrelieved (ibid).

The main objective is to perform solo in public without the crippling anxiety that she presently experiences and demonstrate her expertise by playing confidently, competently and inspirationally.

Treatment plan: EMDR and CH

First (and only) treatment one hour and thirty minutes: 1 November 2010

This patient presented with continuous crippling MPA. The multiple negative domestic experiences, in the therapist's opinion, have played a major role in contributing to this present state. Systematic desensitisation of the traumatic memories through EMDR will be the primary aspect of the overall treatment, followed by CH to reinforce the changed perceptions. Research informs us that a focused emphasis on desensitisation where trauma has existed is a very important component of the overall treatment (Garfield, 2003). The suggestion of a combined therapy was explained carefully by the therapist and Sarah was happy to proceed, although she seemed somewhat sceptical of EMDR.

EMDR

Subjective narrative smoothing had revealed many upsetting episodes involving Sarah's father which became the main targets in EMDR and were collectively rated by Sarah as 8/9 on the SUD scale indicating high trauma. The worst incident was recalled first, during which time she experienced heightened breathing, tension in the shoulders, arms and hands and emotions of anger and fear. Remembrance of specific happenings gradually became more difficult as the most painful memory began to fade. At a level of 4/5 on the SUD scale Sarah appeared less anxious, her breathing normalised and the tension in her hands (which she had been gripping tightly) relaxed. She found the memories more difficult to hold and at 0 (the lowest point of anxiety on the scale) she revealed that all the old uncomfortable thoughts and feelings had gone. She now felt, and was aware for the first time that she no longer needed the unfortunate past experiences and could now let them go. "I have greater insight into what happened and don't need to carry this any longer". The emotions of anger and fear had completely disappeared and she felt peaceful. She realised that positive things had come out of these experiences; she had been strong and determined and had continued with her music culminating in the Teacher's Diploma when the easy option would have been to have given up. "My love of music had given me the strength to continue". When thinking of future performances Sarah's subjective rating on the VOC scale 0-7 was 7, the highest level of positivity. "I now have only positive thoughts and feel happy and euphoric, feelings which I haven't experienced for years".

CH

On the completion of EMDR, CH was applied. Prior to trance induction (Chapter 4, p.31) aspects of her musical performance which were most important to her were discussed: her musicality, interpretation, expertise, memory and connecting with the audience. She linked the emotion of happiness with her breath control and thought of a colour which enhanced this. Her key words which were anchored during CH were 'Competent' and 'Inspirational'. On completion of hypnotherapy (see author's text 'Self-Confidence for Musicians' in Appendix 4.1), she was given the author's audio CD 'Self-Confidence for Musicians'. She was advised to listen to this as often as possible during the first two weeks post-therapy and then as and when she felt the need.

A second appointment was not booked at this time as Sarah wanted to await the outcome of the first session.

Sarah's self-assessment of treatment

As a busy amateur musician I have been experiencing huge performance anxiety for several years. It was getting so bad that on several occasions I 'chickened out' of playing completely and on others I was shaking uncontrollably and unable to give a good performance. I visited Elizabeth with some degree of scepticism a couple of months prior to an extremely demanding concert. After one session, and listening to the audio recording that she gave me, my whole attitude towards performance changed. I conquered my fear and gave, I am told, a very good confident performance for that concert. Since then I have felt a lot more relaxed and enjoy playing with a new found confidence. (Written subjective quote).

Therapist's objective assessment of treatment

This participant presented with a social phobia subset manifesting as a specific focal anxiety disorder. Her first negative schema was "I'm afraid" and anxiety and panic were two emotions that she exhibited prior to performances. Therefore given the nature of this case it was deemed by the therapist that the treatment should focus primarily on systematic desensitisation of these emotions through EMDR. By being confronted with matters that she had avoided facing it gave her new insights into past problems.

On completion of this a subjective SUD rating of 0 indicated that Sarah's emotions of fear anger and panic had been desensitised, and a VOC rating of 7 showed the highest level of positive thinking. CH using positive imagery and visualization of performance was used as an adjunct to EMDR and maximised the effects of treatment so that only one session was required.

The desired outcome has been achieved; Sarah no longer holds the former negative schemas, the adverse memories having been desensitised and reprocessed and replaced with positive cognitions and visualisation. Sarah now feels positive and confident regarding her forthcoming performance and so has not booked a second session. However she has intimated that she will have another treatment if she feels at all "wobbly" at her next performance.

Researcher's reflections on treatment suitability

Fear is one of the primary emotions and can masquerade as anxiety, terror or panic, the three degrees of the intensity of fear. When these emotions are denied their rightful expression they will persist unrelieved (Barnett, 1989). In this case the emotions have been denied their rightful expression, as related in Sarah's narration ' My father had a very domineering personality which made me feel uncomfortable, anxious and panicky when he was around, to

a certain extent I was afraid of him'. In exposure therapy the individual is confronted with the feared situation, person, emotions and past incidents either in imagination or *in vivo*. EMDR has much in common with exposure therapy as the main aspect is confronting or facing a psychotherapeutic problem using systematic desensitisation procedures. Psychotherapy research strategies have confirmed and validated the powerful effects of exposure therapy with certain specific anxiety problems including MPA (Orman, 2003; 2004). However there are unique or specific factors attributable to different types of exposure therapies and a number of different techniques may also have resulted in a successful outcome (discussed in detail in Chapter 15 pp. 211-212). Flooding and implosion therapies have also reported positive results when applied to different fears and avoidance behaviours (Garfield, 2003). Cognitive behavioural therapy (Chapter 4) similarly encourages the individual to face feared situations and attain mastery of those situations through the use of effective coping strategies. All of these behavioural methods based on the exposure paradigm appear to have a common factor operating in the different approaches to the same problem, namely that the individual in some way is confronted with the negative situation and learns that it can be faced without any catastrophic consequences and gradually becomes desensitised (Lambert, 2013).

This case study supports previous research into anxiety-based conditions supporting the therapeutic effects of EMDR (Arditi, 2009; Begley, 2009; Doidge, 2008; Swart, 2009). The addition of CH in this case is an important adjunct to EMDR as it provides a powerful model for imagery training, conditioning emotional responses, restructuring experiences and directing attention to positive forthcoming experiences (Alladin, 2008). Psychological interventions may be more effective when a combination approach is adopted as it provides added impact and strength to the overall therapeutic effect (Norcross & Goldfried, 2005).

It would appear that a positive effect has been achieved in the above case through EMDR and CH; however through narrative smoothing and uncovering and discussing the historical roots of the disorder the individual gains new insights into past problems. Uncovering and discussing the original causes of emotional problems is the basis of psychotherapy (Barnett, 1989), and the telling the story to others is "one of the essential constituents of our understanding of reality" (Butor, 1969, p.26). In some instances this may be all that is needed to affect a cure; the occurrence is more easily understood in the safe environment that the therapist offers. It has also been reported that a portion of patients improve spontaneously without the benefit of psychotherapy (Bergin & Lambert, 1978).

Longitudinal outcome - April 2014

Sarah did not return for a second therapy as she never felt the need. She still listens to the CD, particularly in the days before an impending concert. She has had several orchestral and ensemble performances since her therapy in 2011 and still maintains her new found confidence and enjoyment in performing. I attended her first concert post-therapy and was amazed at the difference in her playing having listened to her playing in several of the previous concerts. She walked onto the stage confidently and smiling, and when she started playing it was indeed inspirational – one of her key words that she had chosen in hypnotherapy. When playing the clarinet solo it seemed to lift the whole orchestra onto a higher plane, and this was communicated to the audience.

Although she is now living in France I am still in contact with this musician and follow her progress.

14.6 Summary

The effectiveness of CH and EMDR was considered in the three case studies documented in this chapter. An evaluative and personal view of the experiences of MPA and the therapies administered were given from an idiographic perspective allowing greater understanding of this debilitating condition. The case studies have given sensitive accounts of how subjective anxiety is generated and in particular the phenomenology of performance anxiety. An analysis of MPA using a nomothetic approach is important; however a much broader view has been given in this chapter by adapting an idiographic approach. This allowed for reconstruction of past experiences through narrative smoothing, and gave insight into the lived experience of performance anxiety. By considering three contrasting cases of music performance anxiety this chapter has highlighted how traumatic this condition can be and the need to implement therapies that are both quick and effective for the individual.

*Chapter 15***Discussion**

Many studies have been conducted into MPA but few have centred round therapies that target implicit processes and the role that these play in performance anxiety. The present study illustrates the feasibility of adopting the psychotherapeutic approach using CH and EMDR for the alleviation of MPA. The main study adopted similar protocols and methodology to the pilot study; however it allowed for robust, vigorous investigation by use of a large sample, adopting a very thorough multimodal approach. It tested both objective and subjective levels of cognitive anxiety through a published self-report questionnaire and the author's self-report questionnaire, giving insight into subjective cognitions of anxiety as well as somatic symptoms experienced during performance. It enabled a thorough assessment of the behavioural aspects and quality of performance using six different criteria of assessment, together with visual and audio evidence of the performances which added strength to the findings. The Perception of Therapy sheet completed pre- and post-treatment gave further insight into whether preconceived assumptions of a therapy affected therapy outcome. Within a largely quantitative design the triangulation of data by the use of both qualitative and quantitative methods adopted in the subjective self-report questionnaire was valuable in that it allowed for comparison of results. The main study was designed to determine the effect of the interventions on MPA over a large sample of participants and set out with the primary aim of investigating both state and trait levels of anxiety across the main research period. It extends previous research in trait anxiety by the longitudinal testing of trait levels over the period of one year post-intervention with a large sample.

In accordance with the hypotheses, the therapies adopted in the study had a significant effect in reducing state levels of anxiety at the second performance post-intervention. An important finding from this research was that both therapies were equally effective in significantly decreasing both objective and subjective levels of cognitive anxiety and this was reflected in significant enhancement of performance at the same measurement point compared to a control. It was not hypothesised that the therapies would be effective in significantly reducing trait anxiety levels post-intervention. However a valuable and unexpected outcome was that both therapies significantly reduced trait anxiety post-intervention. A further interesting finding was that EMDR was significantly more effective in achieving this than CH.

A most important and innovative finding from this research was that trait levels of anxiety were affected positively longitudinally, showing the maintenance of significant decreases below baseline levels at four months and one year post-therapy. The literature review highlights that this finding makes a novel contribution to research.

15.1 Dimensions of MPA

The results of the main study corroborate the pilot study and are consistent with the findings from previous research that MPA exists in a performance situation (Kirchner, 2003; Osborne et al., 2007; Shoup, 1995; Wesner et al., 1990). It was found that MPA was not evenly spread throughout the groups and that cognitive anxiety ranged across low, medium and high levels of performance anxiety (STAI Y-1: state). The information from the self-report questionnaire revealed that subjective cognitive anxiety regarding performance could begin weeks before the performance and grew stronger as the performance approached, supporting the pilot study findings and previous research into the phenomenology of MPA (Kenny, 2011). The night before and on the day of the performance, anxiety could be heightened still further resulting in participants considering withdrawing at the last minute. In some instances acute anxiety was revealed from the comments regarding withdrawal from the research taken from the self-report questionnaire: “I certainly considered it very strongly but once I’ve made a commitment I feel I should go through with it” to “I didn’t really want to do it but I didn’t want to let you down”. The implication of the last statement is discussed later in this chapter.

It was somewhat surprising that participants from Leeds College of Music who are exposed to performance situations on a regular basis displayed similar cognitive anxiety and somatic symptoms as the other participants in this study. Systematic exposure to the performance situation can exert a desensitised effect (pp. 211-212 below). Although the performances were not being assessed by their institutions and the audience consisting of peers was deemed to be friendly, this seemed to make little difference to the participants. The general consensus was that any solo performance where they were ‘on show’ could be equally as nerve-racking as an assessed performance for an examination. During recruitment several participants intimated that they knew that they would experience anxiety but wanted to take part as they were very interested in the therapy outcome and hoped it would help their MPA.

15.2 Perceptions of therapies

In this empirical research it was not possible to conduct blind trials as the participants were fully aware at the end of the first performance as to which treatment they would receive during the study. The practical implications of this might be that individuals had a bias to a particular treatment which might affect the outcome. This is unavoidable in research with participants; however to assess the credibility of this, participants completed a Perception of Therapy sheet both before allocation of the therapies and post-treatment. Little research has been conducted on the relationship between perception of therapy and bias; this is now discussed.

Many participants had some pre-existing knowledge regarding hypnotherapy; however they thought that it was used mainly for smoking cessation and weight control. It was somewhat surprising to note that only one participant had heard of EMDR and this was in relation to post-traumatic stress disorder. The lack of knowledge of the therapies, especially EMDR, is not surprising; it reflects the extremely limited research that has been conducted for MPA using hypnotherapy (Stanton, 1993; 1994) and EMDR (Feener, 2005; Plummer, 2007): see Chapters 3, 4 and 5.

It was illuminating to compare the comments on the Perception of Therapy sheets written at the start of the research and after the application of a therapy. Positive comments regarding the desired outcome were given by the majority of participants without much knowledge of the treatment; several wrote that they were open to the possibility of some good results. Pre-therapy the words ‘curious’, ‘interested’, ‘apprehensive’ and ‘sceptical’ were used several times. Several participants were sceptical regarding CH and EMDR which was demonstrated by low pre-therapy ratings. The scepticism of some participants who received CH was reflected in their low post-therapy ratings; it would seem that scepticism may inhibit a deeper trance state and reflect on the outcome of therapy. A similar link between the pre- and post-therapy ratings did not occur with the participants who received EMDR. Scepticism regarding EMDR where participants gave low ratings pre-therapy was not reflected by post-therapy ratings. This is a most interesting finding and needs further investigation; however it could be suggested that during EMDR sessions participants are aware of anxieties and traumas decreasing, as this is rated on the Subjective Unit of Disturbance scale (Appendix 5.1). They have concrete evidence of this happening, negativity being replaced by positivity which is being subjectively rated throughout the session, enhancing the perception of the beneficial effect of the therapy in the ‘here and now’.

