

This point is key: once the brains of observers are included in the quantum system, the wave function describing the state of the brain of any observer collapses to the form corresponding to his new knowledge.

- Schwartz and Begley 2002:284-5

CHAPTER 7: RESEARCH FINDINGS

7.1 Observations emerging from the research survey

Impressions drawn from the research survey are based on particular answers by the respondents, the general research conducted as well as experience gained through investigating the topic. Aspects that came to the fore most frequently and consistently as well as aspects which were most relevant in the opinion of the researcher were chosen for the following discussions.

Chapter six was divided into four main sections. This chapter will follow the same basic order. The responses received from healthcare professionals and teachers will be discussed first. It was decided to group these together under the first section, because there was some overlap in the nature of questions asked. This is preceded by an introductory section about the active nature of observation (section 7.1.1) - not particularly obtained from the research survey but rather from the literature survey - and deemed suitable by the researcher to set the stage for the discussions found thereafter which reflect themes that emerged from the data. This allows for appropriate comparisons to be drawn between the opinions of these two groups of professionals. A separate section is set aside for matters regarding the self-reports of participant teachers. This is followed by a section 7.3 which deals with observations emerging from the case study investigations. Important aspects that feature consistently from all the various routes through which the topic was investigated are discussed in section 7.4. These include unconscious processing of music, audible effects, the role of movement therapies and complementary healing techniques and music's healing role. The final section in this chapter, 7.5, constitutes a comparison of the research findings to the available literature on trauma.

7.1.1 The active nature of observation

The choice of quotation by Schwartz and Begley included at the beginning of this chapter is not an attempt to go into the detail of quantum theory but rather to focus the reader's attention on the vitally important role that the observer plays. The 'observer' could be the traumatized person

evaluating his or her own situation or those surrounding the traumatized individual who hold their own beliefs which affect their observations and interactions. Where the research survey is concerned, participants were observers in the respective capacities of healthcare professional and teacher and their reported experience results from interaction with traumatized musicians in these roles. The inclusion of this quotation aims to draw attention to the responsibility of the influence that active observers exert on the situation. It should create a mind-shift from merely regarding oneself as an onlooker to becoming a part of the solution. Weingarten (2003:163) draws attention to the importance of compassionate witnessing. She names awareness, safety, empathy, compassion and Aidos, which she states is associated with inner integrity, as personal capacities needed as a foundation for compassionate witnessing. She defines her concept of compassionate witnessing as “turning unwitting witnessing of violence and violation into something deliberately chosen”. If music teachers act as compassionate witnesses when confronted with trauma, this could soften and perhaps even transform its effect on their students.

Educators, including music teachers, play a very important role in shaping the characters of students. They should show an interest in their students’ lives, be sensitive to changes in behaviour and maintain open channels for communication, including non-verbal communication. However, they should always relate to students and parents of students in a professional manner. It may be suggested that training in ethics should be an important part of any teacher training curriculum.

7.1.2 Obtaining treatment in the aftermath of trauma and the matter of referral

It became clear from the responses to the questionnaires received from music teachers that musicians are indeed greatly affected by trauma. However, a large number of psychologists stated either verbally or in writing that they have never treated musicians. In the light of the fact that teachers and musicians were indicating high levels of exposure to trauma this could raise two questions: Do musicians and students seek healthcare intervention after exposure to trauma, or could affordability be a possible reason for failure to seek professional treatment? Some teachers indicated that they teach previously disadvantaged students. In such cases financial concerns could obviously play a role. Other teachers indicated that they are hesitant to refer students to school counselling services due to negative experiences with such services in the past.

Treatment in the aftermath of trauma raises a host of ethical considerations. The law is clear about teachers' responsibilities to bring suspected cases of child abuse to the attention of appropriate services such as offered by social workers or psychologists. This is referred to in section 6.1.7. Healthcare professionals stressed the importance of this. However, even though the collective teaching experience of the population of respondents was over 30 years per teacher, an alarming number of teachers indicated that they have never referred traumatized students to healthcare services. In a country such as South Africa which is greatly affected by trauma the issue of availability of intervention in the aftermath of trauma should, however, also raise debates on a societal level in the education and government sectors. Often immediate intervention is not sought, whether it was available or affordable or not. Many can indeed not afford intervention. Teachers see the negative effect this has on the progress of students but their choices of how to intervene are often very limited. The problem is not unique to one country and time. Many musicians who previously survived atrocities were never debriefed. In others, the forces for self-healing led them in the direction of transcending difficulties. Responses to the research questionnaire indicated that new effective modes of treatment such as EMDR and EMI were indeed used by participant healthcare professionals. However, it seems that in South Africa Levine's Somatic Experiencing (SE) is still not widely used. Music therapy is an accessible form of treatment and great potential exists for increased collaboration between musicians and music therapists. Perhaps a cost-benefit analysis (financial but also taking into consideration long-term effects on the well-being of individuals) done by the authorities is needed, aiming to devise more comprehensive intervention possibilities, affordable to all citizens. From the responses of teachers it became clear that treatment was indeed effective in most cases but that the main concern was that a great deal of time elapsed before recovery was achieved.

7.1.3 Ways in which trauma affects musicians as observed by respondents

It is clear that there is a large variation in both severities of trauma(s) experienced as well as the nature of and extent of influence reported as having been experienced in the music-making. Judging from the responses to the questionnaires, musicians are affected by trauma to a very large extent. However, it is possible that those who have experienced and witnessed the effects of severe trauma were perhaps more likely to take the time to complete the questionnaire.

It was mentioned that trauma causes interference (see chapters 4.1.2, 4.1.3, 4.2.4, 6.2.6 and 6.4.1). The disruptive effects can affect the focus of musicians and create problems with continuity of involvement with music. In turn, this can have a negative impact on motivation. In

addition, it drains energy and the effects are felt on available time and other resources. However, influence on motivation can also result in musicians practising more as they turn to their instruments as a way of dealing with trauma or even escaping from traumatic situations, as was reported by some teachers.

Changes and decline in attention (or concentration) are among the most consistently observed symptoms that teachers working with traumatized students reported. Concentration in this context could perhaps more accurately be referred to as the concentration (or focussing) of the attention. The term ‘concentration’ is simply used as a description of what is witnessed by the observer. However, the possibility of dissociation playing a role in some of these so-called concentration difficulties should be considered. This could perhaps be more accurately described by the word ‘spaces out’ that some teachers used.

Results could be interpreted to indicate a much more severe influence on music-making in cases of suspected PTSD. While a small number of musicians indicated no adverse influence on their music-making, there were a significant number who outlined detailed experience of symptoms. This includes intrusive memories and emotional numbing, two characteristic symptoms of PTSD. An alarming number of teachers mentioned that they observed that dysfunctional family circumstances had serious effects on their students and their progress.

7.1.4 Treatment

Each individual and circumstance is unique and therefore requires personal assessment and specific intervention. Treatments highlighted by the population of respondents as successful were discussed in chapter six at length. In no way does this imply that the modes of treatment mentioned here are exhaustive lists of all the successful ones.

It is imperative that musicians know before looking for treatment that, depending on whether they choose ‘alternative healthcare modalities’ or ‘allopathic treatment’, the treatment approach could be very different. This was illustrated in the feedback to the research questionnaire. It may be wise, if indeed possible, to obtain more than one opinion and back this up with background research. Musicians should take joint responsibility for their own health and/or recovery. Another point to keep in mind is that psychologists are not allowed to medicate, and will refer to a psychiatrist if they deem this to be necessary. It also became evident from the feedback that since it is within their domain to medicate, for psychiatrists the first resort and shortest road to

apparent improvement is often medication. As was seen in the results to the research questionnaire sent to healthcare professionals, this could potentially have adverse effects on performing abilities. It can be deduced from the feedback to the questionnaires is that there is an element of risk involved in treatment and that a time-frame cannot always be predicted. Uncertainties in how the individual is going to respond during treatment as well as the effect medication can have on a musician should not only be discussed by healthcare professionals with the musician, but should be seen as sufficient reason to encourage professional performers to take extreme caution in deciding whether or not to perform during such times and to seriously consider the potential outcomes. The risks to a hard-earned reputation in a world where it is often said that “one is only as good as your last performance” should be weighed against the anticipated benefits.

Treatment of long-term or severe trauma was thoroughly discussed in chapter 3.8 and 6.1.3. However, another important deduction that can be made from the feedback to the questionnaires is that there is an element of risk involved in treatment and that a time-frame cannot always be predicted. Uncertainties in how the individual is going to respond during treatment as well as the effect medication can have on a musician is sufficient reason to encourage professional performers to take extreme caution in deciding whether or not to perform during such times and to seriously consider the potential outcomes versus the risks to a hard-earned reputation.

