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# **Exploring the role of Music-Assisted Relaxation for re-injury anxiety in tertiary-level cheerleaders**

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Dissertation

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## DECLARATION

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## Abstract

This research study explores the lived experiences of re-injury anxiety among tertiary-level cheerleaders and investigates the role of Music-Assisted Relaxation (MAR) in the rehabilitation process. The study employs an interpretivist paradigm and utilizes an exploratory case study methodology, involving three participants from different cheerleading clubs in Gauteng, South Africa. Data was collected through semi-structured interviews conducted before and after six MAR sessions. Participants' personal experiences with MAR and the potential impact on re-injury anxiety were examined. Thematic analysis reveals four overarching themes: (1) Experience of injury in cheerleading, (2) Mental preparedness, (3) Rehabilitation and Psychosocial Support, and (4) Personal experiences of MAR in Music Therapy. The findings demonstrate the multifaceted experiences cheerleaders have and provide suggestions for what valuable support MAR may offer in addressing re-injury anxiety during rehabilitation. The study contributes to the understanding of the psychosocial aspects of sports injuries and advocates for the integration of creative interventions like Music Therapy in rehabilitation programs.

## Keywords

Competitive Cheerleading, Tertiary-level athletes, Re-injury Anxiety, Music Therapy, Music-Assisted Relaxation, Rehabilitation, Mental Preparedness, Team Relationships, Psychosocial Support, Interpretivism, Qualitative Research, Case Study, South Africa, Sports Psychology.

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# 1. Introduction

## 1.1 Background and context

Competitive cheerleading is a sport that involves teams competing against each other in their respective divisions. Teams perform a two-and-a-half-minute routine set to fast paced music and showcase different skills such as dance, complex stunts and elite level gymnastics. A standard cheerleading team consists of 'flyers,' who are people lifted or tossed into the air by their 'bases,' and 'spotters' (in the back, front and other essential spots) stand close by to prevent falls in cheer stunts. During competitions, a panel of judges who are experts in cheerleading evaluate teams based on difficulty and execution (Deroche et al., 2011; Varsity, 2018).

Cheerleading teams, whether at primary/high-school or tertiary-level may also participate in side-line cheerleading. Side-line cheerleading is solely for the purpose of providing support to other sporting codes by performing routines that strive for enthusiasm and getting the crowds excited. In South Africa, cheerleading teams are affiliated with the South African Majorettes and Cheer Association (SAMCA), a South African Sports Confederation and Olympic Committee (SASCOC) recognized Federation. Cheerleading's technical difficulty has increased along with its popularity, making it a contact sport that puts competitors at a significant risk of suffering a sports-related injury (Jones and Khazzam, 2017).

According to Ford et al. (2017) re-injury anxiety may have a negative impact on athletic performance after returning to competitions, where athletes may experience hesitancy to use their full potential due to a possible loss of confidence, therefore increasing worry and tension. Competitive sports have the potential to cause high levels of stress and anxiety, thus psychological strategies to reduce sport-related anxiety became an essential aspect of a competitive athlete's performance journey (Ford et al., 2017).

## 1.2 Rationale

Experiencing injury as an athlete may have negative effects on an athlete's sporting career (Loberg, 2008). According to a clinical review conducted by Hsu et al. (2016), the fear of repeatedly becoming injured following a sports injury may negatively impact the recovery process, reduce self-report function, and prevent the successful return to sport (Hsu et al., 2016). According to Nilsson, U. (2008) Through music intervention, there were positive effects on reducing patients' anxiety and pain in approximately half of studies reviewed. Music listening is effective for reducing anxiety in a range of groups (Harney et al., 2023). Therefore, raising my curiosity on whether a specific Music Therapy technique, Music-Assisted Relaxation, might be included as one of the strategies in an athlete's rehabilitation. This research holds the potential to raise awareness of re-injury anxiety and inform cheerleading coaches, teams and individuals of support for dealing with re-injury anxiety during the process of rehabilitation.

## 1.3 Aim

Through this study I aim to investigate the utilisation of Music-Assisted Relaxation as part of the rehabilitation process for tertiary-level cheerleading athletes who are living with re-injury anxiety. I intend to note their experience of living with an athletic injury and re-injury anxiety, as well as explore their experience of Music-Assisted Relaxation in relation to their experience of re-injury anxiety.

## 1.4 Research questions

How do tertiary-level cheerleaders describe their lived experience of re-injury anxiety?

What role does Music-Assisted Relaxation play in the rehabilitation process for tertiary-level cheerleaders living with re-injury anxiety?

## 2. Literature Review

The literature review includes research dealing with aspects of injury and re-injury anxiety in cheerleading, and within other sport disciplines more generally. The use of music in sports and rehabilitation as well as Music-Assisted Relaxation protocols, will be discussed.

### 2.1 Injuries

As the rate of injury continues to rise, overall stunting has been found to cause cheerleading injuries, as well as 96% of concussions and closed-head injuries (Jones & Khazzam, 2017). According to the American Orthopaedic Society for Sports Medicine (AOSSM), falls during stunting make up 29.4% of cheer related injuries, which are more likely to lead to hospitalization than other causes (Jones & Khazzam, 2017).

#### 2.1.1 Epidemiology of sport-related injuries

Although there are epidemiology studies published regarding injuries associated with the sports discipline of cheerleading, there is still space to obtain more data. Injuries that may occur whilst cheerleading are not often reported in the systems used to monitor sports injury at state high school athletic associations or the NCAA (National Collegiate Athletic Association) in America (Jones & Khazzam, 2017). Currently, there are no statistics regarding cheerleading injuries in South African teams under SAMCA (The South African Majorette and Cheerleading Association). Obtaining statistics could illustrate the frequency of injuries and call for more safety measures to prevent further injuries.