There were far fewer negative comments than positive at the outset of the research with the majority of participants being optimistic that the therapies might help them. The statistical tests (the raw data taken from the ratings) together with the written comments regarding the perception of the therapies in this study show that participants' ratings pre-therapy did not reflect post-therapy ratings. In the main participants did not appear to be biased towards a particular therapy, but conversely the scepticism towards CH exerted a negative effect on therapy outcome (Chapter 14, Case Study 2). Surprisingly there appears to be very little research reported in the literature on the relationship between therapy ratings pre- and post-treatment and therapy outcome. However several interesting studies suggest that clients anticipate that change can be accomplished in a brief number of sessions, with three being the optimum number (Budman & Gurman, 1988; Garfield, 1986; 1989), and that this can be a key determinant of actual therapy outcome (Pekarik & Wierzbicki, 1986). Participants in the current research had been informed at the recruitment presentations that two therapy sessions only would be given, and this may have contributed to a positive therapeutic outcome. This is interesting, and further studies which take the variables of perception and outcome of therapy into account should be undertaken.

15.3 Gender differences

The gender of participants in this study was a factor which influenced MPA with females being significantly more anxious than males prior to a threatening situation (see Chapter 11). The research of Wesner et al. (1990) corroborates this; however Van Kemanade, Van Son and Van Heesch (1995) found an equal incidence in males and females. Recent research with twins of mixed gender found that anxiety sensitivity is heritable in women but not men and also that genetic heritability plays a substantial role in exacerbating severe anxiety sensitivity. In women it was found that a combination of genetic and environmental factors influenced all three dimensions of anxiety: cognitive, physical and social. However, only environmental influences were identified in men (Taylor, Jang, Stewart & Stein, 2008). These factors would predispose women to higher levels of trait anxiety and correspondingly state anxiety when faced with a fearful situation such as a music performance. However in the current study females exhibited marginally lower baseline trait than males. The cognitive, physical and social dimensions of anxiety sensitivity may account for the differences in how people respond to perceived threatening situations (Peterson & Reiss, 1992; Stewart, Taylor, & Baker, 1997; Taylor et al., 2008).

15.4 State anxiety: STAI Y-1 questionnaire

In the current research a significant difference was found in objective state anxiety levels between the two performances in the CH and EMDR therapy groups, both in the pilot study and the main study. Although both therapies were effective in achieving this, in the pilot study which used a small sample, CH participants were significantly less anxious than those in the EMDR group. However CH participants were also marginally less anxious in the main study. The reason for this is not clear but it may be that CH (because of the nature of the therapy) is more suited than EMDR in decreasing state anxiety. Research informs us that state anxiety is primarily a result of faulty information which triggers affective negative responses (Beck & Clark, 1997; Mandler, 1984; Spielberger, 1985), and how events are perceived and interpreted may determine the type and intensity of the emotional response (Barlow, 2002a; Lazarus, 1984; 1991a; 1991b). Cognitive appraisal of the performance after two therapy sessions had changed perceptions positively in the treatment groups. The psychotherapies used in this study addressed the unconscious mind and desensitised past trauma; negative experiences and faulty cognitions were reprocessed and changed positively after only two therapy sessions. However research is biased towards CBT treatment for anxiety disorders. Although positive effects have been found using CBT for the treatment of MPA (Osborne et al., 2007; Tarrant & Leatham, 2007), the drawback is the number of sessions required. Only one large-scale study to date has assessed the effect of hypnotherapy for MPA and a significant pre- to post-intervention improvement was found in the treatment groups but not the Control (Stanton, 1994): see Chapter 3, p.28. The results from the present study now corroborate Stanton's findings. There is increasing evidence for the efficacy of psychodynamic-orientated therapies for performance anxiety (Kenny, 2011) and this is supported by the current research which confirms the efficacy of both CH and EMDR for the reduction of MPA. Although each therapy in the current research was an hour in length, EMDR (depending on the case history) can take a greater length of time than CH and private practice allows for this. It would not have been feasible however to have therapy sessions of variable length, as this would not only have been difficult logistically but also it could be interpreted as adding a skew factor to the results.

Participants generally experienced varying decreases in cognitive anxiety at the second performance; this was an anticipated finding and had been found in the pilot study. When a threatening situation is revisited mental cognitions are somewhat desensitised (Connolly & Williamson, 2004). It is important to note that there were also significant decreases in perceived subjective anxiety at the same measurement point in the therapy groups as reported

on the self-report questionnaire. At the first performance the quality of playing was unknown to the participants and this could heighten anxiety; the levels of the stress hormone cortisol will increase prior to a threatening situation (Kemeny, 2003). The participants perceived the second performance as less threatening; they were revisiting a known situation, were more relaxed, knew what to expect, and knew the standard of playing of the other participants. This resulted in the standard of playing overall improving at the second performance. The desensitisation effect has been reported in the literature; the exposure of the feared situation, sensations, feelings and thoughts become less intense with each subsequent 'visiting' of the experience (Orman, 2003; 2004).

15.5 Trait anxiety: STAI Y-2 questionnaire

The main study set out with the further aim of assessing the importance of the interventions on trait levels of anxiety throughout the research period. In the pilot study, where trait levels had only been monitored twice (baseline and longitudinally), an effect had been found. In some instances trait levels post-intervention had decreased to below baseline measurements, indicating that trait levels are mutable (Chapter 8, Table 8.2, p.102).

In the main study post-intervention at the second performance, the two treatment groups experienced significant decreases below baseline measurements in trait anxiety levels, with the EMDR group being significantly less anxious than the CH group. It is not surprising that EMDR was the more effective therapy in this instance; it is feasible that in a large group of musicians suffering from MPA a significant number may have deep-rooted psychological issues regarding performance. EMDR is a psychotherapy aimed at the pivotal event/trauma that caused the initial fear/reaction; by targeting past trauma the general anxiety level is decreased. This therapy also addresses the contemporary stimuli that might independently trigger the subjective fear (Chapter 5, EMDR).

The results from this study demonstrate that individuals can experience significant decreases in trait levels of anxiety having received only two sessions of psychotherapy. However it is important to note that in one instance, a participant receiving CH experienced a large increase in trait anxiety at the second performance (Chapter 12, p.147). This participant was strongly affected by feelings of being 'out of control' which caused more apprehension during the treatment experience than the forthcoming performance. This raises an interesting question regarding the experience of hypnosis (Chapter 14, Case Study 2): individuals may actually try to block the process and anxiety can be generated as a result of this, in accordance with

Alladin (2008) and Barnett (1989). This suggests that the therapy should be the ‘best fit’ for the individual as opposed to random allocation of therapies.

Prior research informs us that an individual’s trait levels of anxiety are relatively stable from baseline to the perception of a threatening situation (Spielberger, 1972). However the findings in this study demonstrate that trait anxiety levels are changeable on the application of the CH and EMDR psychotherapies administered in this research. The mutability of trait levels of anxiety is documented in the literature (Brodsky & Sloboda, 1997; Carmel & Bernstein, 1990; Nagel et al., 1989). A similar effect of significant decrements from baseline in trait levels was experienced by the Control group post-therapy.

In the current study there was strong evidence supporting the interrelationship of trait and state anxiety and the effect that these two factors exert on performance. However, as these states were assessed at the same time, together with an objective assessment of performance outcome, it is more difficult to ascertain the effect of trait anxiety alone. The log of experiences post-research however gave a subjective evaluation of performance experience alongside an assessment of trait anxiety. It was found that trait anxiety in general was related to performance outcome and demonstrated that a noticeable reduction in trait anxiety levels exerted a positive effect on cognitions resulting in an enhanced performance. Conversely, it could be posited that a high trait level will have an adverse effect on performance. As Hamman (1985, p. 28) argues “Individuals with high trait anxiety will experience greater increases in state anxiety than individuals with low trait anxiety”. Previous research has demonstrated that individuals with high trait levels do not perform as well as those with low trait anxiety when faced with a threatening or feared situation such as a performance (Deffenbacher, 1986; Spence & Spence, 1996).

The findings reported here have important implications regarding trait levels and further empirical research into trait anxiety is now required using both nomothetic and idiographic investigations. Trait anxiety (a predisposition to be anxious) could be posited as being a major factor in the causation of performance anxiety. It has been demonstrated that both trait and state levels of anxiety can be decreased by the psychotherapies used in this study (in only two therapy sessions), and that lowered trait equates to lowered state. The potential benefit of this finding is that the causal link between anxiety and performance can be broken in a short space of time compared to other treatments that are in vogue: CBT, mental skills training and combination therapies (systematic desensitisation, muscle relaxation and bio-feedback). The interventions used in this study, in some cases, might be more beneficial to musicians than

existing therapies (Alexander technique, yoga and mindfulness/meditation) enabling anxious musicians and other performing artists to engage with forthcoming performances free from the crippling anxiety that can be experienced. Therefore further studies which take both variables of trait and state into account using the interventions in this study should be undertaken to corroborate the findings here; this is an important area for future study.

15.6 Self-report questionnaire: Subjective anxiety

The comments on the SRQs were enlightening and gave insight into individual experiences of how the mind affects the body and the impact this has on performance. They provided a rich source of idiographic information on individual characteristics, enabling both quantitative and qualitative assessment of the phenomenology of the performance experience which helped to verify the results from the STAI questionnaire. Previous research has noted the importance of both a nomothetic and idiographic investigative approach (Barlow & Nock, 2009).

Quantification of the qualitative information given on the SRQs supported the findings from the STAI Y-1 questionnaire and gave valuable insight into cognitive, emotional and physiological anxiety across the research period. In this study a significant decrease was found in perceived cognitive anxiety at the second performance in the therapy groups (but not in the control group). It was found that audience distraction affected concentration negatively and heightened anxiety. Previous research has found that lack of concentration is a classic symptom of MPA (Craske & Craig, 1984; Fredrickson & Gunnarson, 1992; Hamman, 1982; Steptoe 2001). Conversely it was found that audience support enhanced feelings of security resulting in reduced state anxiety. This corroborates previous research findings that if audience members are known to the performers this can help feelings of security and decrease performance anxiety (McPherson & Schubert, 2004).

15.7 Cognitive and somatic integration and performance outcome

Previous research conducted into competitive sport anxiety identifies two distinct and partially independent components of anxiety (cognitive and somatic) which can affect performance outcome (Martens et al., 1990). However this study showed that the interrelationship between cognitive and somatic anxiety and performance outcome is not straightforward. High cognitive anxiety and low performance outcome was demonstrated very clearly in the participant with the highest state anxiety score at the first performance; however although she experienced several somatic symptoms of anxiety, some participants with a lower score on the STAI Y-1 exhibited a larger number of symptoms (Chapter 11,

Table 11.1, p.136). Her subjective comments on the SRQ were extremely negative: no confidence, low self-esteem, many doubts regarding performing ability. This participant felt unprepared and one hour before the performance had wanted to withdraw. Earlier studies have shown that lack of self-confidence and low self-efficacy cause high cognitive anxiety in a performance situation (Miller & Chesky, 2004; Orbach, 1999), and that there is a strong relationship between high state anxiety and the outcome of performance (Bandura, 1991). Cognitive anxiety is associated with negative perceptions of fear and failure regarding performance; however somatic anxiety is the result of a fear response associated with the performance venue (Kenny, 2011). This participant was used to the venue which was used for music lectures, and so both the venue and the piano were known to her; this could be a possible explanation for the lower number of somatic symptoms that were experienced. It was found that having audience members giving positive support can reduce cognitive anxiety, supporting McPherson and Schubert (2004) who found supportive audiences can enhance subjective perception and create a sense of excitement.

Heightened cognitive anxiety affected bodily reactions and feelings, and at the first performance levels of cognitive anxiety were interrelated with somatic symptoms; this supports previous research conducted into the importance of these two factors in performance (Steptoe, 2001). However there was a significant decrease in MPA in the therapy groups at the second performance but not in the Control group; and all participants displayed less cognitive anxiety and fewer somatic symptoms at the second performance. This supports previous investigations into positive therapy effects on MPA (Kendrick et al., 1982; Sweeney & Horan, 1982). In the present study it was shown that decreased cognitive anxiety co-varied positively with decreased somatic symptoms (Chapter 11, p. 134) and this is in accordance with the findings of Landers and Lochbaum (1998). It has been found that cognitive and somatic anxiety varies according to performance demands but research indicates that cognitive anxiety is always higher than somatic anxiety (Miller & Chesky, 2004). In the present study participants in the high category of cognitive anxiety experienced significant decreases in anxiety post-therapy at the second performance and similarly experienced significant decreases in somatic symptoms of anxiety at this measurement point. However it should be noted that although there were decreases in somatic symptoms at the second performance overall in all three groups, no significant difference was found at the two measurement points of the two performances. A possible explanation for this may be that those participants in the low, or the lower end of the medium category of cognitive anxiety

(STAI Y-1), experienced fewer somatic symptoms in both performance 1 and 2 than those participants in the high category; therefore a 'floor effect' may be operating here.

At the second performance no participant thought of withdrawing; they were used to the venue, knew the standard of performance and the other participants. Many felt that they were more 'in control' at the second performance and several commented about being more prepared the second time which added to their confidence. The amount of effort co-varies positively with reduced cognitive anxiety, in accordance with Hardy, Beattie and Woodman (2007).

15.8 Behavioural aspects of performances 1 and 2

Participants in the therapy groups demonstrated significant improvements in their performance post-therapy, which was not evident in the Control. The video recording of the performances was invaluable in providing sensitive information which could not be ascertained from the audio recording alone; this added to and verified the audio recordings.

At the first performance anxiety was manifested in anxious facial expressions and nervous mannerisms. Anxiety affected concentration and impaired technical judgement in some cases. The experience of piano performance is unique in that pianists have to get used to a strange instrument, and this factor can add to feelings of anxiety. Although participants were given the opportunity at the first performance to 'warm up' just before playing, it is interesting to note that no-one did this. In a study of pianists' perceptions prior to and during performance, Kirchner (2003) found that the strength of negative thoughts and feelings was seen to undermine the individual's self-perception of how they were viewed by others. Getting used to the piano (however briefly) would have benefited individual performance; it would seem that the importance of this was outweighed by the negative perception of how this would be viewed by the other participants. Lack of preparation was another factor which appeared to heighten anxiety. Being unprepared exacerbates nervous thoughts; this supports previous research by Hardy et al. (2007).