It seems that a contributing factor as to why the residues of trauma are so often misunderstood, misinterpreted and misdiagnosed, is because all possible responses lie on a continuum. Not only do people who went through the same type of ordeal often exhibit exact opposites of symptoms, but these symptoms very often oscillate between extremes and even overlap with a myriad other physical and mental diseases. It cannot be sufficiently stressed that since this is such a complex subject, it warrants complex and even multidisciplinary evaluation and intervention.

7.1.5 Possible bias in population of respondents

As briefly mentioned in chapters 1.11 and 5.5, the research results may have been slightly influenced by the probability that persons more sympathetic towards the subject were more likely than others to respond to the research questionnaire. Where healthcare professionals are concerned this has important implications for musicians. Whilst the low response rate from healthcare professionals proved cause for concern, the exceptional quality and reflective nature of feedback from those who did indeed respond serves to emphasize the paramount importance

that, when musicians decide to look for assistance from the healthcare community, they should be cautious to ascertain that the professionals indeed have the experience and knowledge necessary to be in a position to treat them. The numbers of healthcare professionals who indicated that they have never worked with musicians are, however, disconcerting if searching for reliable treatment perspectives. However, a possible reason for this could be the fact that there are relatively few professional musicians in the general population.

7.2 Aspects relevant to self-reports of teachers

Respondent teachers were given the option to report whether they have personally experienced trauma or not. The majority of teachers did respond to this question. From this information insightful comparisons and deductions could be made.

7.2.1 Impact of teachers' own experiences of trauma on assessment of students

It was striking that some teachers who reported having personally gone through trauma and confirmed how they observed this to have had an influence on their music-making indicated that they had never given the influence of trauma on their students' performances and progress any consideration. However, it should also be stated that one teacher pointed out that in the past 'they' did not go for help, but tried working through their problems on their own. Even survivors of war experiences are of the opinion that psychological intervention and debriefing is unnecessary, perhaps even artificial. "That's life, we have to resist" is a comment made by a musician who is a survivor of WW II.

Ways in which the personal experiences of teachers interacted with their professional evaluation of the influence of trauma on their students seem to suggest that some who reported that they have been traumatized and had not received treatment were unlikely to notice the possibility that trauma could be affecting their students. This explanation is strengthened by the fact that one teacher mentioned that the questionnaire itself caused her to consider the influence of trauma on her musicianship and that of students for the first time. She stated that through subsequent observation and awareness she came to different conclusions and that she would perhaps now respond in a different manner to the same questionnaire. Swanepoel (2008) observed that there may be a tendency for musicians who have not dealt with their own trauma to feel alone and be less capable of recognising if and when others are also affected. On the contrary, those who have

integrated their traumatic experiences through therapy may perhaps be more likely to have come to realise that they are not alone in their suffering. The mere act of ‘dealing’ with past trauma possibly opens a person’s eyes to the fact that many others could also be affected. In the case of collectively experienced trauma such as natural disasters or war this argument loses its validity.

7.2.2 Ways observed by respondent teachers how trauma affected their memory

Related to memory for music, problems identified in self-reports include struggling to focus and concentrate when playing from memory, as well as playing that “was full of memory lapses”. The overwhelming majority of teachers mentioned problems related to the functioning of accurate memory retrieval such as concentration problems and inaccurate playing. Some specifically mentioned memory problems experienced in the aftermath of traumatic experience. One teacher described experiencing memory and/or technical problems during performance whilst a deepening of musical expression, understanding and sensitivity occurred concurrently. A very noteworthy observation was made by a teacher who struggled to play from memory while also losing the natural and flowing qualities of playing, stating that during this time she “played very mechanically”. A possible interpretation of such a scenario is that mechanical playing is due to emotional numbing which then adversely affects being ‘fully present’. This can cause concentration slips which in turn lead to memory difficulties. Emotional numbing is closely associated with PTSD which is also closely associated with changes in the normal functioning of memory. Trauma’s effects on concentration are often at the root of memory problems.

7.2.3 Overview of effects identified in self-reports

Self-reports further served to underline general findings, as teachers indicated that trauma affected their experience of emotion as well as emotional expression, their preference for music styles, confidence, as well as negative effects related to the use of medication. As stated above, problems related to memory and inaccurate playing were prevalent. However, as discussed in section 7.2.1, a minority of teachers reported that trauma had no influence on their music performance. In acknowledgement of the similar nature of teachers’ self-reports to that of case study narratives, this section is followed by a discussion of the observations emerging from the case study investigations, while for additional comparison the reader is referred back to chapter 6.3 and 6.4.

7.3 Observations emerging from the case study investigations

Four case studies were investigated. The significant traumas experienced respectively were as follows:

Participant A (female): Spousal abuse and various losses

Participant B (female): Maternal abuse, various losses, smash-and-grab incidents and motor vehicle accidents

Participant C (female): Violent father at early age, thereafter grew up without a father; sexual molestation by a friend of the family

Participant D (male): Suicide of a close friend and mentor; motor vehicle accident resulting in paralysis of three months' duration.

7.3.1 Influence particular to musicians: general overview of symptoms

Trauma affected emotional expression, concentration as well as memory in case study participants A, B and D. Participant C's main concerns were related to self-esteem, anxiety and procrastination of tasks. Participant A received minimal treatment and therefore did not experience any pronounced changes to her situation over any length of time. Participants B and C both needed many years' duration to heal from early and prolonged traumatic experiences which profoundly influenced their lives and emotional development, while music itself and specifically drumming played a catalytic role in Participant D's quest to regain his memory, movement and intellectual skills.

From the discussions with the case study participants it became evident that they were of the opinion that trauma does indeed influence musicians in ways not necessarily particular to other occupations. However, it also became clear that reactions are nevertheless very individual.

7.3.2 Effects on emotion including emotional illness

An example of effects is the descriptions of deepening of the emotions that were experienced. For some this happened immediately following trauma and was evident in performances given in the wake of trauma (see for example participant A) and for others this happened following or during treatment. At the professional level, heightened attention to detail translates into more effective communication of the intent (including emotional intent) of the composer. This was described as an immediate consequence of the first traumatic experience of participant D.

However, after his second traumatic experience he first experienced emotional numbing and only later a deepening of affect. He also stated that trauma helped him to better understand the work of certain composers.

A requirement for communication of emotion is security. Whether or not distressing emotions are experienced, it takes some form of security to convincingly communicate emotion in music as well as ‘label’ emotions experienced. (An example of the absence of such is case study participant B who, prior to therapy, found it difficult to define the emotions she experienced.) If present, this security could come from various sources. Participant D’s experience of emotional numbing and loss of passion for music are typical trauma sequelae. His conducting was also affected by his experience of aggression in the wake of trauma as well as his difficulties with interpersonal relationships.

Participant B developed depression and anxiety as an effect of trauma. Levine (1997:45) states that depression and anxiety often have traumatic antecedents. In addition, participant D became so depressed after the motor vehicle accident that he considered ending his career.

7.3.3 Effects on memory

Participant A mentioned intrusive thoughts as a cause of interference. Participants B attributed memory lapses under stress to sensory overload. She mentioned difficulty memorizing new music whilst in the grips of an abusive situation, while participant A observed the same difficulty in her daughter, a pianist. Participant D indeed lost all memory of music for some time after his accident, reporting not having a single melody in his head. Therefore it can be deduced that overload can occur, whilst traumatic shock can also lead to memory loss.

7.3.4 Effects of trauma on interpersonal relationships and on teaching

All four participants stated that their relationships with others were adversely affected by trauma. They identify these effects as manifesting particularly on an emotional level with descriptions of feeling emotionally completely drained and not having enough energy for social interaction and teaching (participant A), feeling distanced from other people and having difficulty approaching authority figures (participant B), loss of self-confidence and difficulties with social and romantic relations (participant C) and becoming suspicious of people, behaviouristic approach to the profession and wanting to “use people to create sound” (participant D). However, for participants B, C and D their traumatic experiences subsequently led to growth and better and more

meaningful interpersonal relationships. They achieved these improvements with the aid of therapy and conscious appraisal of their respective situations.

It is interesting to note that participant A reported hearing her abusive husband's voice like gunshots while performing, while a respondent teacher mentioned experiencing mental arguments with people going through her mind whilst practising. This could perhaps be interpreted as unconscious attempts at resolving or working out interpersonal differences, made whilst involved in music-making - itself a means of communication.

As regards the ways in which trauma affected these musicians in their teaching capacity, participant A reported that drained energy levels interfered with her ability to teach. In contrast, participant B was of the opinion that while the effects of trauma on her life and music performance were negative, they had a positive effect on her teaching and made her a better and more compassionate teacher. She acknowledges that it took time before she became more sensitive towards students' problems. Participant D indeed found teaching to play a major role in regaining his love of music after his first traumatic experience.

7.3.5 Dissociative symptoms

Participant D's detailed and faithful account of an out-of-body experience, as verified by other observers, raises questions about the very nature of out-of-body experiences. In order to perceive the students behind the cars, he was clearly observing from an angle not possible from where his body was lying during the accident. Therefore it can be asked if an observing entity that is part of the fuller reality of the 'self' of the person separated from the body during that time and was floating above the scene of the accident. Whatever the answer may be, such an out-of-body experience is a classic symptom of dissociation during a severely traumatic event. Seen from a psychological point of view, this is a dissociative experience. The extended duration of the paralysis could perhaps be viewed as an extreme example of the immobility response.