While cheerleading has a relatively low injury rate when compared to other sports, researchers assert that the injuries are typically more severe. Such catastrophic injuries may cause paralysis, permanent head injuries and possible fatalities (Boden et al., 2003; Labella et al., 2012; Naiyer et al., 2017). Due to the routines' higher level of complexity and the increased use of height-based stunts, older age groups are shown to have higher injury rates. Injuries among cheerleaders in higher education range from 1.2 to 2.4 injuries per 1000 exposures of the athlete, followed by primary school, high school, all-star, and recreational cheerleaders (Jones, 2017). According to Boden et al. (2003), there were five times as many catastrophic injuries per 100,000 cheerleaders at the tertiary-level as there were at the high school level in America.

According to the interviews Grindstaff et al. (2010) conducted, each athlete's experience with injury varied to a certain extent and fluctuated over time, and that the meaning they obtained from the experience was characterized by four major themes: perspective, emotion, coping and relationships. Participants' psychological responses to sport injury were generally consistent with the Wiese-Bjornstal et al. model but "the meaning of the experience was highly individualized and seemed to evolve over the course of the injury and rehabilitation process." "The integrated model of sport injury," created by Wiese-Bjornstal et al. (1998) served as the conceptual foundation for the research study, which employed a phenomenological approach to acquire a thorough knowledge of

the meaning tertiary-level athletes derive from their injury experience. Perspective, emotion, relationships, and coping were identified as the four main themes linked with the meaning from these athletes after completing an inductive analysis of their interview data, along with a number of supplementary sub-themes. The Wiese-Bjornstal et al. (1998) model best captured the participants' psychological responses to sports-related injuries, but the significance of their experiences varied considerably and seemed to shift over the course of the injury and rehabilitation process. More in-depth studies in this area with a larger range of individuals and sporting contexts could shed more light on the significance of athletes' injury experiences (Grindstaff et al., 2010).

## 2.2 Re-injury anxiety

Sport psychologists concur, according to Ford (2017), that taking part in a competitive sport has risks and raises the likelihood of developing high levels of stress and anxiety. A competitive athlete's preparation for their performance includes using a variety of psychological techniques to combat sport-related anxiety. This will assist with a successful transition back into sport after a period of rehabilitation (Ford, 2017).

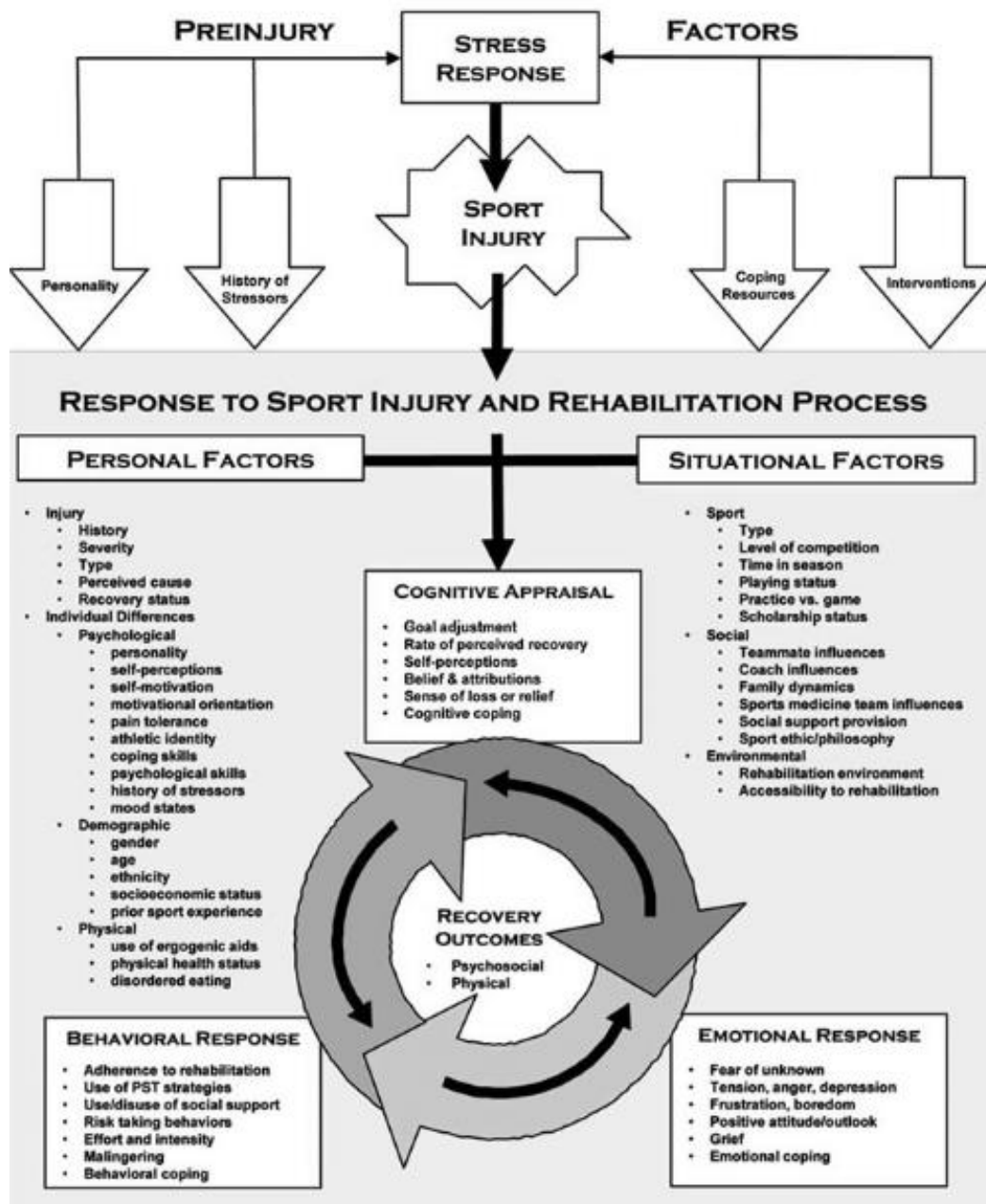
Ford (2017) states that the fear of re-injury and re-injury anxiety are not the same construct even though the terms are interchangeably used. Fear of re-injury following a sports injury, according to Terese et al. (2017), may hinder the recovery of physical impairments, decrease self-reporting, and prevent a successful return to sport. According to the article, in order to optimize rehabilitation outcomes, a psychologically informed practice should be employed to assess injured athletes' fear of re-injury and offer strategies to lower their anxiety (Terese et al., 2017).