There was a noticeable difference in subjective confidence at the second performance which translated into more effective playing, obvious from both the audio and video recordings. Unlike the first performance, many participants took the opportunity to familiarise themselves with the piano. The standard of playing was much improved (significantly so in the therapy groups) relating to enhanced tonal quality and musical interpretation. Overall accuracy, technical security and instrumental control were more apparent in most cases, not only in the

therapy groups but in the Control group also. Participants appeared more relaxed, there were more smiles, they took more time in walking confidently to the piano; some tested the piano and others adjusted the stool. The therapies were effective in reducing MPA and enhancing positive perceptions of performance and further support the idea that maladaptive thought processes and behaviour are activated by a threatening performance and can be changed by therapeutic treatment (Kirchner, 2003). In fact it was demonstrated clearly by Jane, Case Study 1, where her long-standing comorbid condition (depression and anxiety) was helped after only one treatment of EMDR. After two sessions of this therapy she described EMDR as “an EMotional Detox Remedy” demonstrating from an idiographic perspective the effectiveness and strength of this trauma therapy. As Malan (1979, p.30) argues “Psychoanalytical/psychodynamic treatment of anxiety enables individual realisation that the feared situation is not as painful as imagined, by working through the therapeutic relationship and making use of the emotional learning”. In the absence of therapies the Control group also appeared to ‘up their game’ in the area of performance, but not to a significant degree; however, second performances, where all aspects of the first performance are replicated, appear to be less threatening (Chapter 12, Self-Report Questionnaire). This could be a factor in enhancement of performance; however it could similarly be argued that non-therapy groups practise more between assessment points to demonstrate that they have improved without outside intervention. This is not straightforward and could be an area for future research.

15.9 Longitudinal assessment of trait anxiety: STAI Y-2

The present study illustrates the mutability of trait anxiety levels during the main research period and highlights the importance of monitoring this aspect of anxiety on a longitudinal basis to ascertain if decrements from baseline found post-therapy in the main study were still maintained. A longitudinal study conducted with medical students investigated trait anxiety over time in response to individual stressors (Bernstein & Carmel, 1986). Over a period of 18 months it was found that the levels increased according to academic demands and personal experiences, demonstrating the mutability of trait anxiety. A pilot study conducted by Stern et al. (2012) examined the effectiveness of a nine week yoga practice on reducing MPA (Chapter 3, p.32), which still showed large decreases in trait anxiety from baseline at a one year monitoring point. However only eight participants completed the STAI Y-2, trait portion of the questionnaire, at this time, and therefore the data should be interpreted with caution. To the best of the author’s knowledge the current research is the first large-scale study to examine the effects of interventions on trait anxiety longitudinally, at four months and one year, where significant decreases below baseline have been maintained. The longitudinal

reporting on trait anxiety at these measurement points demonstrates clearly the effectiveness of the psychotherapies used in this study after only two therapy sessions (Chapter 11, pp.138-142).

At both measuring points significant decrements from baseline had been maintained and in some instances had decreased still further. In five cases reduced category levels (categorised from the Spielberger STAI questionnaire) had also been maintained (Appendices 11.3 and 11.4). Previous studies have monitored trait anxiety and have noted the mutability of the levels (Brodsky & Sloboda, 1997; Nagel et al., 1989; Stern et al., 2012); however in reviewing the literature this would appear to be the first large-scale study to monitor levels longitudinally and find that significant decreases below baseline levels had been maintained. Indeed, research conducted by Brodsky and Sloboda, 1997) using CBT as an intervention, demonstrated that although levels reduced below baseline post-intervention during the research period, at a two-month monitoring period this was not maintained as all levels returned to baseline (see Chapter 3, pp. 26-27).

The current study demonstrated that trait levels are mutable, showing both increases and decreases from baseline. What is somewhat surprising however, in the absence of therapy, at both the four-month and one-year monitoring period some participants not only maintained decreases below baseline but these decreased still further, showing the positive effect of the interventions over time. The literature suggests that positive perceptions of performance gained in therapy are ongoing and that these perceptions may grow stronger over time. It further suggests that there may be a correlation between duration and outcome, and that some variables are more positively affected over a longitudinal period than others (Steenbarger, 1994). It has been found that individual trait anxiety scores can increase systematically over time (Carmel and Bernstein, 1990); therefore it is feasible that they can also decrease systematically over time. In this research all participants had been given the author's CD post-therapy and were advised to listen to this, as and when they felt the need. It is difficult to ascertain whether the systematic decreases in anxiety were as a result of the benefits of listening to their or whether this phenomenon would have occurred anyway.

The efficacy of the interventions in significantly reducing trait anxiety post-intervention and longitudinally has been demonstrated. 34 participants at the four-month monitoring period is a robust sample; however 17 respondents at the one-year monitoring is a smaller sample and these results therefore need to be interpreted with caution as the findings might not be transferable to a larger sample at this period. The pilot study at the measurement point 20-24

months post-intervention had also shown that four of the five respondents had trait levels below baseline levels: Chapter 8, Table 8.2, p.102). Measurement on the STAI Y-2 questionnaire conducted in June/July 2015 (Tranche 2 at 15/18 months post-intervention, Tranche 1 at 2 years 6 months, and pilot study at 3 years 10 months) showed that 63% of the 24 respondents (seven from Tranche 1, seven from Tranche 2 and one from the pilot study) had maintained trait levels below their baseline readings (see raw data: Appendix 11.5). A significant decrease below baseline had been maintained demonstrating the long-lasting effects of the therapies over time. These are very important findings which have not previously been reported at such longitudinal periods post-therapy.

However it should be noted that in this study at the two longitudinal measuring points all groups (including the Control) had received therapy; it is therefore more difficult to establish whether the significant decreases from baseline measurements to final time points are related to the presence or absence of therapy. It could be posited that a non-therapy group may have also experienced decreases in trait anxiety due to some uncontrolled variable. To make these findings more robust, future studies could extend this research by the continuation of a control group throughout the whole period of research, including longitudinally.

The psychotherapies adopted in this study were effective for the reduction of anxiety both short-term and longitudinally. An overall picture of trait anxiety and performance experience enabled an idiographic evaluative assessment of the impact of trait levels of anxiety on performance experience. The findings from the current research are both informative and exciting; the longitudinal reporting of trait levels of anxiety post-intervention up to three years and ten months makes a valuable contribution to research and extends current knowledge.

15.10 *Log of experiences post-research (LEPR)*

The qualitative reports on subjective cognitions in the weeks and days before and also during the performances post-research highlighted that although a nervous apprehension could still be experienced (depending on the status of the performance), participants generally felt more confident, were calm and were more in control of the situation; some were excited at the thought of performing and little catastrophizing was experienced. In one instance an incremental decrease in anxiety appeared to be operating with each subsequent performance that this participant experienced. This brings up the question of performance exposure: do some performers become more desensitised with each performing experience? One of the first published studies using an exposure-based behavioural approach was undertaken by Appel (1976) who found that this therapy reduced self-reported anxiety and performance

errors in piano recitals more than in the control condition. Exposure *in vivo* creates desensitisation; confronting the feared object or situation reduces the fear so that this is managed or reduced in subsequent exposures. For further studies that have adopted this technique see Chapter 3, p. 23. However this form of therapy does not suit everyone; some treatments use virtual reality to help those individuals who experience performance anxiety, as a virtual experience appears less threatening than the real thing (Williamon et al., 2014).

Whilst desensitisation therapies can follow different procedures, the basic principles of exposure to the feared situation are always applied but can be delivered in different formats. The techniques and procedures of systematic desensitisation of a feared or traumatic experience using neuro-linguistic programming (NLP) move through three different stages of imagining the situation/experience as on a cinema screen. Stage 1 creates distance from the experience so that the individual is not physically or mentally overwhelmed. In stage 2 exposure is increased as the subject imagines moving closer to the screen, and in stage 3 the experience is pictured as being quickly rewound. This has the effect of re-imprinting the traumatic memory in a different way (running the film backwards); it has been suggested that this scrambles the information which was imprinted at the time of the trauma so that in this form it no longer makes sense and loses its power (Buswell, 2006).

Both interventions in the current study use a process of desensitisation to moderate dysfunctional memories that may be held of past or present emotional trauma. The principles of EMDR use virtual experience to desensitise trauma. During treatment the individual imagines a past traumatic situation and revisits from a safe place the emotions, body sensations and negative cognitions experienced at that time. Through this process the past trauma is gradually desensitised (Shapiro, 1997). Hypnotherapy is another treatment which uses desensitisation to moderate emotional experiences. Whilst the patient is in a trance-like state (and this can be a self-induced trance which can be taught during hypnotherapy), fully relaxed with no bodily tension, the feared situation can be imagined and confronted. Positive ideas, thoughts and feelings are introduced enabling cognitive and emotional re-experiencing of the former uncomfortable situation (Chapter 4, p. 53-54).

It was found from the LEPR that where a decreased trait level from baseline had been maintained at the longitudinal monitoring points, this exerted a positive effect on cognitive perceptions, somatic symptoms and performance outcome. However there are two interesting cases here which should be noted (Chapter 13, pp.160-161).

In the first case a decrease in trait level resulting in a changed category from medium to low (STAI Y-2) did not exert a positive effect on performance outcome as numerous notational mistakes were made. This participant reported remaining calm and positive as her performance deteriorated. It could be posited that a small amount of anxiety would have been beneficial and would have helped the quality of the performance. Very low arousal levels are insufficiently motivational; some individuals need a small adrenalin rush to give their optimal performance (Wilson & Roland, 2002).

The second interesting case was regarding the only participant in this research with a baseline score in the high category of trait anxiety. This decreased to medium category post-intervention and was maintained at the four-month monitoring point. However, at the four-month monitoring point on the performance log a strong negative experience was reported. The decreased trait anxiety appeared to exert no beneficial effect on any of the dimensions affecting MPA. There were negative cognitions and somatic symptoms which impacted negatively on performance outcome. The reason for this is not straightforward, the complexity of MPA having many underlying psychological issues which need to be addressed. However a high category of trait anxiety indicates that there could be many issues contributing to the present-day performing experience. It could be suggested that at the four-month monitoring, although the level of anxiety remained below baseline levels by a substantial amount (11 points), this participant's score was still at the high end of the medium category and indicates that more than two therapy sessions would be needed in this instance to address all of the issues.

The qualitative evaluation of performance experiences longitudinally and assessment of these alongside trait scores gave an interesting overall picture of the relationship of cognitions and performance, and has opened this area for further investigations as it has shown the complexity of MPA.

15.11 Withdrawals prior to participation

Before looking at the limitations of the study it is worth noting the high withdrawal rate of participants after signing consent forms and completing baseline measures of cognitive anxiety. 23 participants withdrew from the research in the weeks prior to the commencement of data collection leaving 46 participants; however the majority of those withdrawing (one ten minutes before the first performance) had not attended a presentation and had therefore not met the researcher. They had been attracted to the research by posters on display around the various campuses and had contacted the researcher by email or text for further information.

The Participant Information Sheets, Consent Forms and STAI Y-1 and Y-2 Questionnaires were sent to them online and signed Consent Forms duly returned. The majority of the participants who remained in the research were those who had attended the presentations where the researcher had been introduced by a lecturer at the start of the presentation. It appears that this could give more credence to the research and that the students felt greater commitment. Students are perhaps not as committed to serious participation (even after signing Consent Forms) having not met the researcher. It may seem less real, and the act of withdrawal does not carry the same weight of ‘letting the researcher down’. This is supported by an illuminating comment from the SRQ: “I didn’t really want to do it but I didn’t want to let you down”. However in the majority of cases genuine reasons for withdrawal were given. The participants were attracted by the posters regarding help with MPA in the form of two free therapies (value £140, as well as a monetary award for taking part in the research). The author believes that initially there was a genuine intention to take part in the research which became unrealistic for several potential participants because of academic work load and dates of performances clashing with pre-existing commitments.

Late withdrawal also poses another interesting question regarding trait levels of anxiety. Two participants withdrew two days prior to the second performance on the grounds of illness. Their baseline levels of trait anxiety were in the upper range of the STAI Y-2 questionnaire and therefore their levels of general anxiety could have had some bearing on withdrawing. It could be posited that this was the possible underlying cause of the illness, the mind affecting the body (Rossi & Cheek, 1994). The student who withdrew ten minutes before the first performance had the second highest trait score of 58 on the STAI Y-2 questionnaire.

15.12 *Limitations of the study*

A limitation of the main study was the restriction of participants taking part in this research to manageable working numbers to enable the therapist to conduct two therapies with each participant in the therapy groups over the short period of two weeks between the performances. In order to achieve this, the research was split into two tranches. Tranche 1 consisted of 21 pianists; however robust research was required and therefore a greater number of participants were needed to make this viable. To achieve this, after completion of Tranche 1 a second tranche was conducted during the following academic year. Tranche 2 consisted of 25 participants and used a similar methodology and research design as Tranche 1. With hindsight the number of participants in each tranche was the maximum manageable number for the therapist/researcher to administer due to the large number of therapies required. The

Control groups also received therapies within ten days following the second performance which made this an extremely intensive work period for the therapist/researcher. However when considering the findings from this study, the broader implication of the research in the field is that two therapies only are both time and cost-effective and realistically makes this type of therapy more accessible for musicians suffering from MPA.

A frustration of the main study during Tranche 1 was that the therapy room had disturbing ambient noise. At times this was disruptive and not conducive to the achievement of optimum results for either therapy: hypnotherapy especially usually requires a deep trance-like state for the most positive outcome. To enable participants to reach a deep trance-state a longer hypnotic induction was given. However, although fully relaxed several participants were unable to reach this state. One participant seemed particularly bothered by this, and his state levels of anxiety remained the same for both performances indicating that hypnotherapy had had little effect on his anxiety (Chapter 14, Case Study 2). It should be noted however that even in very quiet environments some individuals never achieve a deep trance, reaching only a semi-hypnotic trance-state, but positive effects are still reported post-therapy. The author/therapist has first-hand knowledge of this through working in private practice. EMDR needs a quiet environment (as individuals are in a light trance), but it is not as crucial; this may have contributed to the fact that in Tranche 1 EMDR was the more effective of the two therapies in decreasing subjective trait anxiety at performance 2 (Chapter 11, Figure 11.4). When Tranche 2 was conducted particular effort was made to ensure that the areas surrounding the therapy rooms were quiet.