Dissociative symptoms related to trauma were experienced by all other case study participants. The trance state reported by case study participant A, as experienced during the time of her father's illness, is also a dissociative state.

Participant C's involvement in dance, which she identified as having an extremely healing effect, is yet another form of movement therapies that were previously mentioned. This serves to confirm again that, for some, movement plays an integral role in healing. Perhaps it even plays a role in discharging the freeze response.

7.3.6 Treatment

With the exception of participant A who sought almost no intervention apart from some counselling sessions which she terminated early on, participants B, C and D sought a much greater variety of available treatments than reported by the respondent teachers. This is yet another reason why it so important that musicians and teachers are made aware of the various possibilities for treatment: one first has to recognize that intervention is necessary, then has to search for and know about possibilities and only then can progress be made on the road to recovery. While traumatic events may strike without warning, they can leave the victim so drained that only much later, when problems have become particularly severe, do they find the energy or time to even start searching for solutions.

Case study participants A, B and C received psychotherapeutic intervention while participant D received medical treatment immediately following his accident. The variable factor in psychotherapeutic intervention was the duration thereof. Participant A did not receive extended treatment, while participant B received psychotherapeutic and psychiatric treatment (including CBT and medication) over the course of a number of years, up to the present. This was in conjunction with some alternative modalities. While participant C was diagnosed by a psychologist as suffering from trauma and received hypnotherapy that helped her to stop smoking, she resorted to alternative healthcare modalities lasting a number of years as main course of treatment. Alternative modalities used by her include the EPFX/SCIO, meditation, yoga, Reiki and herbs. The treatment identified by participant D to have been most beneficial was the use of drumming and trauma counselling while he also used Reiki but reports that it had been only partially beneficial.

It can be concluded that a variety of intervention techniques were effective, but that choosing suitable treatment remains a very individual matter. While some found psychotherapeutic intervention strategies such as CBT and trauma counselling most beneficial, others only remained in such treatment for a short period of time, one of these participants substituting it with alternative healthcare modalities.

7.3.7 Professional career path, spirituality and growth

The narratives of case study participants illustrate how trauma can influence the path a musician takes, even within the music profession, in addition to it possibly causing temporary interruptions in career. Participant B stopped performing due to trauma, while participant C became involved in music performing with the aim of healing others. In addition to causing temporary interruptions in the time that he was paralysed, trauma had a significant influence on the career path of participant D.

While the role that spirituality, religious convictions and faith play in healing is a personal matter and perhaps was not frequently discussed by musicians partaking in this study, participant D stated that his Christian faith played an important role in his recovery. Some healthcare professionals and teachers also made reference to the importance of faith.

Insights gained through their experience that they shared with other musicians through this study, as named in chapter 6.4, were in all cases very motivational in nature. This positive advice to other musicians could lead to a conclusion that these participants grew through their experiences and developed compassion for others in the process. Perhaps it can be argued that they are all compassionate people by nature, but their experiences played a role in deepening their concern for others.

7.4 General observations applicable to the research survey and case studies

Some aspects applicable to the research survey, case studies and literature survey are discussed in this section. As was the pattern followed in section 7.1, the first subsection is a general reflection about an important aspect not particularly emerging from the research data but rather from the literature survey, in this instance namely unconscious processing of music, witnessing and projection.

7.4.1 Unconscious processing of music, witnessing and projection

Music can be a very powerful communication medium, a significant amount of its processing possibly occurring at the unconscious level. The researcher referred to McClary's statement (2007:159) that music provides a direct pathway to emotional and unconscious material. It

follows that the way in which the unconscious mind deals with music and traumatic material can be powerful. It was stated in section 4.2.4 that the similarity of the states of heightened awareness experienced during performance and during traumatic events could even lead to an increased possibility of flashbacks during performance for musicians with PTSD. These are realities that performers and teachers should be aware of. Additional evidence for music's ability to transcend the conscious mind can perhaps be found in participant C's reference to trance states induced by drumming.

It was argued in chapter 4.5 that teachers have responsibilities regarding witnessing of events. It is appropriate at this point to refer to the very important cautionary advice of one psychiatrist that speculative attributions and explanations of possible signs of trauma by teachers (or others) may in themselves be harmful or traumatic to the person about whom the assumption is made. The researcher would like to add to the cautionary advice of the respondent psychiatrist that the danger of projection¹² exists when premature or inappropriate assumptions are made.

7.4.2 Audible effects

Some teachers made reference to hearing the effects of trauma in the playing and singing of their students. This included their perception of absence of emotion, hearing that students were only partially involved in a performance, detecting inhibiting influence and/or severe inner tension in their music, hearing effects on tone production such as forced tone or loss of clarity of sound in singers (see sections 6.2.2 and 6.2.4). Audible effects on sound production, most notably in the area of aggression, were noted by both music teachers and case study participant B. Zukav (1990:167) seems to confirm this when he writes that what an instrument produces depends both on the musician and the instrument. He points out that if the musician becomes consumed with anger or other negative emotions the instrument disintegrates and produces effects in line with those of the troubled musician. Case study participant D described aggression in a different context when he spoke of wanting to "use people" to produce a sound as a conductor. Such descriptions are not uncommon in the history of music as can be illustrated by Beethoven's aggressive playing and affinity for accents and thick bass textures that stretched the Viennese pianos of his day to their limits (Gordon 1996:143-4). This could perhaps be interpreted as augmented by his struggle with and emotions of anger experienced as a reaction to his

¹² Corsini (2002:767) offers four definitions of 'projection'. Two of these are particularly relevant in this context. According to him, in psychoanalytic theory, projection is "a defence mechanism of attributing to others what is actually true of the self" and "the misinterpretation of mental activity as actual events".

impending deafness. This eventually led to the expansion of the piano and according to Gordon (1996:144) the composer was grateful for the piano built by John Broadwood and shipped to Beethoven in 1818. In section 4.3.2 reference is made to Beethoven's behaviour as perceived by others, namely his aggressiveness and unstable moods, which some writers classified as bipolar disorder. The fact that a traumatized teacher could not endure Beethoven's music because of the emotions that it triggered supports the supposition that Beethoven's music can evoke strong emotions that can be interpreted as associated with trauma (see section 6.3).

7.4.3 The place of movement therapies and alternative or complementary medicine

The possibility that movement techniques such as Dalcroze Eurhythmics could be beneficial to traumatized musicians was raised in chapter 3.8.5. In addition, two respondents were qualified Dalcroze practitioners and also mentioned this possibility (chapter 6.2.6). Peters (1987:129) states that activities centred on movement to music can reach the level of unconscious emotional response and aid therapists to help clients in whom emotional expression is hampered. She indeed suggests that Dalcroze Eurhythmics can be useful in clinical settings where music therapists operate.

The role that alternative healthcare modalities have to play in the treatment of trauma became evident in the literature study as well as its positive effects for case study participants B and C. In addition to reference made by some respondent healthcare professionals about its potential benefits, case study participants B and C experienced positive outcomes after resorting to 'alternative intervention'. In addition to the convincing evidence found in the literature, many traditional psychologists and neurologists are moving in a direction of adopting more integrative approaches towards the treatment of trauma. These healing techniques were found to be beneficial by two case study participants, as will be discussed in section 7.2. The role of energy is often mentioned as well as the importance of viewing the body as a whole. It is not uncommon for writers to refer to the body with musical terms such as 'harmonics'. These are linked to frequencies that, provided they are in the correct range for human hearing, can be perceived as sounds. This serves to strengthen the argument for the interrelatedness of music, the body and healing. An example can be seen in the quotation of the work of Sheets-Johnstone at the beginning of chapter 8 (on p 188).

Many alternative or complementary treatment modalities were discussed in chapter 3.9. Most of these aim to correct problems at the energetic level and facilitate healing in this way. In the

preface to his comprehensive book on vibrational medicine, Gerber (2001:21) explains how the system of thought underlying the theories behind alternative medicine examines human functioning from the perspective of multiple interactive energy systems. He continues by explaining that this is an attempt to reach a deeper understanding of how our thoughts and emotions affect physiology and how therapies exert their healing potential. Perhaps one reason why two of the case study participants found both conventional psychotherapeutic intervention strategies as well as alternative treatment modalities helpful is because, in Gerber's (2001:24) words, "healing via systems that affect the elements of human subtle-energy anatomy is just an extension of existing medical science". For the reason that there have not yet been extensive studies done on their effectiveness, alternative therapies should preferably not be resorted to as the only method of intervention when treating victims of serious trauma. However, in the opinion of the researcher and various respondents to the survey it has a place in healing and could be used in conjunction with traditional psychotherapeutic intervention strategies.