However, re-injury anxiety will be the focus of this study. Re-injury anxiety is an emotional response arising due to the possibility of an injury re-occurring after an initial injury of the same type or location and can negatively impact athletic performance after sustaining the injury. Athletes who experience a lack of confidence in the injured area of their body may find it difficult to perform at their highest level, which can lead to an increase in anxiety and tension. This may also lead to a risk of receiving re-injury or secondary injury. A common emotional response during the return to sport phase that, if unaddressed, is likely to cause anxiety includes lack of athletic identity, feelings of isolation, and pressures to participate in sport when the athletes don't feel ready (Ford, 2017).

Sports medical practitioners initially thought that injuries were caused solely by physical factors until current research recognised the significance of psychological factors in the prediction of injury and/or re-injury as well as attempting to examine the meaning of the injury for the athlete (Winget, 2015). Becoming injured is a stressful event where emotions experienced depend on the assessment of the injury and related stressors perceived by the athlete. Additionally, injury stressors that are subjective may come from regaining a place on the team, pressure to perform at pre-injury levels, and meeting the expectations of others (Wadey & Evans, 2011). As shown in Figure 1 and Figure 2 respectively, both the integrated model of response to injury, Wiese-Bjornstal model (Wiese-Bjornstal, 1998) and the biopsychosocial model (Brewer et al., 2002), adopt bidirectional arrows to target and account for individual variance in response to injury. These integrated models encompass personal and situational moderating factors, as well as cognitive, emotional, and behavioral responses of athletes to sport injury (Winget, 2015).

Figure 1

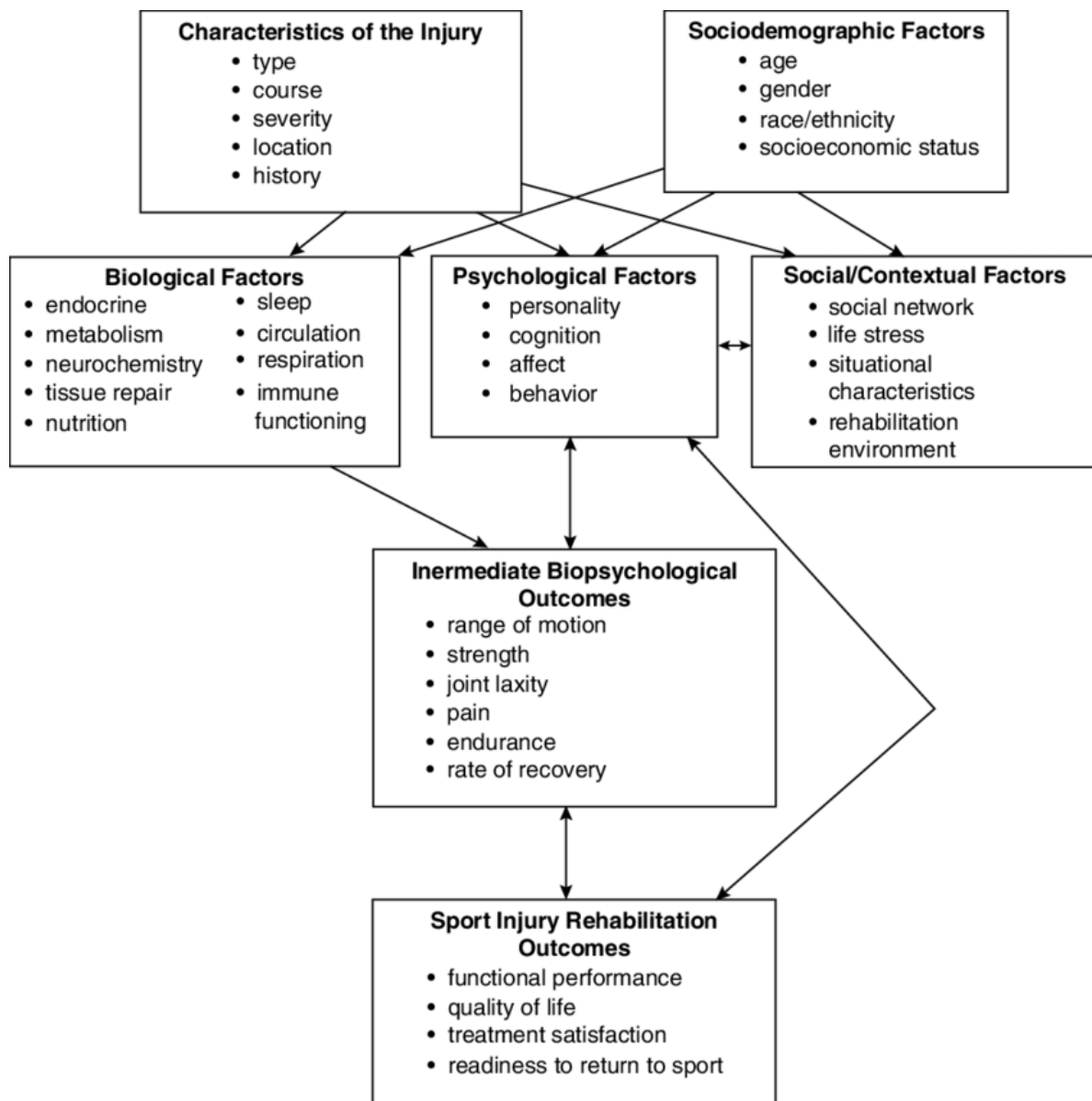
Integrated Model of Psychological Response to Sport Injury and Rehabilitation Process



Note. 'Integrated Model of Psychological Response to Sport Injury and Rehabilitation Process.' From *An integrated model of response to sport injury: Psychological and sociological dynamics*, by Wiese-Bjornstal et al., 1998, *Journal of Applied Sport Psychology*.