The current research was very efficient in identifying subjective anxiety levels and, although each therapy used was effective in decreasing MPA, when therapies are allocated randomly, as in this study, this may not always be the best approach (Chapter 14, Case Study 2).

Initially a nomothetic approach was used in grouping participants into CH, EMDR or Control groups but within this a broad idiographic method was adopted, where detailed case histories were taken at the start of the therapy. One issue which became evident whilst taking subjective histories was that the allocated therapy might not be commensurate with the presenting issues. Individuals are unique, with a complex interaction of factors contributing to performance anxiety, and as such after careful case assessment should be given the therapy which best matches their needs. Although CH and EMDR are both effective in the reduction of MPA (as shown in this study), even greater effects may be shown if this approach were adopted. Frustration was that the randomly designated therapy, in some instances, was not always the most effective for the participant. The efficacy of the therapies would be even

more apparent if a 'best fit' approach was adopted giving the greatest benefits to the individual. This is supported by Kenny (2011, p.231): "An important issue in therapy selection is the degree of patient-therapy fit: different people respond better to different approaches". Speaking both as a musician who has suffered from MPA and an experienced hypnotherapist who is presented with clients having problems of anxiety, an idiographic approach would appear to be the optimum treatment adopting the 'best fit' approach; this supports Barlow and Nock (2009). However, it was not possible to do this in the current study as the design and methodology required random allocation of therapy and control.

It could be said that a weakness of this research was having one therapist conducting all of the therapies who was also the main researcher. However, as the main researcher/sole therapist was self-funded, employing independent therapists was not feasible. Independent assessment however was conducted with samples from the SRQ and also independent blind assessment of both performances. Having a number of different therapists and an independent researcher collecting and analysing the data would be a much more robust approach. Using several therapists may make this research more robust but it also introduces more variables regarding personalities and the therapist/participant relationship. However any subsequent research could now employ this method, as the procedures, protocols and texts for both therapies that were used in the current research have been documented so that replication by trained therapists is possible. These can be found in Appendices 4.1 and 5.1.

Both therapies in this research were effective in significantly reducing MPA in the treatment groups in two therapy sessions. What is needed now is a comparison of the cost-effectiveness of hypnotherapy and EMDR with that of the standard practice (currently cognitive behavioural therapy). This is supported by Kenny (2011) and Wilson and Roland (2002).

15.13 Future Research

Further research should now be conducted considering the new issues highlighted in this study. The following areas are identified for future research.

The current study suggests that scepticism of therapy, in some cases, exerted a negative effect on hypnotherapy outcome but not on EMDR, and identifies that the initial therapy perception on therapy outcome is an important area for future research. As this is the first study to conduct such an investigation, these data need further corroboration through more detailed research in this area, so that the association between scepticism and therapy outcome is more clearly understood.

Another important area for investigation is the amount of practice undertaken throughout the research period. Completion of idiographic self-report questionnaires reporting practice time should be undertaken by all participants, non-therapy and therapy groups. More research on this important aspect of performance is needed and comparisons made between therapy and non-therapy groups taking this confounding variable into account, to ascertain if non-therapy groups undertake more practice in order to compensate for lack of therapy.

A second confounding variable in the current research was the continued listening to the CD given to participants post-therapy. Future research could explore the impact of the regularity of listening on subsequent anxiety levels, and the effect that this has on performance. The log of performance experiences post-therapy could also include a section on the amount of engagement with this.

The mutability of trait levels of anxiety is a valuable contribution to current knowledge and further research using CH and EMDR with both nomothetic and idiographic investigations should be conducted. To make this manageable using a large sample of participants would require the collaboration of a number of researchers and therapists. Nomothetic studies are valuable in statistical comparison of groups; however when the focus of the research adopts an idiographic approach, the multidimensional aspects of individual trait anxiety can be more clearly understood.

This study has highlighted the relationship between trait and state anxiety and further research is needed into the interrelationship of these two anxiety states so that the association between trait and state anxiety is more clearly understood. The author believes that the investigation of the two-factor structure of this complex relationship is best achieved using idiographic experiences of performance anxiety, but also including emotional trauma caused by other circumstances. In the current study EMDR has been the most effective therapy for the reduction of trait anxiety. Therefore future research should be conducted using this therapy with participants suffering from MPA who have also experienced trauma in other areas of life. This will help identify if an interconnection of trauma and trait anxiety exists and if the modification or extinction of the traumatic memory (not connected with MPA) can exert a positive impact on MPA.

Future research is also required to examine other theoretically relevant variables.

The unanticipated finding of the longitudinal effect of the therapies on trait anxiety and subsequent performances needs further investigation, adding to the current research by use of a control group over this period. This will give more understanding of the long-term effects of the therapies when compared to a non-therapy group. However, it would be more difficult to recruit participants to remain as controls throughout the study. In the absence of the opportunity of receiving a therapy, a substantial financial incentive might need to be offered.

The number of sessions required using cognitive behavioural therapy (CBT) as a treatment for MPA has already been highlighted (Chapter 3, p. 35). What is now needed is a study comparing CBT and CH as interventions, where only two therapy sessions are given. A comparison of the efficacy and cost-effectiveness of CH could then be made with that of current standard practice.

This study used one therapist which highlighted two issues: the therapist also being the main researcher weakens the study, and a second problem is the work overload during the therapy administration period using a sample of this size. Therefore there is a need for future research addressing both problems by ensuring that:

- a) the main researcher is not involved with therapy
- b) at least two therapists conduct the therapies using the same protocols and procedures as in the present study.

However the latter could introduce a confounding variable of therapist personality and rapport established with the participant, and could produce artefacts of mismatch; however a large sample should negate this.

In this study a significant longitudinal effect has been found on trait levels of anxiety which purports to a change in the basic personality. Researchers suggest that a change in personality has an effect on the mind and therefore on brain structure (Goldapple et al., 2004; Pascual-Leone et al., 2005; Tomarken et al., 1992): see Chapters 2 and 3. Therefore, to establish if any changes occur in the brain, monitoring should be conducted both during CH and EMDR therapy using electroencephalograms, and pre- and post-therapy using MRI scans.

15.14 *Summary of the empirical research*

This study indicates that maladaptive cognitions, tensions and exaggerated beliefs concerning the importance of performance can impact negatively on an individual's performance, supporting research conducted by Steptoe (1989b). Psychotherapeutic therapies in the current

study were shown to be effective for the reduction of performance anxiety and the enhancement of performance using two therapy sessions. The study was very thorough in testing both objective and subjective cognitive anxiety through the STAI Y-1 and Y-2 questionnaire and the self-report questionnaire, and significant reductions in MPA were found in the therapy groups at the second performance. Trait and state levels of anxiety were found to be significantly lowered in the treatment groups; participants in these groups displayed significant enhancement in performance at the second playing which was not evident in the Control group. This indicates the bearing that cognitive anxiety exerts on the behavioural aspects in performance. A positive effect was found between state anxiety and performance outcome: as state anxiety decreases, performance enhancement increases. In the therapy groups post-intervention there was a significant decrease in state anxiety and a significant enhancement in the quality of performance. Although there was no significant difference in somatic symptoms of anxiety post-therapy, these were reduced at the second performance. A strong relationship was found between trait and state levels of anxiety, and decreases in trait anxiety post-intervention experienced by a large number of participants demonstrated that trait anxiety levels can be reduced post-therapeutic interventions. It can be posited that when negative schemas have been changed and threatening experiences expiated, this results in a decreased trait anxiety score where an individual's generic level of anxiety is lowered; this purports to a change in the basic personality. This has huge ramifications not only for MPA but for any performing situation in which an individual would normally worry.

Chapter 16

Conclusion

16.1 Study findings

This PhD study has given valuable insights into the phenomenology of music performance anxiety with all its multi-faceted complexities, through both nomothetic and idiographic investigations. The aim of the study was to broaden the existing knowledge in this field by exploring the experience of MPA through use of two psychotherapies which target the subconscious mind; giving an overview of the nature of performance anxiety; and relating the findings to current research in the discipline of music psychology. It represents an exploration of the potential benefits of CH and EMDR through a framework of empirical research, using a large sample of participants (52 Grade 8 pianists). A comprehensive model was used to test a number of possible predictors of MPA, which gave information on both objective and subjective anxiety during performance and longitudinally.

Although the primary focus of the study was on state anxiety, as the investigations proceeded an unanticipated finding was the highly effective role that the therapies exerted on trait anxiety, where the general anxiety level decreased significantly post-therapy. It was also found that EMDR was significantly more effective than CH in reducing trait anxiety, whereas both therapies had proved equally effective in reducing state levels. When trait anxiety was monitored longitudinally at four months and one year post-therapy it was found that decreases in trait anxiety had been maintained and were still significantly lower than baseline measurements, and in some instances had decreased further. The current study supports the findings from previous research on longitudinal monitoring of trait anxiety (Stern et al., 2012) when it was found that trait levels of anxiety were still significantly lower than baseline levels one year post-intervention. However this research was a small pilot study and at this monitoring point the sample size had reduced from 21 to 7; caution should therefore be exercised when interpreting the findings. As far as the author is aware the present study is the first to report the maintenance of significant decreases of trait levels below baseline at 4, 12, 18 and 30 months post-intervention, testing a large sample of participants.

This study has identified that further research is now required regarding the mutability of trait anxiety. Future investigations should focus on the variability of these levels with use of CH and EMDR, with the emphasis on the longitudinal monitoring of trait anxiety. A significant reduction in the general level of anxiety purports to a change in the basic personality and

demonstrates that musicians do not have to endure the negative effects of performance anxiety. Therapists should also be aware of the impact of these fast-acting therapies and their longitudinal effects on the general anxiety level.

The hypotheses in Chapter 6 of the study were that by decreasing negative cognitions both in conscious and unconscious memory, subjective performance would be perceived as less threatening, resulting in a significant reduction in state anxiety post-therapy and a significant enhancement of performance in the therapy groups. Physiological/somatic symptoms of anxiety would also be lessened. It further hypothesised that both therapies would be equally effective in achieving this.

The hypotheses are supported by the findings in this research. Both objective and subjective levels of state anxiety were reduced significantly during the second performance in the therapy groups (but not the control). This impacted significantly on the standard of playing in these groups during the second performance and as hypothesised both therapies proved equally effective in enhancing performance. Physiological and somatic symptoms of anxiety also decreased at the second performance but not significantly.

16.2 Implications

Although the relatively large sample used in this research made inaccurate data unlikely, it is recognised by the author that the study was weakened in its design as the main researcher was also the therapist and analysed the findings (discussed earlier in the study: Chapter 15).

Although independent assessment was adopted as far as possible, future studies could benefit from broadening the design by use of a therapist, or therapists, who are not involved in data collection; this would be a much more robust approach.

The current research demonstrates that when anxiety is decreased significantly the subjective music experience of performance is significantly enhanced and musicians are able to look forward to performance rather than dread it. The study further demonstrates the interrelationship of state and trait anxiety and the effect that these two factors exert on performance. Trait anxiety is an individual's proneness to anxiety, the predisposition to be anxious, and will directly influence the level of response to what is perceived as a threat (Kemp, 1996). A reduction in trait anxiety has huge ramifications not only for MPA but any situation, performance or other, where an individual perceives a threat to self-esteem. The psychological principles adopted in the current study through the therapies used can be implemented for the reduction of anxiety in any performance situation. Another important

implication of this research is that dysfunctional conditions which are anxiety-based can be alleviated through CH or EMDR, or a combination of the use of both therapies. The usefulness of the data has broader implications, suggesting that this approach could have applications in areas of clinical disorder where negative affectivity is the underlying problem. In fact clinical outcome studies have shown that a major risk factor for anxiety-based conditions, panic attacks and depression is negative affectivity (Hayward, Killen, Kraemer & Taylor, 2000). However, it is important to examine the complexity of psychological disorders against the background of existing empirical treatments and comorbid conditions, as other therapies also have the potential to be effective (discussed earlier: Chapters 3, 4 and 15).

The present research offers evidence for the effectiveness of both CH and EMDR for the significant reduction of cognitive anxiety in performance (both state and trait), after only two therapy sessions. However there is still need for caution, as demonstrated by the case studies presented here, which showed the importance of matching therapy suitability to the individual; additional validation is required through further rigorous investigations. Therapies that target the unconscious mind might not be the preferred choice of therapy for some individuals, such as those who have an aversion to hypnosis or are suffering from focal anxiety where no deep-seated problems exist.

16.3 Recommendations

Many writers and clinicians advocate the importance of using effective treatments for a wide range of disorders; there is little research which investigates the use of CH or EMDR for MPA and this study highlights that more research into the effectiveness of these techniques is now required. This study suggests that the therapies have an important contribution to make to our understanding and treatment of the phenomenology of performance anxiety. The most crucial challenge arising in the existing literature, and in the medical practice in the treatment of this condition, is the emphasis placed on the conscious as opposed to the unconscious mind; this would appear to be hindering progress in working towards a more robust and radical solution to this condition. Where fundamental psychological problems exist, therapies that deal solely with the conscious mind are not effective in their outcomes for everyone; quick acting psychodynamic therapies as used in this study give faster and longer-lasting results. However similar effects may also be achieved through more contemporary cognitive strategies that focus on desensitisation of thoughts and emotions (exposure therapies; mindfulness; imagery techniques: see Chapters 3 and 4).