7.4.4 Music's healing role

It was mentioned in the self-reports of participant teachers that they found practising music to have a healing effect. Music was an integral part of the healing process for all case study participants. Its healing nature was reportedly experienced at different points in time by all case study participants. In addition, music's intrinsic motivational nature plays an important role in the lives of these individuals. For participant A this was at no time particularly with a therapeutic goal in mind. However, the effect of playing was music healing. For participant B music was at times healing and at other times associated with abuse. She became more capable of expressing emotion through sound as her healing process progressed. Participant D consciously used drumming to aid in healing and restoring the full function of his brain. Not only did he attain healing, but also experienced a broadening of his perceptive and information processing capacities. At another stage, he found a creative outlet in composition which proved to be therapeutic at the time. Participant C used drumming to heal herself and now performs as a percussionist since she believes that, correctly employed with positive intentions, the effects of sound can have the same benefits for others. Participants B and C found 'alterative' therapies that incorporate sound, and therefore are closely related to music, to be helpful. These include the SCIO Biofeedback device's programmes that incorporate sound as well as those that operate by sending sound frequencies through the body.

Participant D reported expansion of right-brain activity due to his use of drumming in his own recovery process. Altenmüller (2004:6) indeed states that musicians generally process rhythms and metre in the right side of the brain, while the opposite side seems to be involved in the processing of rhythm by non-musicians. This participant also reports not needing morphine to reduce pain when playing drums. The value of music's anxiolytic properties was referred to by Spintge (1991:65, see section 4.4.4).

7.5 Comparison of research findings to literature on trauma

Some aspects emerging from the feedback to the research survey and case study interviews are compared with the literature on trauma. In order to avoid repetition, only aspects that were of particular relevance or that featured significantly are discussed. Similarities found serve to strengthen the validity of the results of the study. Different opinions were encountered and, where relevant, these are discussed.

7.5.1 Effects of trauma and their extent

Most teachers who replied to the questionnaire reported having witnessed the effects of trauma on their students and/or themselves. This appears consistent with statements in the literature, such as Levine's contention (2005:8) that "almost all of us have experienced some form of trauma, either directly or indirectly". Research findings indicate that trauma definitely has an influence that goes beyond localised effects but extends into the occupation of music and even relationships with colleagues. Levine (2005:60) acknowledges that the feelings of traumatized persons of being 'stuck and frightened' can extend into different areas of life.

Signs reported are consistent with the general literature on trauma and trauma symptoms. Areas in which musicians seemed to be particularly vulnerable, as gleaned from the research survey and case studies, are memory-related problems, concentration problems, aggressive expression on their instrument and altered emotional expression. The classic oscillatory nature of symptoms associated with PTSD, as discussed in chapter 3.4, namely blunting of the emotions or hyperarousal, was reported by some of the respondents. The literature supports the observations regarding concentration problems and attention deficit reported by teachers as witnessed in traumatized students. Scaer writes (2001:13): "Fluctuating symptoms of cognitive impairment especially related to attention and memory would be common in many of these conditions."

One response that could be interpreted as challenging the literature quoted in this study was by a respondent psychiatrist who stated that “[i]nterestingly, research has established that most people suffer amazingly little, if any, damage even in the face of severe trauma”. However, this respondent did not state to which research this claim refers. Even if it is perceived that “little damage” is suffered, it can be questioned whether this is necessarily an accurate perception. Writers such as Levine and Scaer make solid arguments that trauma influences us in ways that we do not even realise the full extent of, including influencing the choices we make in other aspects of our lives. Indeed, Levine (1997:45) writes that while most people are aware that exposure to types of trauma perceived as serious by society can alter people’s lives, most people do not realise that seemingly benign situations can be traumatic.

7.5.2 Effects of trauma experienced early in life

Szpilman (1999:22-32) titles the first chapter in his book “The hour of the children and the mad”. “The hour” refers to curfew time. It would seem that the number of people in the population who act irrationally during wartime, as perceived by others, is much higher than otherwise. This includes disregard of personal safety, seemingly lacking in common sense. This in itself should be sufficient evidence to seriously consider the correlation between trauma and unusual or strange behavioural manifestations. Under circumstances of war, people could be more likely to make a link between behaviour and circumstances, while the likelihood of overlooking this correlation is much greater in the case of trying circumstances of an individual. Domestic violence and/or poverty could arguably be like war to a child. Concluding a discussion on the effects that traumatic circumstances can have on children, Scaer writes (2001:15): “The sensitivity and vulnerability of the developing child to a loss of nurturing and safe boundary structure, and the adverse effects of this loss throughout life on emotional and physical health appear to be frighteningly clear.”

Scaer’s statement quoted above could be interpreted as applicable to case study participants B and C, both initially traumatized at an early age, in that their roads to healing spanned a number of years. In addition, participant A’s comparative resilience could perhaps be interpreted to be a result of her stable childhood. This is not necessarily a positive consequence, since participants B and C acknowledged their vulnerabilities and sought treatment while participant A tended to avoid treatment that could potentially be of benefit to her. The feedback of music teachers confirmed that, from the viewpoint of the majority of musicians participating in the study, trauma observably influenced young musicians. Considering time limitations, financial restrictions and

challenges facing educational systems, it cannot reasonably be expected of educational institutions to provide safe boundary structures in cases where these may have been lacking in the immediate environment in which children live and grow up. However, if care is taken to make circumstances within educational systems as safe and nurturing for the learners as possible, this can go a long way towards helping to diminish the adverse effects of a fractured and troubled society. This would be an investment in the future of a nation.

7.5.3 Concerns particular to survivors of sexual abuse and incest

The effects of sexual abuse and incest can be particularly far-reaching, not the least of which is the effects on other relationships, communication and emotion. While participant C was sexually abused by a friend of the family, participant B is a survivor of mother-daughter incest. According to Ogilvie (2004:105), group therapy is important to help survivors of the latter type of abuse to connect to others and express their individuality. The results of this study support this, as Participant B found a depression support group to be particularly helpful.

For the child, Ogilvie calls mother-daughter incest “the most profound disconnection possible in her world” (Ogilvie 2004:136). She writes that for survivors of such abuse by their biological mothers, the relationship with the mother is characterized by “the most severe physical, psychological and spiritual disconnections”. The titles to some chapters of the first part of Ogilvie’s book are cited here to highlight some of the most important issues. Capitals were removed for ease of reading. These are “acute shame”, “trapped with no place to go”, “identification with and differentiation from the mother” and “difficulty coping” (Ogilvie 2004:i). It was clear from the narrative that these were experienced to a large extent by participant B, as not only was no intervention attempted over the course of many years and was she clearly unable to extract herself from such an extremely abnormal and coercive situation, but she also displays self-destructive behaviours and describes relating to others as having been challenging at times. Ogilvie draws attention to societal and professional denial of the existence of mother-daughter incest in such strong terms as to call it “a world that believes she is telling an impossible lie, that mothers do not sexually abuse children and that the mother is the victim” (2004:51). In addition she points out that such abuse destroys the construction of the self that is formed and sustained in relation to others and that isolation and stigma, severe loss and disrupted patterns of attachment are experienced leading to survivors believing that rejection is the norm (2004:105, 116, 127). As suggested by Ogilvie’s research, participant B’s experience with a psychiatrist is disturbingly unsurprising: she sought treatment from a psychiatrist who did not

believe her and prescribed anti-psychotic medication since the psychiatrist mistakenly thought that the client must be delusional.

Of particular relevance to this study is Ogilvie's finding (2004:123) that survivors of mother-daughter incest experience problems in cognition and memory. In addition she points out that they relive their situations not only in memory but also in daily life. Other types of sexual abuse share similar characteristics, but some are also different in significant ways. For an understanding of transference and countertransference issues, Ogilvie's work can be consulted (2004:145-170).

It can be concluded that participant B's symptoms and reactions to her trauma are in line with professional evaluations of this matter, albeit perhaps not recognized or understood by society – including some in the healthcare and others in the teaching professions - which in turn contributes to further isolation. It can be seen that the impact is so profound that very careful handling of such situations is required and it follows that additional traumatization could result in irreparable damage. At times, turning to music as a safe haven is not so safe at all, especially when further abuse of whatever nature is experienced, as briefly mentioned by participant B. The description of participant B also suggests that, as stated in the literature, transference and countertransference play a role in professional treatment and initial lack of positive outcome. Perhaps it is time for society to start accepting that these types of abuse are a reality and to become more sensitive and less rejecting towards those affected.

7.5.4 The eyes as a means of non-verbal communication

Participant teachers wrote that hesitancy before starting to play, fearful glances at the teacher and avoidance of eye contact could be revealing signs that a student is experiencing trauma-related difficulties. In addition, participant D stated that he struggled to make eye contact as a consequence of one of his traumatic experiences.