**Figure 2**

*A biopsychosocial model of sports injury rehabilitation*



*Note.* ‘A biopsychosocial model of sports injury rehabilitation. From *Medical and Psychological Aspects of Sport and Exercise*, by Brewer et al., 2022, American Psychological Association.

Supportive staff members (i.e., coaches, medical staff) are thought to be in the best position to help athletes overcome some of the psychological difficulties associated with injury. Understanding and gaining knowledge of the injury process and the psychological aspects influencing the process can lead to informed strategies to facilitate athlete recovery (Winget, 2015).

In accordance with McGowanStinski (2016), a systematic evaluation of 21 papers on the psychological adverse effects of athletic injury and how to identify and manage them was carried out. Articles that were authored in English between 1996 and 2016 and that included a subject population of adolescents and young adults who had sustained an athletic injury, were included in the database search criteria. The review defines a sport-related or athletic injury as an incident that would require an athlete to seek treatment due to an extended restriction on participation in exercise, sport, athletic practice, or competition (McGowan-Stinski, 2016). In order to resume

activity, athletes must cope with these injuries relatively quickly. Therefore, negative psychological responses become associated with athletic injury, making it difficult to cope with the injury and post-injury psychological effects (McGowan-Stinski, 2016).

The review includes several studies which examine negative psychological responses at each stage of rehabilitation. Due to a lack of participation in sports during the early phases of rehabilitation, athletes frequently presented with frustration and depression. Athletes who are in the middle of their rehabilitation process might have difficulty adapting to the regimen or are impatient to return to their sport's activities. Athletes may experience self-confidence issues prior to returning to play because of their fear and anxiety of re-injury (McGowan-Stinski, 2016).

Sabol et al. (2021) indicated that athletes, including those with concussions and musculoskeletal problems, return to their sports with anxiety levels that may be indicative of clinical anxiety. Athletes who had musculoskeletal and concussive injuries seemed to show similar trends with depressive and anxiety symptoms over time. The results of the study showed that athletes were going back to their respective sports before their psychological symptoms had reached baseline levels, which might have had an effect on how well they perform (Sabol et al., 2021).

According to Deroche et al. (2011) pain coping studies have shown interest in determinants of pain or how pain influences some of the issues athletes encounter following injury. Pain, which forms part of the body's defence system; aims to alert individuals to physiological conditions (e.g., tissue damage and inflammation) and carry out adequate behaviour to prevent further damage (Deroche et al., 2011). The article argues for more research that investigates the impact of pain catastrophizing on athletes' psychological functioning and physical outcome in order to inform the introduction of appropriate interventions by medical practitioners and coaches. Athletes' inclination to catastrophize pain can be considered a protective factor in the short term, and can lead to lowering their physical involvement, which has the potential to negatively influence physical performance (Deroche et al., 2011). Catastrophizing is characterised by Gajsar et al. (2019) as having a negative over appraisal of prior experiences, particularly with pain and trauma. Additionally, it has been discovered that catastrophizing is linked to depression and anxiety, and that catastrophizing thoughts cause attention deficit and distraction (Gajsar et al., 2019). Athletes who have exhibited significant catastrophizing behaviour tend to focus more on their pain than the activity (Gajsar et al., 2019).

Self-confidence has continually been highlighted as a major psychological aspect influencing athletes, especially during the injury recovery process. The two main concepts underpinning confidence in sport are: self-efficacy theory (Bandura et al., 1999) which refers to an individual's belief in their capacity to execute behaviours that are necessary to produce specific performance attainments, and according to Vealey (1986), sport-confidence is the degree of certainty people have about their capacity to succeed in their chosen sport. Understanding the links between the sources of confidence and re-injury anxiety, at varying stages of the injury process, may equip sport psychologists with the use of intervention strategies as well as preventing actual re-injury (Winget, 2015).

### **2.3 Rehabilitation**

Beyond the physiological difficulties, a psychological evaluation can be used to help determine whether the athlete is prepared to resume training and competition. Athletes have a tendency to return to competition before they are prepared, which increases the risk of both re-injury and the development of a new injury (Machuca, 2014).



Since training regimens and competition schedules are demanding, the athlete may use a range of recovery techniques as part of an efficient regeneration approach. Venter et al. (2010) claims the idea of efficient, frequent, and varied restorative exercises has entered the vocabulary of today's intelligent, professional athletes (Venter et al., 2010).

The study conducted by Venter et al. (2010) set out to determine which recovery techniques are currently used by leading South African team athletes during the competitive season. The study included 890 South African team athletes who competed in the highest division or section of their major national and international events in field hockey, netball, soccer, and rugby union (mean age 22.3 years, SD = 3.4). The recovery techniques were divided into four categories: complementary/alternative medicine (CAM) (such as reflexology, acupuncture, and herbal therapy), natural strategies (such as active recovery, nutrition, and sleep), physical strategies (such as cryotherapy, thermotherapy, and massage), psychological strategies (such as imagery, progressive muscle relaxation, music, and prayer (Venter et al., 2010).

Monsma et al. (2009) compared injured athletes who employed imagery (either in a beneficial or detrimental way) with those who did not. Evaluated in the groups was the fear of returning to practice. Researchers discovered that practitioners should advise injured athletes to use sport-specific imagery, particularly ones related to sport skills and strategies, but that they should be advised against using arousal imagery (specifically Motivational General Arousal, which is elicited by images associated with the anxiety and excitement of participating in sport), as this may increase somatic anxiety before returning to practice. The utilisation of images should take into account their cognitive and inspirational benefits (Monsma et al., 2009).