It is acknowledged by the author that there is scepticism of psychodynamic therapies in various domains, including the medical profession and the general public. Greater understanding of the therapeutic procedures and protocols of CH and EMDR is needed, together with more scientific and empirical research providing evidence which can increase the credibility of these therapies. Once their efficacy is established it will increase therapy utilisation not only for MPA, but for any performance situation and disorders that are anxiety-based. The results suggest that both therapies might, after further research, deserve inclusion in National Health Service thinking, and be given similar status and standing as CBT, the therapy currently advocated by the medical profession for anxiety-based conditions. The current study adds to present day knowledge in the use of CH and EMDR as an intervention for MPA as the author has clearly documented the protocols and procedures used in these investigations which can be replicated by qualified practitioners (Appendices 4.1 and 5.1). Understanding the therapies, and education in their principles and protocols, is the key to overcoming diffidence and lack of knowledge. One way to manage this would be through direct collaboration between musicians/researchers/medical practitioners/therapists, bringing these disciplines together and working towards a shared agenda. The cost effectiveness of these therapies has already been discussed (Chapter 15) and cost comparisons with other therapies should now be conducted given the effectiveness of these therapies after only two sessions.

The current study suggests that greater exposure and awareness of these therapies is required globally, not only in academic journals, but in musicians'/music teachers' publications such as EPTA (European Piano Teachers Association) and ESTA (European String Teachers Association) as well as 'Libretto', the quarterly journal of the Associated Board of the Royal Schools of Music. Other associations which highlight the physical and psychological challenges faced by musicians in performance include the International Society for the Study of Tension in Performance (ISSTP) and the British Association for Performing Arts Medicine (BAPAM).

If the above recommendations are implemented, it could be hypothesised that the whole question of therapeutic interventions that target the unconscious mind will be viewed with a different perception, and given the status that they deserve. The practical implications of the findings are that both CH and EMDR have significant beneficial effects on anxiety, are fast-acting, and that these effects are long-lasting.

The aim of this research was to expose CH and EMDR to scientific scrutiny in order to assess their efficacy for MPA and to provide greater understanding of these psychological therapies. The findings from this study extend current knowledge and are original contributions to research; they have called into question the current literature in this field. The study demonstrates the need for corroboration of the findings through more investigative work of this kind, and must serve as a prompt for future research. The new issues that have been highlighted here, particularly the role that trait anxiety plays in the performance arena and the longitudinal assessment of its effects, should be a primary consideration for future research.

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Appendices

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Cognitive Hypnotherapy Text

Self-Confidence for Musicians (for use by a qualified practitioner)

The following script provides the main content of the first hypnotherapy session

After taking client history give brief explanation of the following:

- a) choice of 2/3 key words
- b) ideomotor signalling
- c) hypnotic trance

Hypnotic Induction

The clinician's own choice of induction can be used.

Deepening the Trance

You are now so fully relaxed and in such a deep hypnotic trance that both your mind and body are receptive to the suggestions that I now give to youand the suggestions that I now give make you feel even more relaxed. In order to do this I am going to count from ten down to one, when I reach five you will be 50% deeper in hypnosis than you are now and when I reach one you will be 100% deeper in hypnosis than you are now.

Count down followed by ego-strengthening suggestions

You are now resting in a deep, a very deep trance in a very pleasant room..... piano, comfy chair, etc.

And as you continue to drift deeper, deeper and even deeper into relaxation, so calm so comfortable, the suggestions that I now give to you enter your memory bank, and they are accurately recorded and supported by your deep desire and total belief and your self-confidence as a musician – these suggestions have energy and pulsate through the body as positive post-hypnotic suggestions to be acted upon whilst in the waking state, and all of these good suggestions that I now give to you from this moment on direct your confidence in your ability to be a good musician.....now remember these suggestions will be accurately recorded in the memory banks of your brain, not because I say so but that is the nature of the subconscious mind. Now go deeper and deeper utilising your imagination drifting away to a peaceful, tranquil place, and allow yourself to become more and more in tune with this place, and now rest easily in this place, and as you rest in this place I speak to your subconscious mind which accesses all memories of your past experiences including musical memories.....

The time for instance when you were first learning your instrument and how musical notation was very strange and foreign to you, but gradually you overcame this and translated music into sound, and what an achievement that was, it required dedication, lots of practice and hard work, but you mastered your technique playing your instrument (or singing) and built on your learning using your own inner resources. Now all these learning processes are stored in your subconscious mind and this knows very well which resources you will take from your past to

help you with any future performance. Now take a moment and let your subconscious recall these processes.....your enjoyment of reaching goals and your desire to improve and succeed and reach your full potential, as you know how important music is to you.

Use your imagination, see in your mind's eye the venue where you may perform and as you picture the venue see yourself crossing the threshold. As you cross the threshold all feelings of nervousness disappear.

Anchor: KEY WORDSnotice how calm and relaxed you feel now these same feelings go with you and remain with you and become stronger. You feel

.....

Your breathing is relaxed and easy, and both your mind and body are working in harmony; you feel good knowing you have just the right amount of nervous tension to play (or sing) securely and with confidence – you feel totally confident, calm and relaxed and you are

Anchor: KEY WORDS.....

Visualize yourself now being just the way you want to be. See yourself as a fully accomplished musician and keep this picture in the brain because the subconscious mind has the ability and the tendency to actualise (make real) the pictures in the brain. Now use your imagination once more, your attentional focus is utterly with the music, allowing you to perform and connect with your audience, the body is relaxed without tension in the hands, arms, shoulders and neck and the breathing flows naturally and easily. You look calm, relaxed and confident and you communicate this very well to your audience. Listen to the beautiful sounds that you are making and feel the sensations in your body, the music just seems to flow without effort and you feel really good and are enjoying the performance. Your musical abilities are something of which you can be rightly proud. Take a moment or two now to run a film of your performance from beginning to end..... You won't hear my voice now for a minute or two while you do this NOW.....Know that if you hold the picture of success long enough the subconscious mind will actualise that picture and you will have gratifying success, so your responsibility to yourself is to keep only positive and successful pictures in the brain and the subconscious mind will actualise those pictures. NOW.....I give you more suggestions that allow you to be an effective and successful musician, saying to yourself your **KEY WORDS X 2 Anchor** and I am especially **Anchor** when I am playing my instrument (or singing) in whatever situation I find myself in, either practising by myself or playing in front of anyone.....and I enjoy the act of performing, I am **KEY WORDS Anchor** and am master of the situation at all times. I breathe deeply from my diaphragm, my legs are strong beneath me, there is no tension in my shoulders, my hands are poised and calm and the gestures flow spontaneously and freely, I am.....**KEY WORDS** Anchor. Now in a moment I will bring you back to full conscious awareness knowing that your **KEY WORDS** areand anytime you need to feel the full impact of these wonderful words you just think them or simply say them and you instantly become **KEY WORDS**.

And know (name of client) that today you have had therapy that has desensitised your mind and body to those previous uncomfortable feelings that you might have had so that you now no longer have these former feelings when you encounter a situation that previously caused

you discomfort. Your mind and body have now learnt the appropriate feelings for you in this situation. When you encounter a situation or event that used to cause discomfort you say or think the words **Anchor.....KEY WORDS** and immediately you become **KEY WORDS** as you know that your mind and body now have the appropriate resources for you.

- Your mental perceptions have now changed no longer causing those feelings that you previously had.

Ideomotor signal:

Can you lift your “yes” finger when your subconscious mind has integrated all of this new knowledge so that I will know that this has happened.

Bringing the client out of trance:

I will now bring you back to full conscious awareness counting from 1 up to 5; 1.....you have a wonderful feeling of well-being; 2..... you’re feeling more alert; 3.....feeling mentally strong and emotionally strong;.....4 you’re feeling so good now, confident in yourself and in your abilities; 5..... Eyes open feeling fully alert and looking forward to the rest of the days, months and years ahead of you.

Text compiled by a musician for musicians (Brooker, March, 2010).

EMDR Protocols

The protocols from the AIP model have been adopted for Music Performance Anxiety (for use by a qualified practitioner)

After taking a client history:

- Prepare the client and explain the procedures of EMDR
- Identify the targets beginning with the most traumatic event/experience. Traumatic experiences need not necessarily be concerned with music
- It is important that every traumatic event has been addressed before the final treatment is concluded
- Proceed with the treatment
- Bring up an image depicting the most traumatic aspect of this experience
- What are the negative cognitions the client holds about her/himself regarding this experience
- What are the main emotions held regarding this
- Create the positive cognition
- How true is the positive cognition? Find the 'gut' level on the Validity of Cognition (VOC) scale where 1 = false and 7 = completely true
- Link the traumatic image and the negative cognition. Name the most disturbing emotion
- Rate the level of disturbance on the Subjective Unit of Disturbance (SUD) scale where 0 = neutral or calm and 10 = the worst level of trauma
- Body location: identify where physical sensations are felt
- Desensitise target trauma and all association until target has a SUD of 0 or 1.
- Install the positive cognition
- Rate the positive cognition – a score lower than 7 (5 or 6) is acceptable if ecologically sound
- Body scan for any residual tension
- Close session

Participant No. P 2

Self-Report Questionnaire

Performance 1

<p>1. What were your thoughts/feelings/emotions during the days/weeks leading up to the first performance?</p> <p>I was looking forward to the <u>1st performance being over</u> so I could what would happen next. I was happy learning the music but thought that it was likely to not go perfectly due to nerves.</p>	
<p>2. Did your feelings stay the same/grow stronger/grow weaker as the concert approached?</p> <p>My feelings grew stronger. I felt that some days the piece was good, others it was bad and so in the pressure of performance it would probably not go that well.</p>	
<p>3. Did you ever feel so strongly that you felt you might withdraw?</p> <p>No. I was intrigued by the therapies & didn't want to miss out.</p>	

<p>4. How did you feel 15/30 minutes before performing at the venue?</p> <p>Quite nervous as I was worried that it would go wrong + that everyone else would play perfectly.</p>	
<p>5. Did you experience any physical symptoms during your performance? What were they? To what degree?</p> <p>Yes. My hands started to shake a lot + I felt my pulse quicken. My hands also got slightly sweaty + my face was burning.</p>	
<p>6. Did they improve or adversely affect your performance in any way?</p> <p>Adversely affected it. I felt I couldn't securely play the right notes with my hands shaking so much.</p>	

Participant No. P2

Self-Report Questionnaire

Performance 2

		<i>Researcher use only</i>
	<p>1. What were your thoughts/feelings/emotions during the days/weeks leading up to the second performance?</p> <p>I was looking forward to the performance to see if there would be an obvious difference in my playing. I didn't feel as nervous as I was the first time.</p>	
	<p>2. Did your feelings stay the same/grow stronger/ grow weaker as the concert approached?</p> <p>My feelings stayed the same. (still not as nervous)</p>	
	<p>3. Did you ever feel so strongly that you felt you might withdraw?</p> <p>No.</p>	

	<p>4. How did you feel 15/30 minutes before performing at the venue?</p> <p>I felt slightly nervous but not I wasn't really worried about the performance.</p>	3
	<p>5. Did you experience any physical symptoms during your performance? What were they? To what degree?</p> <p>I had a slight nervous feeling in my tummy but nothing extreme. My hands started to shake while I was playing but only slightly & I still felt that I was in control.</p>	
	<p>6. Did they improve or adversely affect your performance in any way?</p> <p>They probably slightly adversely affected my performance as my hands weren't totally secure.</p>	

Pilot Study Raw Data

Ref	Age	Trait	State Baseline	State Perf 1	State Perf 2	Systolic Baseline	Diastolic Baseline	Pulse Baseline	Systolic Perf 1	Diastolic Perf 1	Pulse Perf 1	Systolic Perf 2	Diastolic Perf 2	Pulse Perf 2
P2	21	45	48	63	41	149	78	99	151	101	97	108	77	102
P3	18	39	30	59	48	116	79	67	142	111	73	130	86	75
P4	20	37	29	43	28	123	83	70	154	109	65	118	65	87
P5	18	32	24	41	26	121	81	83	118	81	83	113	79	92
P6	19	27	24	45	33	107	78	67	156	125	85	130	90	80
P7	21	24	22	28	34	95	70	61	142	111	77	126	84	70

KEY



BASELINE



PERFORMANCE 1



PERFORMANCE 2

Therapies administered post-performance 1 and pre-performance 2:

Cognitive Hypnotherapy	P4 & P5
EMDR	P2 & P6
No therapy (Control)	P3 & P7

Research into Music Performance Anxiety

Could you please complete the following and scan it back to me as an email attachment.

Elizabeth

Tranche 1 Participants' Ratings of Therapies

Participant Number: MS

1. On a scale of 1-10 (where 10 is the most effective and 1 is the least), rate how you viewed the likely effect of the therapies on your MPA before receiving them:

1 2 3 4 5 6 7 8 9 10

Any further comments:

2. Having received the therapies, rate how effective overall they have been for your MPA in any subsequent performances (scale 1-10 as above):

1 2 3 4 5 6 7 8 9 10

Any further comments:

PhD Main Study**Criteria for Assessment of Performance**

- Overall accuracy/technical security
- Instrumental control (including pedal control)
- Fluency
- Sensitivity to tonal quality
- Musical interpretation
- Confidence in performance

Mark against each criterion out of ten as follows:

Very Good/Excellent	8-10
Average/Good	5-7
Fair/Acceptable	3-4
Poor	0-2

Then total the score.

Track No. **Participant No. : MS**

(Circle a score against each category below)

Overall accuracy/technical security	0	1	2	3	4	5	6	7	8	9	10
Instrumental control (including pedal control)	0	1	2	3	4	5	6	7	8	9	10
Fluency	0	1	2	3	4	5	6	7	8	9	10
Sensitivity to tonal quality	0	1	2	3	4	5	6	7	8	9	10
Musical interpretation	0	1	2	3	4	5	6	7	8	9	10
Confidence in performance	0	1	2	3	4	5	6	7	8	9	10

Total Score:

For use by Elizabeth Brooker only. Received from Mind Garden, Inc.