Gorrie (2009b:75) states that the eyes can display emotions that can be interpreted by other people and animals. He explains that this is made possible by the external and internal muscles that control the movement of the eyes. In addition, he states that it can be seen in the eyes whether a person is experiencing positive or negative performance arousal. It can be concluded that this supports teachers' observations about how much is communicated by the expression in the eyes of their students and how the first signs of fear and trauma could be detected in the eyes.

7.5.5 Dissociation

The issue of dissociation as a defence mechanism in the face of threat featured repeatedly in the discussion of trauma symptoms in chapter 3 (section 3.6, 3.7, 3.8.3 etcetera), feedback of healthcare professionals on the issue, teachers' observations of concentration difficulties experienced by traumatized students, and case studies' reactions to trauma. Its various manifestations such as the primary, secondary and tertiary forms of dissociation (Nijenhuis *et al.* 2004) were discussed. Case study participants described dissociative symptoms, including an out-of-body experience (Participant D) and in some cases the *TSI* identified dissociative symptoms in participants. Some symptoms reported in the feedback to the teachers' questionnaires could be related to dissociation while healthcare professionals frequently made reference thereto. The importance of resolving dissociation in order for healing to occur was also touched upon (see sections 3.5, 3.7, 3.8.4, 3.8.5, 3.9.1 and 3.9.2). It was mentioned that a situation where the musician is not 'grounded' and where optimal mental focus is not attained is detrimental to performance (sections 4.1.1, 4.1.2 and 4.2.3). Reference was also made to the valuable role that resonance could play in the healing process (chapter 3.6, 3.9.4, 3.9.5, 6.4.2 and 6.4.3). In comparison with the literature, in addition to what has been discussed previously in this study, attention should be drawn here to the work of Louise Montello on "Essential Musical Intelligence" (2002:201):

Essential Musical Intelligence is the voice of your true self. When you are centered and secure in your identity as a valuable, creative human being, its expression is unimpeded. Unfortunately, not all people resonate with this ideal reality.

Montello (2002:201) states that a person can dissociate from his/her 'core being' in order to protect themselves. However, she also believes that a person's Essential Musical Intelligence can lead a person back to their true essence or true self.

7.5.6 Medication

The issue of medicating trauma victims evoked diverse responses from participant healthcare professionals. It was noticeable that respondent psychiatrists were the most likely to resort to medication when a diagnosis of PTSD is made according to the *DSM IV-TR* (APA 2000). On the contrary, others cautioned against the notorious side-effects of medication and the potential effects this may have on musicians (also see section 6.1.5). The researcher would like to quote Levine's observation and opinion here (2005:9):

The field of psychiatric medicine has chosen to view many of the long-term effects of trauma as an incurable disease, only marginally

controllable by drugs or through behavioural management. I do not agree. While medications can at times be quite helpful, they are – of themselves – insufficient.

Case study participant B initially had very negative experiences with incorrect medication before eventually finding medication that did not elicit side effects.

Some respondent healthcare professionals felt strongly that it should be kept in mind that, while it can be an aid in the short-term, medication is not a cure. The potential value of natural supplements and herbal medicines was mentioned by various respondents, and is discussed in section 6.1.5. Dr Yu stated that Chinese herbal medicines have no side effects. In support of natural intervention even for serious mental disorders, authors such as Holford (2007) advocate the correct and controlled use of supplements and diet, discussed at length in his book *Optimum Nutrition for the Mind*. In contrast to pharmacological substances, if used as treatment for deficiencies, natural supplements can and should be used in the longer term or even for life.

7.5.7 Challenge of ascertaining accurate diagnoses

Erroneous diagnosis resulting in delaying appropriate treatment was a concern that surfaced in the discussion of case study participant B. In connection with difficulties experienced to arrive at an accurate diagnosis, it seems that a contributing factor as to why the residues of trauma are so often misunderstood, misinterpreted and misdiagnosed is because all possible responses lie on a continuum. Not only do people who went through the same type of ordeal often exhibit exact opposites of symptoms, but these symptoms very often oscillate between extremes and even overlap with a myriad of other physical and mental diseases. Concern that patients often feel unclear about their diagnosis was echoed in one of the responses from a psychologist as quoted in chapter 6.1.8. It cannot be sufficiently stressed that, since trauma is such a complex matter, it warrants complex and even multidisciplinary evaluation and intervention. Too often the proverbial buck is passed when alternative resources are not available at the time when intervention is most needed to prevent more severe crisis.

The researcher searched for explanations in the literature and would like to refer to Bremner's opinion (2002:246-8) on the issue of psychiatric diagnosis. Bremner strongly believes that stress results in alterations in neurological function that are the cause of the symptoms that manifest in trauma-related psychiatric disorders. Firstly, he explains that stress is stress and that there is no reason to think that trauma experienced in any part of the world would be different to any other

trauma experienced in another part of the world. Another important observation is that traumatized patients present with an inability to cancel out fear responses, even in the absence of any existing threat. He proposes that neurological changes in the brain due to traumatic stress could provide an explanation for the substantial overlap that is seen in trauma-spectrum disorders such as PTSD, borderline personality disorder and dissociative disorders. He vehemently criticizes the approach to psychiatry which propagates finer and finer splitting of psychiatric diagnoses, as seen in successive versions of the ever-expanding *DSM*. Bremner (2002:248) believes that these disorders are not truly distinct, that they have a common basis in neurology and that they are treatable.

7.5.8 Functioning in the present moment

The idea of ‘living in the moment’ has become very popular with so-called ‘life coaches’ and motivational speakers and writers. Participant D drew attention to the importance of living in ‘perceptual presence’¹³ – this translates into living with awareness. Gorrie (2009b:88) explains why this is so important by calling the present or the now ‘[t]he best and only place in the world’. He states that thinking of the past is often reliving negative memories. This could of course increase the past’s negative influence, or, on a biological level, engrave deeper memory circuits of such negative experience. In this way, traumatized people can actually retraumatize themselves without being aware that they are doing this. Section 3.8 referred to Bradshaw (1990:217) identifying the goals of treating PTSD as helping people to live in the present.

On the relative importance of the past, Gorrie (2009b:86) makes it very clear that the events in a person’s past do not determine who they are, but that how they dealt with the events in their past makes up who they are. He also states the seemingly obvious but perhaps sometimes overlooked fact that performing does not take place in the past or the future but in the “here, and now”.

7.5.9 Importance of co-operation between the teaching and healthcare professions

In their comprehensive book *Medical Problems of the Instrumentalist Musician*, Tubiana and Amadio (2000:552) refer to the necessity of close cooperation between medical practitioners and appropriately trained teachers. The frequency with which respondents suggested collaboration between healthcare professionals and teachers confirms that there is agreement to some extent

¹³ It is very important that a traumatized participant specifically drew attention to this seemingly simple advice, since many of the explanations in this study could be interpreted to illustrate how aspects of existence not having any direct relevance to the present moment are negatively affecting it.

about the importance of interdisciplinary collaboration in the support of musicians suffering from various forms of medical problems (as seen from the perspective of Tubiana & Amadio), and from trauma (from the perspective of respondents). Respondents from the fields of music therapy and communication pathology placed particularly great importance on interdisciplinary collaboration even to the point of such collaboration extending beyond the point in time when a referral is made. This indicates that they view the teacher's continuous role in the student's life as warranting communication between professionals, the priority being the well-being of the student. Unfortunately, a high percentage of teachers indicated that they have never referred traumatized students to healthcare professionals.

Tubiana and Amadio discuss physical trauma in detail but never touch on the subject of psychological trauma. The closest this text comes to even connecting psychological trauma with problems of performing musicians is in the section on psychological problems and substance abuse (Tubiana & Amadio 2000:551). Here the influences of socioeconomic factors and family difficulties, as well as emotional and psychological stresses, are briefly referred to. These same factors were highlighted by participating musicians, albeit more specifically in the context of traumatic experiences encountered by musicians. One case study participant identified financial stressors to be traumatic, while some teachers expressed concern about the costs of treatment. One teacher referred to the circumstances of previously disadvantaged music students and their tendency to come to the music building as a place of safety and belonging. It can be deduced that failure to seek treatment can in some cases be attributed to financial reasons.

From the viewpoint of a balanced wholism, the first steps necessary to achieving a true metaphysics of sickness and health would lie in the realization and acceptance of the fact that there are living harmonies – dissonant ones and consonant ones – to be fathomed, that understanding these harmonies, in the sufferings of illness as in the flowerings of health, will lead us both to the insights we seek concerning our well-being and to a metaphysics true to the human bodies we are.

- Sheets-Johnstone 1992:154

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.1 Answering the research questions

At the outset of this study, the following main research question was posed:

In what ways can trauma that also includes psychological sequelae influence musicians?

From the responses to the research survey it was evident that trauma can influence musicians in the same ways that it does any other person. However, ways in which trauma can affect musicians specifically related to their occupation involved various aspects that impact on concentration, memory, emotional expression and altered experience of emotions, problems in interpersonal relationships, effects on self-esteem and self-confidence, mood changes affecting work, dissociation problems interfering with performance and practice and tension-related problems that affect sound production on the various instruments or voice.