The study also found that although coaches are aware of how important recovery is, they frequently lack awareness of the many recovery modalities that are available and may not be able to provide the service owing to financial limitations (Monsma et al., 2009). Time and money were cited by Simjanovic et al. (2009) as important elements in their analysis of the variables influencing the usage of various recovery methods. Therefore, it would be crucial to inform athletes and coaches about the utilisation of rehabilitation techniques.

## **2.4 The use of music in sports rehabilitation**

Music can be incorporated into sports and fitness in one of four different ways. Asynchronous music, which has no intentional coordination between movement patterns and musical speed, would be played in the background to enhance the environment or serve as a purposeful diversion (Elliot et al., 2004; Rendi et al., 2008). Sportspersons and those who exercise use synchronised music to control their movement patterns through the rhythmic or temporal elements of the music (Simpson & Karageorghis, 2006; Karageorghis et al., 2009). The use of musical stimuli to stimulate, calm, or manage the mood of an athlete or a team is known as pre-task music. It is used before a physical task or sporting event (Karageorghis & Drew, 1996; Lanzillo et al., 2001). In addition, listening to music might be used as part of the process of recovery following a difficult workout or competition (Priest & Karageorghis, 2008). The sport and exercise literature has not adequately documented this application of music, often known as recuperative music (Terry et al., 2019).

The usage of music after competitions rather than after training sessions was found to be one of the psychological tactics employed by athletes for rehabilitation. Rock and gospel were the most widely listened-to musical genres. Numerous athletes added music genres not included in the questionnaire. The majority of the participants mentioned House music and R&B, then Hip Hop,

Kwaito, and Dance Beats. Additionally, calm music, chants and Gregorian music, love songs, soul, panpipes, and traditional African music were included (Venter et al., 2010).

The systemic review carried out by Weller and Baker (2011) identified research articles for the application of Music Therapy techniques to physical rehabilitation of persons with physical impairments. Results showed that applying Music Therapy techniques to the rehabilitation of gait, fine and gross motor function was effective and significant. Through the use of music, intentional and structured rehabilitative activities, an external timekeeper, and increased motivation were all achieved. Utilizing the patient's chosen music while working out boosted satisfaction (Piercy, 2008). The involvement of the music therapists was emphasised, and demonstrated their capabilities to engage patients through music interventions, including behaviour assessment, intervention adaptation based on patient behaviour, and providing support. The limitations included assessing physical outcomes (Weller, 2009). The usage of music listening during a variety of physical activities, according to Terry et al. (2019) meta-analytic review, encourages more positive affective valence, improves physical performance, (ergogenic effect), improves physiological efficiency and reduces perceived exertion (Terry et al., 2019).

Live or recorded music and spoken instructions are used in Music-Assisted Relaxation (MAR), to encourage a deep state of relaxation also known as the "relaxation response." People can opt to participate in MAR in addition to other Music Therapy techniques that are beneficial for stress management, such as expression of feelings by playing an instrument, songwriting, or music-assisted counselling. MAR is led by a music therapist (Calvary Health Care Bethlehem, 2022).

Music-Assisted Relaxation (MAR), according to Prensner et al. (2001), is the use of music to aid with pain and anxiety management. It includes audio analgesia which is the use of sound or music to reduce pain and/or anxiolytic music, which is the use of music or sound to reduce anxiety (Prensner et al., 2001). Music Therapy protocols have been used to assist patients, more prominently victims of burns, with pain and anxiety management (Figure 3).