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name _____ Date _____ S _____

Age _____ Gender (Circle) M F T _____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right now*, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

VERY MUCH SO
MODERATELY SO
SOMEWHAT
NOT AT ALL

- | | | | | |
|------------------------|---|---|---|---|
| 1. I feel calm | 1 | 2 | 3 | 4 |
| 2. I feel secure | 1 | 2 | 3 | 4 |
| 3. I am tense | 1 | 2 | 3 | 4 |
| 4. | 1 | 2 | 3 | 4 |
| 5. | 1 | 2 | 3 | 4 |
| 6. | 1 | 2 | 3 | 4 |
| 7. | 1 | 2 | 3 | 4 |
| 8. | 1 | 2 | 3 | 4 |
| 9. | 1 | 2 | 3 | 4 |
| 10. | 1 | 2 | 3 | 4 |
| 11. | 1 | 2 | 3 | 4 |
| 12. | 1 | 2 | 3 | 4 |
| 13. | 1 | 2 | 3 | 4 |
| 14. | 1 | 2 | 3 | 4 |
| 15. | 1 | 2 | 3 | 4 |
| 16. | 1 | 2 | 3 | 4 |
| 17. | 1 | 2 | 3 | 4 |
| 18. | 1 | 2 | 3 | 4 |
| 19. | 1 | 2 | 3 | 4 |
| 20. | 1 | 2 | 3 | 4 |

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SELF-EVALUATION QUESTIONNAIRE
STAI Form Y-2

Name _____ Date _____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant.....	1	2	3	4
22. I feel nervous and restless.....	1	2	3	4
23.	1	2	3	4
24.	1	2	3	4
25.	1	2	3	4
26.	1	2	3	4
27.	1	2	3	4
28.	1	2	3	4
29.	1	2	3	4
30.	1	2	3	4
31.	1	2	3	4
32.	1	2	3	4
33.	1	2	3	4
34.	1	2	3	4
35.	1	2	3	4
36.	1	2	3	4
37.	1	2	3	4
38.	1	2	3	4
39.	1	2	3	4
40.	1	2	3	4

PhD Main Study**Self-Report Questionnaire****Performance****Participant No.**

1. What were your thoughts/feelings/emotions during the days/weeks leading up to the first performance?	
2. Did your feelings stay the same/grow stronger/grow weaker as the concert approached?	
3. Did you ever feel so strongly that you felt you might withdraw?	

4. How did you feel 15/30 minutes before performing at the venue?	
5. Did you experience any physical symptoms during your performance? What were they? To what degree?	
6. Did they improve or adversely affect your performance in any way?	

Participant No.

Log of Experiences Post-Research

It would be helpful if you could keep a log of any subsequent musical performances (small or large) in the six months following your participation in this research. It does not have to be completed every day but only when you have something you wish to or find useful to record.

If you can, please describe your thoughts and feelings in the weeks and days leading up to the performance(s) and in the performance itself (positive/negative/neutral), physiological changes, the general overall experience, how it compared with your previous performances prior to taking part in this research, and any thoughts or feelings you may have about your performance afterwards.

I will contact you in the autumn to collect the completed log. Please do not hesitate to contact me if there is anything you are unsure of or wish to discuss.

Thank you for your help with this very exciting study.

Yours gratefully

Elizabeth
February 2013

Tel: 01789 772669

Email: elizabeth.brooker@hotmail.co.uk

Mob: 07719 401399

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Participant No.

Log of Experiences Post-Research

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings

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Participant No. MS65 *Four month report post-intervention (one sheet)***Log of Experiences Post-Research**

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
21/06/14	25/04/14	Concert	Positive, excited for the concert.	Slightly shaky, but nothing intrusive.	Happy with the concert and how it went.
21/06/14	29/04/14	Concert	Happy about how I know the music well, positive and excited.	N/a	Pleased with myself.
21/06/14	12/05/14	Concert	Excited, feeling cool, calm and collected.	N/a	Happy, hyper active to a certain extent.

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Participant No. MS64 *Four month report post-intervention (two sheets)*

Log of Experiences Post-Research

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
7/05/14	7/05/14	Informal performance of one piece in a lecture (Note: it had been over a month since I had performed in front of an audience)	Pre-performance: very nervous for the performance, neutral feelings towards the performance but not looking forward to the performance. During performance: My mind went blank and slightly hindered my ability to perform. Relaxed as the performance went on but still feeling that I wanted to get the performance over with.	Sweating, arms and legs shaking a little. Tension in chest, shoulders and arms.	Negative reflection of the performance and feeling upset. (Note: the opinions of some audience members on my performance improved my reflection of my performance)
14/05/14	14/05/14	Informal performance of one piece in a lecture	Pre-performance: nervous but confident of my ability. Wanting to get my performance out of the way but I was not dreading it. During performance: nervousness that decreased as the performance went on. My mind went blank but it did not affect my ability to perform the piece from memory.	Tension in the chest area and shoulders, arms did not shake. Palms were sweaty but not disruptively.	Positive reflection of the performance and the feedback given and all physical symptoms have ceased.

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
21/05/14	20/05/14	Informal performance of recital in front of a small group of people	Pre-performance: not particularly nervous (probably due to the fact I knew the audience members). During performance: realisation that I could play the piece better than I thought in front of an audience and that I could express the piece properly.	Slight sweaty palms but not disruptive.	Positive reflections, it (was almost enjoyable to play in front of a group of people I know).
27/05/14	27/05/14	Recital Performance for performance module	Pre-performance: found that I wasn't nervous, feeling alert and ready, neutral thoughts (lots of pacing while waiting) During performance: feeling surprisingly composed and prepared. Once I started my pieces, I felt positive about them and was not distracted by the fact that I was being marked/recorded.	Leg did shake and was a little disruptive (but I feel that was down to the significance of the performance) body felt stiff and upright (but in a sort of positive/prepared way) and my hands felt fluid and ready to play.	Majority of thoughts were positive, happy that I played two of my three pieces without any problems (noticeable to me) but slightly negative towards the third piece (I stopped momentarily) (however, I realised later this was down to my understanding of that piece and not my ability to carry out a performance). Overall, I felt like my ability to perform under pressure was at its best during that performance than it has ever been.

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Participant No. MS21 *Four month report post-intervention (first two sheets), one year report (further two sheets)*

Log of Experiences Post-Research

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
14/7/13	12/5/13	Mozart Piano Concerto No. 20. Performance time 34 mins. approx	For almost a whole month before the concert I was relaxed, but a few nights before the concert I noticed I was a little bit worried when I had difficulties sleeping. During the performance I was able to concentrate on the music. One thought that helped me was to think "I am with the orchestra, not against it, and I am with the orchestra and not with the public.	First movement: slight trembling hands and faster heartbeat. Second/third movements: I was able to control my body better than in previous experiences and use it to produce a nicer sound with more tone.	I was relieved. I was happy with the outcome in general, but I wasn't comfortable with the way I played the first movement. For this reason I felt a need to apologize for the way I played the first movement. But it turned out that everybody was happy with my performance. Later I saw the video of my performance and it was very good and it doesn't come across how uncomfortable I was during the first perf.

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
14/7/13	4/6/13	Piano recital exam: Bach, Scriabin Sonata 6 Matre's dance for percussion and piano	<p>During the hour previous to the performance I was trying to keep calm and in a good state. Feeling that I needed to be very careful not to have the wrong thoughts and ideas. In the end I managed well the situation, just sitting for some minutes and staying away from people trying to be aware of my physical sensations. This recital was challenging because of the Scriabin, a very difficult piece which months ago I thought I would never be able to play.</p> <p>During the performance: I enjoyed playing the Bach listening to the polyphony and nice phrasing. The Scriabin I was aware I was doing something remarkable for me, I enjoyed most of it, enjoyed the sound and colours. There were a few moments of tension but in general it was good.</p>	During the Scriabin a little bit of hands shaking at the beginning.	<p>GENERAL NOTE: In these performances I felt better physiologically (fewer hands shaking, foot not making pressure against the floor, and better body control and awareness in general) than before taking part in this research. The only few minutes that were really unpleasant and scary were the first ten minutes of the Mozart concerto. In general I still get stressed while being on stage to different levels but I am able to handle the situation better. Although I need to be careful every time so that I can still handle it.</p>

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
02/03/14	02/03/14	Flute and piano recital	Days before the concert I wasn't preoccupied, and I believe I thought I was just going to do my job and that was all. I think I enjoyed the performance, although the pieces were not very hard and the audience was a very appreciative one	I don't remember any particular symptoms	I thought it would be nice to be able to make a living on playing chamber music recitals.
02/03/14	22/10/2013	20 minutes of playing in a recital	A month before the concert I was very excited about performing in the recital. But as the date approached I got preoccupied mainly for not having enough time to prepare the repertoire. I was nervous during the performance, specially in the beginning. There was a fast piece which I found unexpectedly difficult to play, I felt my fingers were not obeying 100%, but managed to perform it anyways. There were some pieces that I enjoyed a lot.	I think because of being stressed I stopped listening as carefully as I should have during the first minutes of the performance, and that caused that my use of the pedal wasn't the best I could have had.	I just thought I need to perform a lot more often to get used to it. I also thought that it is not only that I need more stage performance practice, but also that it would be nice and pleasant to do it frequently.
02/03/14	26/02/2014	Trumpet and Flute recital-exam accompaniment	During the first minutes of the performance I was stressed because I had to play a very difficult accompaniment. My mind was split: on one side thinking of the music, and in the other thinking on the people listening. Very uncomfortable. But I gradually relaxed and could control my mind and focus on the performance.	Fast heart beat during the beginning.	I was happy it was over, mainly because I was in a hurry because I had to travel. I was happy I did something useful for the students whom I accompanied in the exam.

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
02/03/14	27/02/14	Piano Recital	<p>The last 3-5 days before the concert I felt confident, and looking forward to it. I felt I wanted to do it and thought there were good chances I could do a good work.</p> <p>During the concert I got a little bit distracted because I had a very uneducated audience who now and then talked a bit. That made me uncomfortable. I wished I had been able to focus more on my performance than on people. I felt that had the audience been nicer it would have been a nicer recital.</p>	Just a little bit of hand sweating, and fast heartbeat.	I think I was very neutral, and although I made some mistakes I didn't feel as bad as other times, since I felt I did a good job.

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Participant No. MS45 *Four month report post-intervention (one sheet)***Log of Experiences Post-Research**

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
23/08/14	20/05/2014	Solo performance exam.	Felt quite calm all the morning leading up to it and even felt calm walking onto stage and sitting down. Felt calm the majority of the time of the performance but I did make many mistakes. I managed to keep my cool and kept playing as best as I could.	None	Relief it as over, anxious that I hadn't done well enough.

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Participant No. MS66 *Four month report post-intervention (one sheet)***Log of Experiences Post-Research**

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
2/5/14	26/4/14	Informal (during performance lecture)	Hopefully I won't "mess up". I don't want to lose my place in the music.	Extremely shaky leg, to the point of not being able to control the pedal. Shaky hands too.	Thank god it's over. I was disappointed I couldn't play well because of not being able to properly use the pedal.

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Participant No. MS2 *Four month report (first sheet), one year report (second sheet)*

Log of Experiences Post-Research

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
30/04/13	25/04/13	Presentation (had to stand up in front of class to present a paper and play musical examples on piano)	Was nervous pre-presentation, well-rehearsed and read from a script. Nervous, but under control.	None	Relieved it's over, realised I rather play piano than do public speaking!
9/06/13	7/06/13	Lunchtime Chamber concert (solo works, and a trio)	A little scared of the solo performance bit, as I have never performed the works before and only learnt/memorised them for 2 months. Played Tarantella trio with two masters' musicology students. (the three of us organised the concert)	None	Went well, had fun during the trio! Shall look into playing more chamber works.
26/06/13	12/06/13	Solo recital (45min)	This recital was supposed to be the prize for winning a piano competition. Bad organisation on the organiser's part, I ended up organising the entire recital myself – arranging for portage for the front door, concert hall booking, programme notes, front-of-house, concert hall seats, unlocking pf piano, concert recording. Was so tired before the actual recital to feel nervous. Was losing concentration for the last 15 minutes.	(possibly due to tiredness rather than nerves) Slightly blurred vision, trembling a little.	EXHAUSTED, and glad it's over! Liked the exhilaration, am planning for future recitals!

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
11/03/14	14/11/13	Accompaniment for a preliminary round of a concerto competition	Pre-performance: neutral, calm, had a good pre-performance rehearsal with the soloist and then went off to have ice cream with her while waiting for her turn to compete. During performance: a little nervous, was thinking "why is the concert hall so big?"	None	Elated. Later found out that the soloist I accompanied got into the finals.
11/03/14	02/12/13	Solo Recital, an hour-long recital as a fund-raiser for an Arts fund for underprivileged children.	Pre-concert: incredulous. Tickets were completely sold out one week before the performance. I thought, who on earth would <i>pay</i> to come and watch me play?! The weekend before the concert, the recital got advertised in the national paper in the 'this week's events' section, started getting more and more nervous. Night before recital: slept fitfully, ran through repertoire slowly and softly but still nervous. During performance: nervous, scared for the first 20 minutes or so, then it got much better. The piano was not what I expected it to be, it was much harder to play than when I played on it before.	During performance: slightly blurred vision, fingers shaking slightly, found it very difficult to concentrate during the first 20 minutes.	Was not too happy with the way I played but feedback from friends and audience was that it was quite a good performance, got reviewed in the papers too, generally positive. Raised about \$800 (or £400) for the fund.

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Participant No. MS25 *Main instrument voice, second instrument piano. Report at four months and one year post-intervention (one sheet)*

Log of Experiences Post-Research

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
2/3/13	26/2/13	Performance Class	Nervous before but felt in control while singing	Butterflies, tight chest	Mostly happy with how I performed.
10/3/13	7/3/13	Final Recital	Very nervous before, but again felt in control while singing.	Fast heart, tight chest, butterflies, breathlessness	Pleased with my final performance.
23/02/14	18/01/2014	Solo in a choir concert	Very positive and excited before the concert. Nervous during the concert, but was pleased with my performance.	Increased heart-rate. Short of breath.	Happiness.