The first two sub-questions that arose from the main research question were the following:

In what ways can a musician's capacity to express emotion be influenced by trauma?

In what ways can trauma influence a musician's memory during music performance?

It was indeed found that emotions and memory were particularly affected in traumatized musicians. In some cases the extent of traumatic sequelae was sufficient to influence professional functioning adversely. Particularly the oscillation between emotional numbing and hypervigilance, both specific symptoms associated with PTSD, were identified as interfering with optimal performance. Changes in mood were common symptoms reported. Emotional

changes, emotional experiences that are associated with trauma and drop in self-esteem were identified as symptoms interfering with motivation to succeed at the instrument or voice and leading to a decrease in creativity and productivity. In addition, anger expressed at the instrument was commonly mentioned by both teachers and performers as affecting functioning and performance. Anxiety reactions resulting from trauma residues were identified as possibly amplifying stage fright. Dissociative symptoms were identified in various cases to be at the root of memory and concentration difficulties. Symptoms associated with dissociation were identified in all four case study participants at various stages of their roads and it can be concluded that dissociation is the most important aspect of the trauma response to resolve in order to achieve recovery. ‘Flashbacks’ and intrusive thoughts as well as temporary amnesia for music due to dissociation were reported.

It needs to be stated that, as also emerged from the responses to the research survey, traumatic experiences do not in all instances have a residual effect on aspects of musicians’ music-making. However, it was also seen that, in cases where adverse influence manifests, this sometimes can have far-reaching effects, either in the immediate short-term or even in the long-term. The type of trauma also affects the reactions, but it can still not be predicted which reaction will follow exposure to what type of trauma. Two case studies experienced sexual trauma and in comparison to the other case studies, the effects of this took longer to overcome than those of other types of trauma.

The third sub-question that arose in the investigation of how trauma that includes psychological sequelae can influence musicians was the following:

What are the warning signs of adverse influence caused by underlying trauma that teachers and performers should be aware of?

A broad range of warning signs was identified and listed in chapter 6.1 and 6.2. In some cases these signs were general behavioural changes whilst at other times signs were very specific to the instrument or voice. Respondents shared their opinions of how symptoms interpreted as interfering with optimal functioning at times turned out to be trauma-related. It was also stated that care should be taken not to see trauma where none exists or to inappropriately question or make deductions that can be harmful to the student (due to the potentially damaging nature of suggestions). The importance of being alert for changes in students’ behaviour became

particularly clear since most warning signs are deviations from what was normal behaviour for the student.

The last sub-question was regarding treatment and was posed as follows:

What treatment interventions did musicians participating in the study find to be effective for trauma?

A wide variety of treatment interventions were found to be effective. Healthcare professionals often referred to (in alphabetical order) EMDR, EMI, hypnotherapy, the use of natural supplements, pharmacological treatment, psychotherapy, trauma counselling as well as other forms of treatment. A more comprehensive discussion hereof can be found in chapter 6.1.3. Teachers were not particularly questioned about types of effective strategies, but many stated that, in their experience with students, recovery takes a long time and some even mentioned that there are cases in which full recovery was never achieved. It became evident that music itself can have a healing effect for traumatized musicians. This includes listening to music as well as playing music. However, it was pointed out that when a musician is faced with having to deal with trauma, the demands of professional performing can become an additional burden and the exact mechanisms of dealing with trauma can at times interfere with performing at one's best. Case study participants found alternative therapies, CBT, counselling, hypnotherapy, psychotherapy and psychotropic medication to be helpful in their healing process. Two of the case study participants found vibrational medicine to be helpful. All case studies experienced music to be healing at various times, while two particularly referred to the healing effects of drumming and linked this to the 'healing' vibrations emitted.

8.2 Proving or disproving the hypotheses

The following hypotheses were considered for this study (see section 1.3):

Trauma can affect musical expression by influencing the emotional intent, emotional state, or capacity for expression of the performer as well as affecting his or her physical motions, both having an impact on the musical result.

Where various coping mechanisms come into play, trauma can also have a profound influence on a musician's memory during music performance and study.

The effects of trauma can influence teachers as well as performers.

The hypotheses were confirmed at many levels as reported during the course of the study. While some musicians experienced particular emotions related to trauma that could be identified and verbalized such as anger, sadness, anxiety and loss, others experienced emotional numbing while yet others experienced deepening of affect. It is not uncommon for all of these to be experienced by the same individual at various stages of the recovery process. However, the responses were very individual and it was seen that it is not possible to predict what the reactions will be. It was also hypothesized that, where various coping mechanisms come into play, trauma can have a profound influence on a musician's memory during music performance. Although this clearly did not occur in every traumatized musician, it was repeatedly confirmed by various respondents from the healthcare and teaching professions, as well as three of the four case study participants. Trauma-related concentration difficulties, intrusive memories and memory overload were reported at a high rate by these respondents. The abovementioned effects were reported to affect performers as well as teachers.

In order to answer whether trauma can influence musicians in their professional capacity, the following question was posed: **Do a number of noticeable and/or observable signs exist, particularly manifesting in but not exclusively limited to their expression of emotion and memory during music performance, in individual musicians affected by trauma?** The antithesis to this would be that trauma has no influence on musicians. A very small minority of the respondents to the teachers' questionnaire held this opinion. It was shown that reasons such as own unresolved trauma could have influenced such viewpoints. However, the overwhelming majority of respondents to both the teachers' and healthcare professionals' questionnaires clearly stated and provided examples of how trauma influences musicians. In addition, concrete and specific examples were given as to how trauma was perceived to have influenced music-making. Case study participants also showed a number of trauma-related symptoms as reported by themselves and measured by the *TSI*.

It was also investigated whether these signs were alleviated in musicians who have received treatment. This is more difficult to measure directly, since factors such as time elapsing after trauma, types and duration of treatment and subjective interpretation of changes or recovery can play a role in the real and reported outcomes. The prevailing opinion amongst teachers was found to be that students who have received treatment did indeed show signs of improvement but that this was a lengthy process, sometimes spanning more than a year. Healthcare professionals

also indicated that treatment is necessary and beneficial, but did not indicate specific treatment durations. They highlighted a wide variety of potentially beneficial intervention strategies and also emphasized the fact that treatment should be tailored to the unique needs of each individual. Case study participants B, C and D found a variety of interventions helpful on their respective roads to recovery, while case study participant A did not remain in treatment for an extended period of time. Spiritual and religious beliefs were also identified as playing a healing role. Mixed experiences and interpretations of the effectiveness of treatments were prevalent amongst the respondents. Some described certain treatment approaches as effective but conditional on certain prerequisites being met such as finding therapists who match personality types or are experienced in the particular type of trauma with which the client needs help or finding medication that works without producing harmful side-effects.

8.3 Conclusions

The following conclusions are interpretations of and deductions from the research data and should be viewed as such. It is of the utmost importance that these conclusions be viewed as limited to the participants of the study and not be generalized. This is in line with Ashworth's contention (2003:19) that, when working in a postmodern framework, conclusions drawn from research activity should be viewed as interpretations. When taking into account all factors influencing a particular phenomenon whilst working from a holistic perspective, interpreting situations is inevitable since research subjects and environments are not controlled but observed in an attempt at understanding the entity that is being studied. The nature of this study is such that observations of professionals and self-observations of case study participants were all interpretations, whether those of the self or of others.

8.3.1 Identification of signs of trauma and communication between musicians and professionals

Performing musicians affected by trauma can find themselves in situations with unexpected symptoms having a negative impact on their careers. Symptoms could be debilitating to a greater or lesser degree. Teachers working with students who were traumatized or being the first to whom information is disclosed could suddenly be faced with making difficult decisions and a responsibility greater than they may have been prepared for. It was seen that the channels of communication between teachers, musicians themselves and healthcare practitioners do not

always function satisfactorily and important points in connection therewith were raised. In addition, a prerequisite of successful teaching that encourages growth of both students and teachers is that teachers refrain from imposing their limited realities and their metanarratives (including their own pasts and their own traumas) on their students. This was briefly referred to in section 4.5.

8.3.2 Definition of trauma found to be applicable to musicians

Peichl's definition of trauma as a 'toxic condition' (Peichl 2007b:23) was indeed applicable to musicians, since it was shown how the toxic effects of trauma influence various aspects of the lives and careers of musicians. However, trauma also posed the very challenges of overcoming the helplessness and loss of control which Peichl associates with the condition. By going through this process, greater strength and control were attained in some cases. Scaer's (2005:71) definition of trauma as 'a disorder of the perception of time, of the body, and of the self' was found to apply to musicians in aspects pertaining to self-esteem, somatic symptoms, dissociative symptoms and changes in the ability to achieve optimal concentration and to function 'in the moment' or be fully present.