**Figure 3**

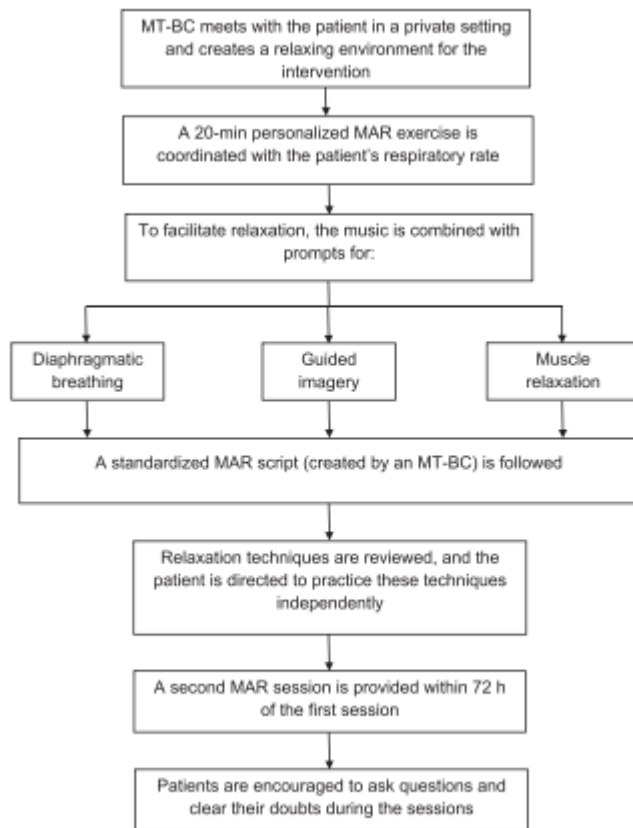
*Music Therapy Protocols*

Protocol	Active/Passive	Main Strategy	Description
Music-assisted progressive muscle relaxation	Active	Tense/release muscle groups	Systematic tensing/releasing of muscle groups, following verbal directives (Jacobson, <sup>22</sup> 1938) with music selected to foster effectiveness.
Music listening	Passive	Listen	Listening to carefully selected music matched to patient's preferences and needs (Maranto, <sup>23</sup> 1991).
Music vibroacoustic therapy	Passive	Listen/tactile	Applying low frequency pitches of carefully selected music directly to the body, incorporating patient's needs/limitations (Maranto, <sup>23</sup> 1991).
Entrainment	Passive (can be active)	Alter physical rhythms	Altering a specific physical rhythm/mood by matching it with music, then gradually adjusting it toward the therapeutic goal (Maranto, <sup>23</sup> 1991).
Music-elicited imagery	Active	Imagery	Experiencing and/or discussing improvised images elicited by specifically selected music (Maranto, <sup>23</sup> 1991).
Music and directed imagery	Active	Imagery	Using specially selected music and suggestion with a very relaxed person to foster progression toward the therapeutic goal (Maranto, <sup>23</sup> 1991).
Music and guided imagery	Active	Imagery	Using specially selected music and suggestion with a very relaxed person to explore issues related to or causing the condition (Maranto, <sup>23</sup> 1991).
Music and biofeedback	Active	Biofeedback	Utilizing music carefully selected to elicit/cue relaxation (Maranto, <sup>23</sup> 1991).

*Note.* 'The protocols include various imagery strategies with music listening and muscle relaxation with music and can be modified to support the patient's rehabilitative progress, both physically and emotionally'. From *Music Therapy for Assistance with Pain and Anxiety Management in Burn Treatment*, by Prensner et al., 2001, Journal Of Burn Care; Rehabilitation.

The feasibility and initial efficacy of MAR, led by a board-certified music therapist (MT-BC), for treating pain and anxiety in individuals with spinal cord injury (SCI) were evaluated in research by Wood et al. (2021). There was a flowchart supplied for the intervention's process. The patient underwent a 20-minute tailored MAR exercise with live music under the MT-BC's guidance. The main purpose of the music was to aid in relaxing and act as a container for the experience. There were also cues for guided imagery, muscle relaxation, and diaphragmatic breathing. According to the principles of Music Therapy practice, the general format (Figure 4) was modified to meet the needs of each patient. According to the satisfaction survey, most patients thought that Music Therapy was beneficial to them. Rehabilitation staff reported that Music Therapy did not obstruct standard clinical care (Wood et al., 2021). Thus, the use of the Music-Assisted Relaxation process will guide the sessions in which participants of this research study take part in.

**Figure 4**  
*Music Therapy Intervention Procedural Flowchart*



*Note.* ‘Music Therapy Intervention Procedural Flowchart. MAR indicates Music-Assisted Relaxation; MT-BC, Board-Certified Music Therapist.’ From *Music Therapy for Anxiety and Pain After Spinal Cord Injury: A Pilot Study*, by Wood et al., 2021, *Global advances in health and medicine*.

## 2.5 Conclusion

The literature review provided a comprehensive exploration of the challenges and psychological aspects associated with injuries, re-injury anxiety, and rehabilitation in the context of competitive cheerleading and sports more broadly. The high rate of injuries in cheerleading, particularly during stunting, highlighted the need for increased attention to safety measures, especially considering the severity of injuries. The literature review set the stage for the proposed research to explore the potential impact of Music-Assisted Relaxation on re-injury anxiety among cheerleaders during the rehabilitation process. The findings from this study may provide valuable insights for cheerleading coaches, teams, and individuals, offering support in dealing with the psychological challenges associated with sports injuries and facilitating a successful return to competition. I intend to explore the concepts discussed in the literature review through the intended research study. This would include the athletes understanding of re-injury anxiety and their experiences of rehabilitation. Using the music assisted protocols, I intend to be informed in designing the Music Therapy sessions in order to address the protocols.

## 3. Methodology

### 3.1 Paradigm

The paradigm framing this qualitative study is interpretivism. Interpretivism argues that truth and knowledge are subjective, and are historically and culturally situated based on lived experiences and the understanding thereof (Ryan, 2018). According to Interpretivism's relativist ontological stance, there are several perspectives on reality, and that reality may be understood through socially produced meanings (Thomas, 2010)).

Thus, a subjective epistemological stance toward this reality was adopted. Subjectivism is the belief that knowledge is “always filtered through the lenses of language, gender, social class, race, and ethnicity” (Denzin, 2005, p. 21). This epistemological stance utilizes methodologies such as interviewing participants and observing participants, therefore depending on the subjective relationship between the subject and researcher (Terre Blanche & Durrheim, 2006). According to interpretivist research, several types of approaches are needed because natural reality and social reality are not the same, thus interviewing participants would assist in getting a glimpse into their lived experiences. According to Gray (2004) interpretivism seeks to culturally and historically interpret the social life-world through.

### 3.2 Qualitative Research

Silverman (2011) describes qualitative research as being grounded, flexible and subjective. Making use of qualitative methods through the process of this research study was instrumental in providing a deeper understanding of social phenomena, that is re-injury anxiety, by offering exploration and description of said social phenomena (Silverman, 2011). An exploratory case study of participants from tertiary cheerleading teams was conducted to explore the phenomena of re-injury anxiety. Case study research involves the study of an occurrence within a real-life, contemporary context or setting (Yin, 2009). Thus, a case study involved using an extensive, detailed, and concentrated investigation of such occurrences.

Explanatory case studies aim to generate explanations for occurrences a researcher may be interested in understanding. My experience as a cheerleader led to my interest in trying to understand re-injury anxiety. A case study focuses on a unit of analysis, that is the case. There are defining features of a case study as described by Willig (2008) which starts by taking an idiographic perspective to understand “the particular rather than the general” as a researcher (Willig, 2008, p. 74). Tertiary-level competitive cheerleaders were considered within the context of South African Cheerleading and there were several different perspectives approached using triangulation, by collecting the data and corroborating the findings with the research participants. Insights into social or psychological processes were gained through the case study, which led to theoretical formulations and implications for practice (Willig, 2008).

By using an exploratory case study, I sought to gain a deeper understanding and explore the participants' experience of re-injury anxiety and their process of rehabilitation following an injury. By understanding re-injury anxiety and the participants' understanding or experience assisted in generating knowledge around the phenomena. Understanding the process of rehabilitation and their experience of MAR gave insight on how other techniques can be used in the context of South African tertiary cheerleading teams situated in Gauteng.