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Participant No. MS23 *One therapy: Four month report post-intervention (first sheet), one year report (second sheet)*

Log of Experiences Post-Research

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
2/7/13	March 2013	Exam-accompanying	No nerves	None	More concerned for the person I was accompanying than me.
2/7/13	April 2013	Concert - accompanying	Slightly nervous beforehand, but thoughts during performance that it was a truly terrible piano, no nerves	None	Did not perform at my best due to terrible piano
2/7/13	2/7/13	GCSE Music Accompanying	Slightly nervous beforehand, but used the "focus, calm, confident" mantra to calm myself. Basically OK – it's not me they're listening to	None	It went fine
6/7/13	6/7/13	ATCL Exam	A bit of a disaster in the Mozart – in the exposition bridge I went into the Recap. This really knocked me and affected the rest of the performance.	Left hand not responsive	A disaster – concentration not great
7/10/13	July 2013	Exam accompanying	No nerves	None	Used to this by now so not a problem
7/10/13	September 2013	Church accompanying	Not nervous – easy music though	None	Was fine – need to do more of this to increase performance exposure

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
6/2/14	July 2013	ATCL Exam	I was calm beforehand. Began well, Bach good, but made a silly slip in the Mozart which I thought huge and the examiner hardly noticed (went into the recap. in the bridge rather than the exposition) broke my concentration and knocked my confidence so performance went downhill rapidly from there.	Concentration went – thinking about the error rather than the music.	Idiot!
6/2/14	November 2013	Exam-accompanying	Fine – the person I was accompanying had a lot more to worry about than me! I am the support.	None	Fine
6/2/14	November 2013	Grade 5 violin exam. Result 126	Slightly nervous beforehand, but settled as soon as bow hit string.	None	I don't seem to be nervous when playing violin or flute.
6/2/14	January 2014	Concert, playing 1 st flute at short notice.	No nerves, this is my home!	None	When I am sitting in the orchestra I have no nerves, despite being very exposed.

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Participant No. MS14 *Four month report post-intervention (two sheets)***Log of Experiences Post-Research**

Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
8/3/13	8/3/2013	Performance class	Was feeling positive until the person in front of me messed up. This made me start to worry/doubt, however, I was focused during the performance and calmed down a lot quicker than usual.	Very slight leg shaking, but only before the performance.	I was happy and felt more content than usual.
10/5/13	9/5/2013	Semester 2 performance exam	It was the most relaxed performance I have ever done. I was thinking positive the whole time which paid off.	None	Couldn't be happier! (I got a high first in this exam)
12/5/13	11/5/13	Chamber Orchestra concert	I was very nervous at the beginning as I was playing the harpsichord but then relaxed into it.	None	I don't like playing the harpsichord.
25/5/13	25/5/13	Accompanying Clothworker's Consort	As it was with other people I was ok, except for one piece which I couldn't play at all.	Slight hand shaking.	I was happy but could have done a lot better.
29/5/13	27 & 28/5/13	Recording with the above choir	Felt more relaxed as I had practiced more. Was nervous during sight-reading though.	None	Had great fun!
14/9/13	14/9/2013	Performing in the Union	I was very nervous as I hadn't performed all summer but after the 1 st performance the other 3 were a lot more relaxed.	None	I was glad to be performing again.

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Today's Date	Performance Date	Performance: recital/concert/informal/exam	Thoughts/emotions/feelings (positive/neutral/negative) pre-performance and during performance	Physiological/somatic symptoms	Post-performance thoughts/feelings
30/10/13	8/10/2013	Performance class	I was extremely nervous to be performing in front of other musicians and to receive the feedback afterwards.	Had to do lots of slow breathing to calm down as I was pacing a lot.	I relaxed just before I went on and really enjoyed the whole performance.
12/10/13	12/10/13	Performing in the Union	I was more relaxed this time as I had done the whole performing experience a month earlier.	None	Good performance and still calm.

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Outline of Presentation to Students: Synopsis (Pilot Study and Main Study)

PhD Research into Music Performance Anxiety (MPA)

Introduction

My personal details and professional background; private practice; piano/voice teacher; the relevance of this to the PhD research.

My personal experiences of MPA and those of students I've taught.

Have you experienced this?

Why am I conducting this research? I wanted to do something positive about this problem so after my MA qualification in Music Psychology I further qualified as a Hypnotherapist: the main focus of my research is alleviating music performance using two innovative therapies: Cognitive Hypnotherapy (CH) and Eye Movement Desensitisation and Reprocessing (EMDR); the sheets giving information on these therapies are on your seats.

Background to MPA: what is it?

It has been described as 'A nervous apprehension regarding a forthcoming performance'.

MPA, or stage fright, can be experienced any time you feel you're 'in the spotlight' or 'on show'. The problem is widespread, affecting professional and amateur musicians alike. It affects any age, any instrument and can have a crippling effect on performance, in the worst case scenario leading to a complete breakdown of performance. Now up to a point anxiety can be a good thing: 'a small amount of anxiety focuses the mind, however a large amount paralyses it'. Of course the mind affects the body and there can be various physical symptoms accompanying the apprehension. MPA affects the Cognitive/Physiological and Behavioural aspects of performance, or in other words, how the mind affects the body and how the combination of these two things impact negatively on the performance.

Current situation in the research field

Over the last 30/40 years there has been a large amount of research into this problem.

So why is this still so prevalent? Current research is dominated by therapies which focus on the conscious mind/surface issues/presenting problems. Therapies in vogue tend to be:

cognitive behavioural therapy (CBT), mindfulness, Alexander technique, yoga, bio-feedback, and meditation.

Some of these therapies can be successful in some instances, but the drawback is that a large number of sessions could be required; this makes them both costly and time-consuming.

How is my research different? The therapies I use target the subconscious mind and by doing this get to the deep-seated or root cause of the problem. This brings about positive and rapid change, in two one-hour sessions only. Unfortunately there is a paucity of research investigating MPA using CH and EMDR. This state of affairs needs to be rectified given how effective these therapies can be. Individuals are suffering needlessly.

Hypnotherapy: only one substantial piece of research in the last 20 years (Stanton, 1994) conducted with advanced pianists (significant decreases in MPA were experienced in the therapy groups post-intervention after only two sessions).

EMDR: two pieces of research in the last seven years: (Feener, 2005) singers; (Plummer, 2007) brass. The focus of both investigations was enhancement of performance.

Research Design

I am aiming to recruit as many Grade 8 pianists as possible, who suffer to a lesser or greater degree from performance anxiety, to take part in this research. You will be helping to move research forward in this very important area of music performance. You will be allocated a participant number so that anonymity of your data is guaranteed.

MPA will be tested in two informal performances; you will be required to play for two minutes and will be stopped at an appropriate place in your music if your piece is longer than this: the Bach Fugue in C Minor (Pilot Study) or an own choice piece of Grade 8 standard (Main Study). The performances will be recorded by audio/video (this is only for the purpose of my research); you will not be assessed by your institution. You will be asked to complete the same anxiety questionnaire at different times in the research period and further questionnaires on your own personal feelings regarding the performances at the end of each performance. After the first performance participants will be randomly assigned into three groups: CH, EMDR or Control. There will be roughly a two-week period between the two performances in which time the therapy groups will receive two one-hour therapies of either CH or EMDR. So that the Control group have the same benefit from this research, they will also receive two therapy sessions, randomly assigned, at the end of the main data collection.

The therapy sessions are worth £140 but as well as this, participants will also be given £20 at the end of the second performance.

Those of you who would like to take part in this research will be given a Participant Information Sheet which you should read carefully before signing a Consent Form. You can withdraw from the research at any time should you feel that this is necessary; however having signed the Consent Form I would appreciate it if you gave this very careful thought, as changing the number of participants during the research will make things more difficult.

Here is the first questionnaire to be completed (explanation) and those who are really interested in taking part can fill this in now so that I have baseline measurements of anxiety levels.

Thank you. I look forward to working with you and helping you feel more positive about your performances.

Are there any questions?

Cognitive Hypnotherapy

This allows individuals to relax deeply so that a trance state can be reached. It is a natural state of mind entered into without realising – as in daydreaming, or for instance when driving along a familiar route and on reaching the destination being unaware of some part of the journey. The conscious mind has ‘switched off’ and allowed the subconscious to take over. This is what happens in a trance state and there is nothing to be concerned about as the subconscious (or inner mind) works for you, and allows helpful positive suggestions to be passed to your conscious mind when out of hypnosis.

Eye Movement Desensitisation and Reprocessing (EMDR)

This has been a much researched therapy since its inception in 1987 by Francine Shapiro. It is used worldwide and has been shown to be very effective in the treatment of emotional conditions such as anxiety. More recently it has been used to enhance performance in the field of sport, music and the theatre. The theory of EMDR is that through guided eye movements (or other sources of bilateral stimulation such as hand taps or auditory stimulation), negative thoughts, memories and beliefs are changed and replaced with positive ones.

Both therapies focus on the way individuals think and act in specific circumstances and how emotional problems such as anxiety may be overcome.

Elizabeth Brooker

PVAR 10-042

2 FREE therapies



worth £140!

!! PIANISTS !!

Take the 'ANGST' out of

PERFORMANCE ANXIETY

Grade 8 Pianists required

We can help each other - Experience Positive Improvement!

I'm a PhD student. Following successful research into Music Performance Anxiety

I'm now looking for further volunteers for my study.

For the chance to *reduce your Performance Anxiety* and to

WIN a £10 Amazon Voucher

initially all you have to do is complete a simple questionnaire.

For more information, please contact Elizabeth ASAP
elizabeth.brooker@hotmail.co.uk or text me on 07719 401399.

elizabeth.brooker@hotmail.co.uk
or text 07719 401399

PhD Main Study

Participant Consent Form

Title of Project:

Music performance anxiety: an investigative study into the efficacy of innovative interventions when applied to piano students at undergraduate level

Name of Researcher: Elizabeth Brooker

Telephone number: 01789 772669 Mobile 07719 401399

Participant Identification Number:

Please initial box

1. I confirm that I have read and understand the information sheet dated 1.10.2013 for the above project and have had the opportunity to ask questions.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time.	
3. I understand that my responses will be anonymised before analysis.	
4. I agree to take part in the above research project.	

Name of **Participant**
(or legal representative)

Date

Signature

Person taking consent
(if different from lead researcher)

Date

Signature

*To be signed and dated in the presence of the **participant***

Elizabeth Brooker

Lead Researcher

Date

Signature

*To be signed and dated in the presence of the **participant***

PhD Main Study

Participant Information Sheet

1. Research Project Title

Music performance anxiety: an investigative study into the efficacy of innovative interventions when applied to piano students at undergraduate level.

2. Invitation

You are being invited to take part in a research project forming part of a PhD which I am undertaking at the University of Leeds. Before you decide to take part it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

3. What is the purpose of the project?

Its purpose is to explore the effect that interventions exert on anxiety in music performance. The research will focus on Grade 8 level pianists to ascertain the extent of problematic issues.

4. Why have I been chosen?

You have been chosen as a pianist having experienced music performance anxiety and you gave a positive reaction when I initially approached you about the project.

5. Using innovative interventions in music research

An intervention is an action introduced into a forthcoming experience or situation (like a music performance) before the forthcoming performance and is aimed at making the experience less threatening and more enjoyable for the participant. I shall be using two types of intervention: Cognitive Hypnotherapy, and Eye Movement Desensitisation and Reprocessing (EMDR). An explanation of each is given in the descriptive sheet attached to this Participant Information Sheet.

The use and effect of innovative interventions in music research is an area which requires in-depth research and greater understanding.

6. Do I have to take part?

It is up to you to decide whether or not to participate. If you decide to take part you are still free to withdraw at any time. However, it would be appreciated if you consider your participation and involvement in the research carefully before agreeing to take part. If you decide to participate you will be given this information sheet to keep (and be asked to sign a consent form, of which you will also be given a copy).

7. What will happen to me if I take part?

Initially you will be asked to complete a State/Trait Anxiety Inventory (STAI) questionnaire which should take about 10 minutes. As a result of the questionnaire you will be required to proceed to the later stages of research which involves physiological measurements of blood pressure (BP) being taken. You will be involved in the research for about a term, which will require you to learn and perform a Grade 8-standard piece. There will be two short performances, in front of a small sympathetic audience. The performances will be recorded by digital audio and video recording but this is nothing to be concerned about as it is to assist in assessing the performance. As soon as possible after the first performance, students (chosen at random) will be given interventions by myself. These will be: Cognitive Hypnotherapy, and Eye Movement Desensitisation and Reprocessing.

It would be helpful if students receiving the interventions could keep a diary of any subsequent musical performances regarding anxiety over the following six months to judge the benefit of the strategies.

8. What are the possible disadvantages and risks of taking part?

It is not considered there will be any risks in taking part. However if any participant has epilepsy they would not be assigned to the EMDR group to avoid possible side effects.

9. What are the possible benefits of taking part?

It is hoped that taking part in this project will be a useful experience for you. The immediate effect of the therapies is one of a feeling of relaxation and wellbeing. It could help you in other performing situations such as examinations or future concerts by reducing anxiety levels.

You are participating in important research which could be highly relevant to the enhancement of piano performance.

10. What if you are unhappy about any aspect of the research?

If you are unhappy with any part of the research study during participation, please speak to me as soon as possible.

11. Will my taking part in this project be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential. Your personal data is guaranteed anonymity.

12. What type of information will be sought?

Physiological measurements of blood pressure, as well as anxiety levels as indicated by the STAI questionnaire. This is to enable assessment of anxiety levels before and after interventions have been given.

13. What will happen to the results of the research project?

The results will be statistically analysed and form the basis of the main PhD study. The data may also appear in relevant peer reviewed journals.

14. Will I be recorded?

The audio recordings of your activities made during this research will be used only for analysis and for illustration in conference presentations and lectures. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings.

15. **Who is organising and funding the research?**

I am organising and funding the research myself under the guidance of the University of Leeds.