8.3.3 Incorporating music, sound and movement in the healing process

Writers such as Sheets-Johnstone (1992:154, quoted at the beginning of this chapter, p 188) describe the human body in musical terms. Such approaches open new possibilities for treatment and also contribute to explain why music and sound itself were found by some participants to play such a profound role in healing. In the results of this study, such intervention ranged from alternative modalities implementing sound frequencies to drumming. Movement (and movement can be linked to musical rhythm) was also identified as possibly playing an important role in discharging the freeze response.

8.3.4 From the universality to the uniqueness of traumatic experience: creating meaning

All people may experience trauma at some time in their lives. However, traumatic experiences fall within a wide range of severity and perhaps even wider range of ways in which they affect each different individual. Some can be attributed to the accumulation of many of 'life's little traumas' (Scaer 2005:2), which he believes to be significant enough to "shape virtually every aspect of our existence". On the other hand, some events can be so devastating as to defy any rational explanation. These latter cases can represent a dilemma even to experienced therapists. Should they try to change people's perception of their level of control during the event, should

they change the meaning of the event in hypnosis, or should they intervene on a pharmacological level, are but a few of the questions that arise. New ethical dilemmas are also raised by the latest brain research investigating how traumatic memories could be erased – although doubt must be expressed as to whether this would be possible without causing unwanted damage to other functional areas in the brain. When no human logic can assist to make an event more tolerable, the words of the psychiatrist Scott M. Peck come to mind. In seeking explanations of how people can survive or ‘absorb’ evil that they were exposed to and not be destroyed in the process, Peck writes (1983:269): “I do not know how this occurs. But I know that it does ... Whenever this happens there is a slight shift in the balance of power in the world”. Seen from a holistic perspective, finding such a meaning in traumatic experience could aid in creating consonance rather than dissonance for the survivor of the experience.

8.3.5 Awareness as prerequisite for appropriate referrals leading to effective treatment

From the research it became evident that there are various therapies which can be of value in the treatment of trauma and that different individuals react differently to various forms of intervention; each individual is unique. Trauma residues can and do have serious consequences. Therefore it is of the utmost importance that appropriate intervention is sought. It is advisable that musicians should be aware of their own reactions to trauma. Of perhaps even greater significance is that music teachers should be equipped to recognize trauma symptoms and make appropriate referrals. A realistic hope would be that, through intervention, musicians would gain awareness and insights into their own reactions to trauma and that such interventions would assist them to conquer traumatic experience and emerge stronger. Ultimately, when awareness is gained, musicians can assume a large part of the responsibility for their own healing.

8.4 Recommendations for further study

During the course of this study it became evident that ample aspects warranting further investigation and opportunities for rewarding research exist. Since not much research has been done, particularly about the influence of trauma on musicians, it can be expected that a large number of new questions emerged as a result of this investigation. Most notable is the question to what extent these findings could apply to other contexts as well, namely musicians living in countries other than South Africa and the minimal international response rate received in the current study. It is hoped that some of these could spark the interests of other researchers,

including musicians, music therapists, academics, psychologists and others from the healthcare professions, leading to future investigations. Below follow suggestions for such research. Where appropriate, the reader is referred to the parts of this thesis where the relevant topics were discussed and appropriate references can be found.

8.4.1 Collaboration between different disciplines

The study of the influence of trauma is a multidimensional pursuit and multidisciplinary involvement should be aimed for therein. Not only must trauma's intrapersonal effects be understood, but also its interpersonal manifestations and even intergenerational transmission. If researchers, musicians and teachers are to hope for truthful answers and conclusions, the first step is achieving sufficient awareness of the complexities of human existence. Studies should be conducted aimed at further educating professionals about complementary treatments that are available and implementing measures that would provide opportunities for interdisciplinary collaboration and communication between professionals.

8.4.2 Effects of trauma on musicians at different levels of accomplishment

What effects trauma has on musicians at different levels of accomplishment should be investigated. A relevant question to be asked is if there could possibly be a level of accomplishment attained by concert artists who started playing their instruments very early in life that is so deeply ingrained in the brain that subsequent trauma has less effect on them or on the quality of their performances than on those whose abilities were not as solidified at the time that traumatic activation occurred in the brain. Aspects that need to be investigated include the effects of traumatic events that occurred prior to embarking on music studies (as defined by starting to learn an instrument or voice), as compared to occurrences after the commencement of music studies. In addition, the extent of traumatic influence on musicians who develop illnesses or injuries which impact their careers is a subject warranting further investigation.

8.4.3 Personal experiences of trauma by healthcare professionals affecting their views

Ways in which the personal experiences of teachers interacted with their professional evaluation of the influence of trauma on their students were briefly discussed (see chapter 7.2.1). Considering the nature of this study and the fact that it was conducted by a musician and not a healthcare practitioner, it would obviously not have been appropriate to include a similar optional question regarding personal experience(s) of trauma at the end of the questionnaire sent to healthcare professionals (please see the questionnaire that was sent to music teachers, question

11, as contained in Appendix B). However, in order to gain more insight into how healthcare professionals came to appear to be either non-committal to the particular effects of trauma on musicians, or to be highly sensitive thereto, research investigations should be conducted by those authorised to do so. This could be extended to include the interaction of healthcare professionals with clients other than musicians.

8.4.4 Gender differences

A wealth of material documenting traumatic response exists in the literature. However, the researcher did not encounter scholarly material that particularly investigates how coping strategies and ways of dealing with trauma employed by men may differ from those of women. The exception was Bremner's brief explanation (Bremner 2002:199) of men and women's different responses to stressors as genetic differences involved in the preservation of the gene pool. Due to a relatively low return rate from male music teachers to whom questionnaires were sent, this study cannot begin to make any deductions in this regard apart from mentioning that female music teachers seemed to be more likely candidates to return the questionnaire. It is suggested that gender studies investigating differences in traumatic response and coping mechanisms could be pursued by another researcher.

8.4.5 Effects of trauma on musicians' cognitive functioning, memory and concentration

The exact influence of the dissociative symptomatology associated with ASD and PTSD on music performance warrants further investigation. The aim should be to determine exactly what occurs in the brain and thoughts of musicians thus affected during performance. Extensive questioning of musicians who perform from memory would have to form an integral part of an investigation aimed to determine the percentage of memory lapses during performance that can be attributed to trauma symptoms. However, to ensure objectivity this needs to be conducted in a way eschewing any form of leading questions.

Also, as discussed earlier in chapter 2.8.3, since it seems that more brain structures are involved in processing memory for music than in some other essential forms of memory, it may be expected that compensatory mechanisms could spring into action in the brains of traumatized musicians. Their music skills may appear to be less affected than other previously learnt skills. This is certainly a topic which warrants further research, preferably controlled studies conducted in laboratory settings.

Weber *et al.* (2005) illustrated abnormalities in the functioning of working memory in patients with PTSD (see section 2.8.4). Working memory is essential for musicians whilst practising, when integrating material and during performance. The extent to which such abnormalities have relevance to functioning of memory processes of musicians and their specific trauma responses should be investigated. Since Weber *et al.* (2005:41) implicate changes in verbal processing, perhaps affected singers could be used as case studies to determine this.

Concentration and attention are intimately linked to memory skills, all being of the utmost importance to the performer. In building on Bartlett's statements (1996:178) as referred to in section 4.1.3, the researcher would like to suggest that, through questioning of performers in controlled settings, more insights can be gained into how voluntary cognitive activity with its roots in traumatic experiences may play a role in the breakdown of memory. It may be even more important to investigate the extent of alterations in the normal functioning of the autonomic nervous system due to unresolved trauma as a contributing factor in memory and concentration breakdown. In some instances this may perhaps be related to pathological manifestations of stage fright.

Changes in hippocampal volume found by other researchers to be associated with trauma and especially with traumatic stress of an extended duration were discussed in chapter 2.8.3. This researcher could only wonder how much this can or does influence the memory of the musician, including studying new pieces of music, recalling and length of time taken to relearn works performed previously, and performance from memory. Since yet other researchers have argued that it seems that a particularly large number of brain structures are involved in processing memory for music, the observed effects of decreased hippocampal volume on the memories of musicians could perhaps be expected to be less pronounced than that for other skills. Nevertheless, performing from memory requires specialized skills. Therefore traumatized musicians could perhaps constitute an ideal group for the scientific investigation of the impact of decreased hippocampal volume on memory skills. Such studies would benefit both researchers and musicians, since it is not yet known what the influence of changes in hippocampal volume due to severe traumatic experience could be on musicians required to perform from memory. To investigate this, ideally three groups should be selected. The first group should consist of

normal control subjects, the second of subjects diagnosed as suffering from PTSD or related disorders but with normal hippocampal volumes and the third of traumatized musicians diagnosed with PTSD who also present with decreased hippocampal volume. Preferably, subjects compared to each other should play the same instrument (or be singers) and be from roughly the same age group. In order to investigate additional forms of memory in these same subjects, further studies could be conducted with these homogeneous selected groups.