### 3.3 Sample

For this proposed research study, the sample consisted of active participants in the sport of competitive cheerleading, at tertiary level. Non-random purposive sampling was used, specifically convenience sampling. A convenience sample draws from a source that is conveniently accessible to the researcher, that is the South African tertiary level cheerleading population, thus it may not be representative of the population at large (Andrade, 2021). This research study sought voluntary participation from individuals identified in the respective population group. According to Alase (2017) a phenomenological research study involves selecting a sample size of participants between 2 and 25. To better assess and understand the participants' collective lived experiences, the thematic analysis process, as adapted from Creswell and Creswell's model (2018) was utilised. Therefore, I intended to have five participants to gain a better understanding of their lived experience of re-injury anxiety and the role of Music-Assisted Relaxation. However due to time constraints and lack of responses from potential participants, I only managed to interview three participants. Upon ethical approval, I emailed the following five cheerleading clubs in Gauteng: Elite Cheer Royalty, Platinum Plus Cheerleaders, Rebel Athletix, Gymfinity and TuksCheerleading.

The email requested the cheerleading clubs to agree to advertise the research project on their respective social media sites. An attachment (see Appendix D) provides the details of the research project including the inclusion criteria for participation. Once the three participants were verified through consultation with the respective clubs, an information document with an informed consent letter (see Appendix A) was sent to the participants. The participant information form detailed the study's goals, their right to withdraw at any time (without penalty), the storage and use of the data, and other relevant information prior to providing their agreement to participate in the research study (Williams, 2013). Informed consent was gained before data collection and participants had an opportunity to ask any questions before signing the letter of informed consent. The setting and time of the Music-Assisted Relaxation sessions were set with each participant to be accommodative and convenient to both researcher and participants alike. With regard to the language used in sessions and interviews, English was the medium of facilitation.

The inclusion criteria for the study were: i) Participants currently part of a tertiary-level cheerleading team, ii) have experienced different degrees of injuries sustained throughout the training season, iii) currently experiencing re-injury anxiety, iv) have undergone or currently undergoing rehabilitation v) currently not competing and vi) participants conversant in English. The exclusion criteria for the study are: i) Tertiary-level cheerleaders currently not in a team, ii) Cheerleaders who have not experienced injury, iii) have not undergone rehabilitation and iv) participants not conversant in English.

### 3.4 Data Collection

Three participants attended 30–45-minute Music Therapy sessions over the course of three weeks in a location pre-booked. The sessions included MAR (Music-Assisted Relaxation) as drawn from the protocols stipulated by Presner et al. (2001) as well as Wood et al. (2021) procedural session format (see Figure 3 and Figure 4 respectively). A session included inviting the participant to engage in the MAR exercise and provide space for reflection through multi-modal practices which is further discussed in Chapter 5. Individual semi-structured interviews pre and post the six Music Therapy sessions were conducted by the researcher.

Two data sources (pre and post interview data) were generated from the data collection phase, through the use of pre and post-semi-structured interviews. Semi-structured interviews are used to

collect data with the aim of interviewing key individuals who may have knowledge of the subject of interest from their own experiences, perspectives, attitudes, and beliefs (DeJonckheere & Vaughn, 2019).

Semi-structured interviews can be used by researchers to gather new, exploratory data about a research topic, triangulate various data sources, or ask participants for input on the study's findings for validation. In order to gather qualitative, open-ended data that aims to delve more thoroughly into participant thoughts, feelings, and beliefs about a topic, as well as delve more deeply into personal and occasionally delicate topics, semi-structured interviews are a useful strategy (DeJonckheere & Vaughn, 2019). Through the use of a question-and-answer format, an interviewer collects data from a participant as per qualitative research methods (Teegavarapu et al., 2008). Open-ended questions were provided to encourage a more thorough discussion of their experience with Music Therapy as an intervention.

Since words play a significant role in qualitative interviews and are vulnerable to analytical interpretation, audio recording of interviews has become standard in appropriate situations (Edwards & Holland, 2013). When an interview is audio recorded, the interviewer can focus more on the conversation rather than taking down notes, which can be distracting and frequently result in an interview where important details are omitted, forgotten, or missed (CSR, 2006). The interviews were audio-recorded using a cellular device and a tablet for backup. With the use of a user-friendly transcription system called Otter.ai, I transcribed the audio recordings verbatim. I thoroughly checked the transcripts to correct any inaccuracies that may have been generated by the transcription software. Therefore, efforts were taken to ensure the transcripts' accuracy and coherence to the research approach.

### **3.5 Data analysis and interpretation**

The analysis of data, derived from audio recorded interviews, employed thematic analysis as the chosen method. Qualitative data analysis involved the segmentation and dissection of data, followed by its reassembly. The data analysis process, adapted from Creswell and Creswell's model (2018), will be detailed in chapters 4 and 5.

In Step 1, the initial action involved organizing and preparing the data for analysis. This encompassed transcribing interview recordings and categorizing the data accordingly.

Proceeding to Step 2, a comprehensive review of all data was conducted to identify key concepts, explore information depth, and discern the overall tone of the content.

In Step 3, the coding of data commenced, involving the organization of information into distinct chunks or categories, each labelled with an identifying term.

In Step 4, a description of the established categories or themes was generated through the coding process, facilitating the creation of overarching categories or themes.

Finally, in Step 5, the last phase focused on interpreting the data and capturing the core ideas presented. During this stage, a comparison was made between the gathered data and relevant information from other literature or data sources within the study.

## **3.6 Ethical Considerations**

### **3.6.1 Obtaining Informed Consent**

Prior to initiating the research (see Appendix A), explicit informed consent was secured from all participants (see Appendix E for an example of a signed form). Strict adherence to ethical considerations was maintained, and authorization for the study was granted by the Research Ethics Committee of the Faculty of Humanities (HUM055/1022).