16. **Contact for further information**

Elizabeth Brooker
'Stone Hall'
Stratford Road
Cranhill
Bidford-on-Avon
B50 4LN

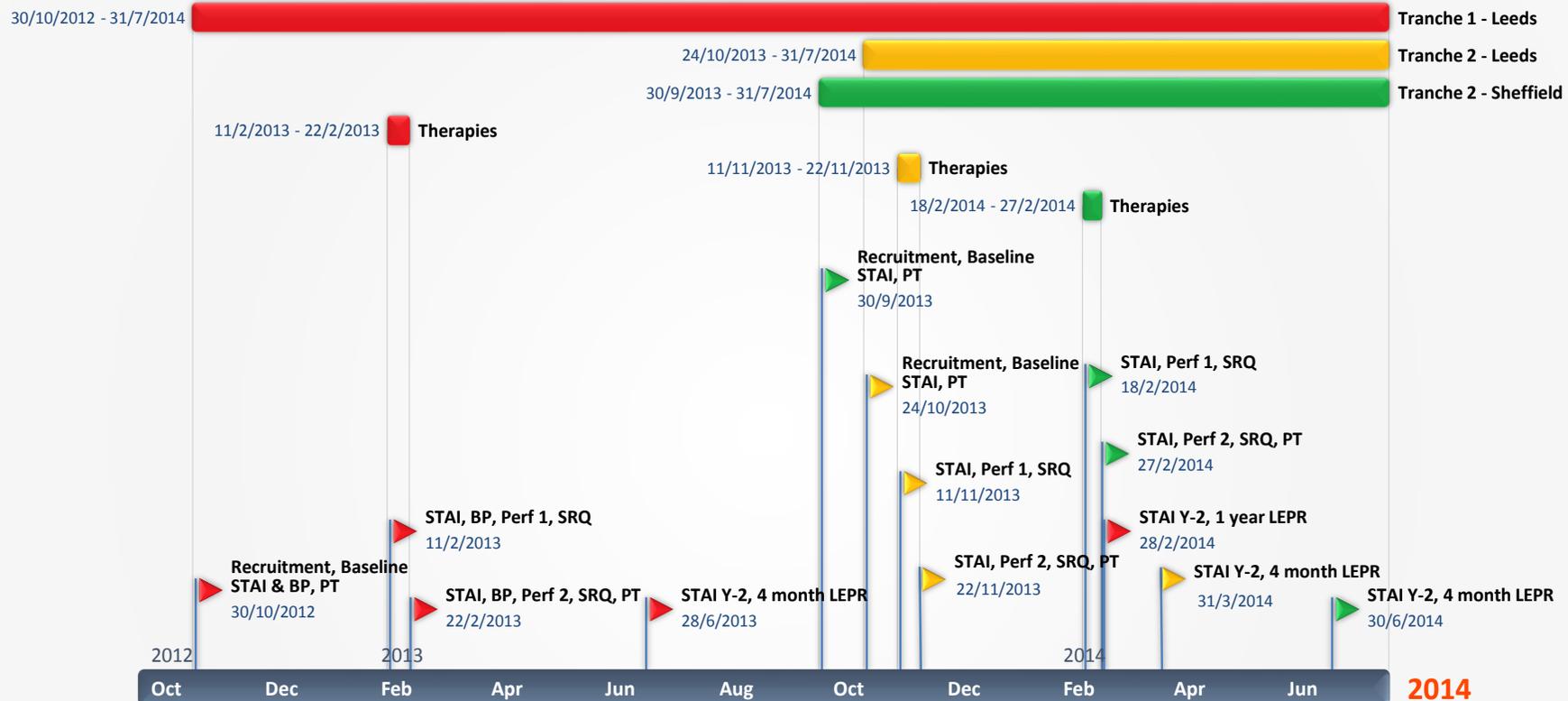
Tel: 01789 772669
Mobile: 07719 401399

Email: elizabeth.brooker@hotmail.co.uk

I really appreciate you taking part in this very interesting and valuable research project - thank you.
Elizabeth

Date: 1 October 2013

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Music Performance Anxiety Research Timeline

Key to Measurements STAI = STAI Y-1 & STAI Y-2 unless otherwise indicated BP = Blood Pressure
 PT = Perception of Therapies SRQ = Self Report Questionnaire LEPR = Log of Experiences Post-Research

ANCOVA Statistics of State Anxiety across the Three Institutions at Baseline & Performance 1

Univariate Analysis of Variance

[DataSet2] C:\Users\Elizabeth\Documents\Meta-analysis.sav

Between-Subjects Factors

		Value Label	N
	4	LU	23
Location	5	LC	10
	6	SU	13

Tests of Between-Subjects Effects

Dependent Variable: StatePerf1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1198.773 ^a	3	399.591	4.652	.007
Intercept	3125.749	1	3125.749	36.387	.000
StateBaseline	927.926	1	927.926	10.802	.002
Location	178.663	2	89.332	1.040	.362
Error	3607.944	42	85.903		
Total	109165.000	46			
Corrected Total	4806.717	45			

a. R Squared = .249 (Adjusted R Squared = .196)

Custom Hypothesis Tests

Contrast Results (K Matrix)

Location Helmert Contrast		Dependent Variable
		StatePerf1
Level 1 vs. Later	Contrast Estimate	3.292
	Hypothesized Value	0
	Difference (Estimate - Hypothesized)	3.292
	Std. Error	2.765
	Sig.	.241
	95% Confidence Interval for Lower Bound	-2.288
	Difference Upper Bound	8.871
Level 2 vs. Level 3	Contrast Estimate	-3.547
	Hypothesized Value	0
	Difference (Estimate - Hypothesized)	-3.547
	Std. Error	3.997
	Sig.	.380
	95% Confidence Interval for Lower Bound	-11.613
	Difference Upper Bound	4.518

Test Results

Dependent Variable: StatePerf1

Source	Sum of Squares	df	Mean Square	F	Sig.
Contrast	178.663	2	89.332	1.040	.362
Error	3607.944	42	85.903		

Pearson Correlation at Performance 1 between State Anxiety (STAI Y-1) and SRQ

Correlations

[DataSet2] C:\Users\Elizabeth\Documents\Meta-analysis.sav

Correlations		
	StatePerf1	SRQPerf1
StatePerf1	Pearson Correlation	1
	Sig. (2-tailed)	.582**
	N	46
SRQPerf1	Pearson Correlation	.582**
	Sig. (2-tailed)	1
	N	46

** . Correlation is significant at the 0.01 level (2-tailed).

Table 11.2 Post-intervention trait scores: four months (34 respondents)

Participant	Baseline Trait Score	Baseline Category	Intervention	Perf. 2 Trait Score	Post-intervention Trait Score - All Participants	Trait Score at 4 Months	
						Showing changed category	Change from Baseline Score
MS2	53	Medium	Ctrl/CH	56	53	45	-8
MS3	50	Medium	EMDR	46	46	51	+1
MS4	55	Medium	Ctrl//EMDR*	51	51	46	-9
MS5	50	Medium	EMDR	36	36	41	-9
MS6	50	Medium	Ctrl/CH	53	41	45	-5
MS7	48	Medium	CH	44	44	49	+1
MS8	48	Medium	EMDR	46	46	45	-3
MS10	45	Medium	Ctrl/EMDR	43	41	Low 34	-11
MS11	44	Medium	CH	45	45	46	+2
MS14	41	Medium	Ctrl/CH	42	40	Low 36	-5
MS17	37	Low	Ctrl/CH	34	33	30	-7
MS18	36	Low	CH	31	31	33	-3
MS20	31	Low	EMDR	31	31	34	+3
MS21	52	Medium	EMDR	47	47	Low 37	-15
MS22	47	Medium	CH	46	46	46	-1
MS23	34	Low	CH*	25	25	27	-7
MS24	31	Low	Ctrl/CH	34	31	31	0
MS25	52	Medium	EMDR	45	45	45	-7
MS26	43	Medium	EMDR	42	42	42	-1
MS32	45	Medium	EMDR	40	40	40	-5
MS35	53	Medium	EMDR	49	49	56	+3
MS36	49	Medium	Ctrl/EMDR	50	52	50	+1
MS38	56	Medium	CH	60	60	58	+2
MS42	35	Low	Ctrl/CH	36	35	31	-4
MS43	35	Low	EMDR	24	24	29	-6
MS44	48	Medium	Ctrl/CH	50	21	49	+1
MS45	51	Medium	EMDR	39	39	Low 39	-12
MS51	39	Low	EMDR	33	33	39	0
MS60	50	Medium	CH	41	41	40	-10
MS63	37	Low	CH	34	34	41	+4
MS64	54	Medium	Ctrl/EMDR	51	32	37	-17
MS65	55	Medium	CH	39	39	Low 31	-24
MS66	68	High	EMDR	54	54	Med 57	-11
MS69	37	Low	EMDR	38	38	36	-1

KEY

Trait anxiety: * indicates one therapy session only. Lowered category change at four months post-intervention highlighted in red.

STAI Y-2 categories: Low anxiety 20-39; Medium anxiety 40-59; High anxiety 60-80.

Table 11.3 Post-intervention trait scores: one year (17 respondents)

Participant	Baseline Trait Score	Baseline Category	Intervention	Perf. 2 Trait Score	Post-intervention Trait Score - All Participants	Trait Score at 1 Year	
						Showing changed category	Change from Base-line Score
MS2	53	Medium	Ctrl/CH	56	53	Low 37	-16
MS3	50	Medium	EMDR	46	46	41	-9
MS4	55	Medium	Ctrl//EMDR*	51	51	45	-10
MS5	50	Medium	EMDR	36	36	49	-1
MS6	50	Medium	Ctrl/CH	53	41	45	-5
MS7	48	Medium	CH	44	44	46	-2
MS8	48	Medium	EMDR	46	46	-	-
MS10	45	Medium	Ctrl/EMDR	43	41	44	-1
MS11	44	Medium	CH	45	45	44	0
MS14	41	Medium	Ctrl/CH	42	40	Low 34	-7
MS17	37	Low	Ctrl/CH	34	33	35	-2
MS18	36	Low	CH	31	31	35	-1
MS20	31	Low	EMDR	31	31	30	-1
MS21	52	Medium	EMDR	47	47	Low 39	-13
MS22	47	Medium	CH	46	46	-	-
MS23	34	Low	CH*	25	25	25	-9
MS24	31	Low	Ctrl/CH	34	31	31	0
MS25	52	Medium	EMDR	45	45	40	-12
MS26	43	Medium	EMDR	42	42	40	-3

KEY

Trait anxiety: * indicates one therapy session only. Lowered and maintained category change at one year highlighted in red.

STAI Y-2 categories: Low anxiety 20-39; Medium anxiety 40-59; High anxiety 60-80.

Pilot Study, Tranche 1 and Tranche 2:

Trait anxiety longitudinal data post-intervention: Collection date June/July 2015

Pilot Study: 3 years 10 months post-intervention

Intervention	Leeds	Baseline	Post-intervention
EMDR	P2	45	35*

Tranche 1: 2 years 6 months post-intervention

Intervention	Leeds	Baseline	Post-intervention
Control/CH	MS2	53	45* LEPR case study
Control/EMDR	MS4	55	49
EMDR	MS5	50	32* Case study 1
Control/CH	MS6	50	51
CH	MS7	48	40*
Control/EMDR	MS10	45	46
CH	MS11	44	48
CH	MS13	43	46
Control/CH	MS17	37	41
EMDR	MS21	52	32* LEPR case study
CH	MS23	34	24*# LEPR case study
EMDR	MS25	52	53 LEPR case study
EMDR	MS26	43	41

Tranche 2: 15/18 months post-intervention

Intervention	Leeds	Baseline	18 months post-intervention
EMDR	MS32	45	48
EMDR	MS35	53	54
CH	MS38	56	54
EMDR	MS45	51	30* LEPR case study
Intervention	Sheffield	Baseline	15 months post-intervention
CH	MS60	50	42*
Control/CH	MS61	33	32
Control/EMDR	MS62	44	43
Control/EMDR	MS64	54	45* LEPR case study
CH	MS65	55	42* LEPR case study
CH	MS68	51	52

.. Respondents with trait scores below baseline (raw data calculated on STAI Y-2, Spielberger et al., 1977)

* Respondents with trait scores 8 points or more below baseline

One therapy session only

University of Leeds

PhD Main Study

Self-Report Questionnaire

Performance 1

Participant No. *1*

<p>1. What were your thoughts/feelings/emotions during the days/weeks leading up to the first performance?</p> <p><i>Nervous; was worried that I wouldn't be prepared enough and would make lots of mistakes. Kept thinking everyone else would have a perfect performance and mine would stick out like a sore thumb.</i></p>	
<p>2. Did your feelings stay the same/grow stronger/grow weaker as the concert approached?</p> <p><i>They got stronger, but not by much - was was already fairly nervous.</i></p>	
<p>3. Did you ever feel so strongly that you felt you might withdraw?</p> <p><i>Yes, I emailed Elizabeth asking her that I didn't think I was ready, but she convinced me to continue.</i></p>	

<p>4. How did you feel 15/30 minutes before performing at the venue?</p> <p>Very nervous and tense, hands were already shaking and felt slightly sweaty.</p>	
<p>5. Did you experience any physical symptoms during your performance? What were they? To what degree?</p> <p>Yes, my hands were shaking a little at first and my heart rate was high, then my head went cloudy and my hands were violently shaking and I couldn't hit the keys.</p>	
<p>6. Did they improve or adversely affect your performance in any way?</p> <p>Very much so, I completely forgot — the shaking and bluriness in my head seemed to dissolve my muscle memory in my fingers.</p>	

University of Leeds

PhD Main Study
Self-Report Questionnaire
Performance 2

Participant No.

<p>1. What were your thoughts/feelings/emotions during the days/weeks leading up to the second performance?</p> <p><i>Didn't think that much about it, was more intrigued to see if I was going to be calmer, definitely didn't feel nervous at this stage.</i></p>	
<p>2. Did your feelings stay the same/grow stronger/grow weaker as the concert approached?</p> <p><i>Yes, they felt the same.</i></p>	
<p>3. Did you ever feel so strongly that you felt you might withdraw?</p> <p><i>No</i></p>	

4. How did you feel 15/30 minutes before performing at the venue?

Not tense, still didn't have many thoughts about - almost as if someone else was going to perform. Hands got a little sweaty.

5. Did you experience any physical symptoms during your performance? What were they? To what degree?

My hands did get a little sweaty, but I wasn't shaking before the performance. Part of the way through Shred a little bit I had more control at stopping it → it didn't take over the last time. Did happen 2/3 times like this.

6. Did they improve or adversely affect your performance in any way?

Very much so, I was far more accurate and ~~the~~ my head didn't go blank like before. I had more control, and less tense. After I finished I was a little shaky in my hands ~~on~~ but it soon went.