8.4.6 Biological considerations

Links between PTSD and Adrenal Fatigue Syndrome should be investigated, possibly building on the research of Yehuda *et al.* (1997, 1990) on decreased cortisol levels in PTSD as well as the findings of Wilson (2001) on AFS. This was referred to in section 3.5.

It should be investigated whether self-medication and drug abuse in the population of musicians could be linked to painful traumatic experience. If a relationship is indeed found to exist, solutions and intervention strategies should be sought.

Aldridge's suggestion (1993:20) to view our responses to 'biological challenge' in terms of improvisations and to view disease as a restriction of those could be of value in achieving greater insights in the subject under investigation in this study. If, as he suggests, different diseases do differently affect our responses to music, it should be investigated whether musicians indeed employ a 'repertoire of improvisations' in response to challenge of a traumatic nature. Since Aldridge's statements imply that creativity would be restricted in musicians suffering from pathology caused by trauma, it should be determined whether creativity is indeed restricted in traumatized musicians (also see chapter 4.4.2).

8.4.7 Rate of recovery

Slow recovery rates reported by music teachers were cause for concern when it is considered that dedicated students find themselves in a competitive environment where rapid and efficient progress is expected. It could be investigated whether integrative approaches could address aspects not covered in traditional school counselling and perhaps speed up recovery time. It may have to be investigated which complementary therapies are most successful in aiding with the

accumulation of ‘frozen energy’ due to the immobility response as referred to by Levine (1997:105).

8.4.8 Aspects related to music’s role in healing and the place of vibrational medicine

Music’s potential application for anxiety reduction and balancing of the energy fields of the body as a component of psychotherapeutic intervention administered to victims of trauma should be investigated. Also see Spintge (1991:65) on music’s anxiolytic properties as referred to in section 4.4.4. Perhaps music can even provide an alternative stimulus, engaging the brain’s attention on the music and thereby possibly reducing intrusive traumatic memories.

Psychologists and neuroscientists have made great progress in the understanding of the functioning of the human mind. It should also be investigated, when playing or listening to music, how much people express and/or perceive consciously and to what extent the expression and/or perception of music involves unconscious processes. Once this is understood to a greater extent, informed decisions can be made on which music to listen to for what effects, especially in the therapeutic environment. This is a matter closely related to other applications of vibrational medicine, which also incorporates sound frequencies and music in treatment. These exert their influence not exclusively on the body but also have the potential – and are utilised for this purpose - to influence brain function and brainwaves.

More concrete research and controlled studies are required to gain greater insights about the exact extent to which systems such as the EPFX/SCIO biofeedback device could be helpful. It is suggested that, since a sensitive understanding of the nature of sound is an important aspect of the successful application of these technologies, musicians including those who also qualify themselves in the alternative healthcare field could play an important role in such research.

8.4.9 Providing good support structures for students in schools and lessening the risk of secondary traumatization to professionals

As mentioned in section 7.5.2, time limitations, financial restrictions and other problems facing educational systems challenge the ability of educational institutions in South Africa

and elsewhere to provide safe boundary structures in cases where these may have been lacking in the immediate environment in which children live and grow up. However, if care is taken to make circumstances within educational systems as safe and nurturing for the learners as possible, including providing reliable professional counselling services and equipping teachers with the necessary skills to appropriately deal with challenging situations, this can go a long way towards helping to diminish the adverse effects of a fractured and troubled society. It is suggested that authorities should conduct a cost-benefit analysis of the financial costs of implementing treatment programs in educational institutions as opposed to the long-term effects on the well-being of individuals when no intervention is offered. Thereafter decisions can be made regarding the incorporation of more comprehensive intervention structures.

Exposure to secondary traumatization can take its toll on the health of teachers, healthcare professionals and researchers in the field of trauma, as mentioned in chapter 2.8.1. It is recommended that interdisciplinary collaboration be sought and explored in order to find and implement effective ways of lessening the risk to those investing their energy and resources to help others. Enquiry about the extent to which emotional influences and trauma contribute to physical illnesses may lead to a conclusion amongst open-minded individuals that interdisciplinary collaboration may be necessary to lessen the risk to those investing their energy and resources to help others.

8.5 Recommendations regarding the training of music educators

There are only two ways of increasing teachers' and performers' awareness about trauma. The first is knowledge gained through personal experience (whether that of self or witnessing the effects of trauma in others) and the second is through education. In order to effectively inform the largest possible number of educators about the signs of and possible solutions to the effects of traumatic stress, the benefits of incorporating training herein should be seriously considered by those assigned the important responsibility of determining the curriculum covered in training teachers at the tertiary level.

8.5.1 Implementing training in psychology in the music teaching curriculum

Much research still needs to be done to determine what improvements in music education systems would be most valuable in order to empower teachers with knowledge about realities they might encounter in the profession but which are not addressed in tertiary studies. The aim should be to reach a more holistic educational outcome. Teachers should be familiar with general signs of trauma, including those connected to the instrument or voice. They should be familiar with the general manifestation of ASD and PTSD symptoms to enable them to understand whatever situations they might encounter. As discussed in chapter 3.4, recognising the oscillatory nature of symptoms associated with PTSD symptomatology could empower teachers to recognize this in students and make appropriate referrals. If teachers could be more aware that marked changes in students' behaviour from week to week, particularly pertaining to emotional behaviour, avoidance and over-reacting, they could notice problems early on and make appropriate referrals in a timely manner. Viable measures should be investigated which could be incorporated in the teaching curriculum of tertiary education institutions to educate teachers in this regard. Research should be done to determine how training in basic educational psychology could be incorporated in music curricula followed at tertiary institutions in South Africa and abroad. This pursuit could be refined and specialized according to needs encountered in different geographical areas by determining to what extent musicians from different countries are affected. The history of countries affected by wars, natural disasters and other extreme forms of violence such as those associated with racial segregation and slavery in the past hundred years should be taken into account in addition to determining where affected musicians are located at present.

In addition to incorporating basic educational psychology in a compulsory curriculum for music teachers, suggested curriculum should make provision for educating teachers about ways in which to handle cases of domestic abuse and incest in the correct manner and with the necessary sensitivity in order not to complicate the lives of the victims additionally. It can be concluded from the discussion of case study participant B that special care should be taken in the intervention of cases of incest, particularly because of its devastating effects. Evidently, cases of domestic abuse and/or incest have complexities of a sensitive nature and require highly specialized intervention. Sadly, investigating such a case in hindsight brought it to the researcher's attention that in such instances it can be easy for teachers to turn a blind eye. The particular concern of

handling cases of domestic abuse was not encountered in the responses by teachers to questionnaires, possibly indicating a low incidence of actually being informed of such cases.

A sensitive matter such as intervention in the aftermath of trauma requires wisdom regarding morally correct but practically viable and effective ways of conduct. It is suggested that training in ethics should be incorporated in teacher training programs and be extended to cover areas where tough decision-making could be required and where the consequences could be far-reaching.

8.5.2 Benefits of incorporating movement as part of music training

Where students specialising in performance are concerned, the scope of the benefits of Levine's SE, Dalcroze Eurhythmics, the Alexander Technique, the Feldenkrais method, Rolfing and Yoga, extending but not limited to traumatized music students, should be determined. Thereafter decisions could be made regarding the benefits versus costs of including such disciplines as part of the music curriculum (also see related paragraph under chapter 3.8.5). It is suggested that adopting a more integrative approach to music education could have the added advantage that aspects which could otherwise have remained blockages for the instrumentalist and performer can be addressed and overcome, sometimes achieving this balancing of the individual without deliberate intervention. Seeing that so many consequences of traumatic stress are overlooked until it becomes a debilitating problem, this could be an investment in the general well-being of musicians and music students.

8.5.3 Reaching teachers in rural areas

The number of music teachers, particularly in rural areas, who do not have tertiary music training will still not be reached by courses implemented at the tertiary level. Short training and enrichment courses offered by institutions such as UNISA (University of South Africa) and ABRSM (Associated Board of the Royal Schools of Music) are an ideal platform where concise handouts could be distributed in which teachers are made aware of the main points highlighted in this study.

8.6 Epilogue

The researcher is convinced that the findings of this study have indicated an imperative need for further investigation by researchers and other interested parties into the influence of trauma on musicians and others in the creative arts.

This study served to confirm from the perspective of most of the musicians generously taking part that, when Levine (2005:83) states that “[t]raumatic experiences are an unavoidable fact of life”, he is echoed by many others, including musicians and music teachers.

Andrzej Szpilman so eloquently writes in the foreword to his father’s book (Szpilman 1999:7) that in Poland his father would be described as ““a man in whom music lives””. From this it can be inferred that something as significant as traumatic experience(s) encountered in life surely also affect other important aspects of people’s ‘personhood’ or ‘selfhood’. Not only are trauma and music integral to human existence and important realities thereof and therein, but they can potentially impact each other in remarkable ways. It has been seen that these ways include music’s capacity of expressing what is difficult to formulate in words, as well as its role in facilitating healing.