### **3.6.2 Data Storage**

The study's data will be housed at the University of Pretoria for a minimum duration of ten years, with accessibility granted to participating individuals. Audio recordings from the interviews will be promptly deleted after transcriptions have been obtained. The stored data will exclusively comprise transcriptions of participant interviews.

### **3.6.3 Ensuring Confidentiality**

The identities of all participants remain confidential, with each individual being referenced in the document by a designated pseudonym.

### **3.6.4 Non-maleficence**

Participants were duly informed of their right to withdraw from the study at any point, and no discernible risks of harm to participants were identified by the researcher.

## 4. Data analysis

In this chapter, I provide an overview of the analysis procedure. The data preparation phase and the thematic analysis process of the two data sources are described.

### 4.1 Interview context

The semi-structured pre-interviews aimed to explore the athletes' lived experience of re-injury anxiety, and the post interview explored the participants' experience of MAR in relation to reinjury anxiety. A total of three participants attended 30–45-minute Music Therapy sessions over the course of three weeks in a pre-booked location at the TuksSport Campus as well as a board-certified Music Therapist's practice. The participants, Rose, Keabetswe and Ciara, and they are a part of three different tertiary teams respectively. A session included different Music Therapy techniques such as active musicking, music listening, movement and expression through art modalities. Participants were invited to engage in the MAR exercise and provide space for reflection through multi-modal practices. For an example of a full transcription of one of the interviews, please see Appendix F.

#### Figure 5

*Table showing the number of sessions and cheerleading level of participants*

Name	No. of Sessions	Cheerleading level
Rose	4	Tertiary
Keabetswe	3	Tertiary
Ciara	2	Tertiary

### 4.2 Describing the thematic analysis process

Transcription and thematic analysis were used to systematically structure, analyse and interpret the qualitative data collected in the semi-structured interviews. The process is outlined in the following five steps:

- Step 1: Transcription of audio recorded semi-structured interviews
- Step 2: Segmenting the data for (Level 1 coding)
- Step 3: Level 2 coding
- Step 4: Developing themes

#### 4.2.1 (Step 1 of 4) Transcription

In the case of this study, the transcriptions are narratives of the conversations that emerged from the interviewing process (see Appendix F). First and foremost, pseudonyms were assigned to each cheerleader to maintain confidentiality in the best interests of the cheerleader. Cheerleaders were arranged alphabetically in the following manner:

- Participant A: Rose
- Participant B: Keabetswe
- Participant C: Ciara

## Figure 6

### *Example of Interview Transcription*

<p>Q1: Firstly, have you personally been impacted by injury due to cheerleading?</p>
<p><b>Chuma:</b></p> <p>Like how has it affected your practice?</p> <p><b>Rose:</b></p> <p>Uhm especially when I just start with getting back into it, starting to practice again and whatever, then I'm scared of re-injuring. Because obviously, it's not fully turned back, it's not fully healed, and for like a few years, so it's always in my back mind, like just thinking, if I land skew now it's going to be worse. Like, I'm gonna be out for longer, and I don't want that. So it's always been scary, you know, so and with that, obviously, you can't do everything that you want to do because you're scared. Then most of the stuff doesn't happen. So, yeah.</p>
<p><b>Chuma:</b></p> <p>I definitely understand that. And like, you know, how does that affect you emotionally?</p> <p><b>Rose:</b></p> <p>Emotionally?</p> <p><b>Chuma:</b></p> <p>Yeah.</p> <p><b>Rose:</b></p> <p>Uhm I think, especially because my sport is my outlet for stress. So, when I feel stressed, or emotionally beat or unstable, then going to cheerleading is like a relief just to get away. And yeah to just relax, actually. So, to be scared to do that, to be scared in your relaxed place, is a little bit of a problem because then you don't get relaxed and you don't get that fulfilling feeling anymore from, that you've always gotten from it. So emotionally, it is worse, because then you don't have that outlet anymore. Just to get, where you can just relax. Yeah...</p>



#### 4.2.2 (Step 2 of 4) Level 1 coding

The second step was to begin with the first level of coding with each of the transcripts. Every line of text in each transcript was systematically coded. In the pre-interview, units of text were identified to describe participants' experience of injury, re-injury anxiety and rehabilitation in relation to cheerleading. Then in the post-interview, units of text were identified to describe participants' experience of Music Therapy and music assisted-relaxation. The codes were carried over to an Excel spreadsheet for step 3.

#### Figure 7

*Example of Level 1 coding*

<p><b>Rose:</b></p> <p>Uhm I think, especially because my sport is my outlet for stress. So, when I feel stressed, or emotionally beat or unstable, then going to cheerleading is like a relief just to get away. And yeah to just relax, actually. So, to be scared to do that, to be scared in your relaxed place, is a little bit of a problem because then you don't get relaxed and you don't get that fulfilling feeling anymore from, that you've always gotten from it. So emotionally, it is worse, because then you don't have that outlet anymore. Just to get, where you can just relax. Yeah,</p>	<p>PA1f Cheerleading is an outlet for stress</p> <p>PA1g Cheerleading is a space for relaxation</p> <p>PA1h Threat to cheerleading as an outlet</p> <p>PA1i Threat to cheerleading as relaxation</p>
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#### 4.2.3 (Step 3 of 4) Level 2 coding

Once each code had been successfully transferred, the Pre-interview and Post Interview Codes were colour coded, so that the researcher could be sure that each code had been accounted for by means of a consistent, thorough process. The new Excel spreadsheet was constructed of columns of Level 2 codes. The Level 2 codes, that were determined by patterns found in the level 1 codes, were further grouped to develop themes.

**Figure 8**

*Example of Level 2 coding*

<b>Sustaining an Injury</b>	<b>Responses at the thought of re-injury</b>	<b>Strong-willed mindset to persist</b>	<b>Returning to practice before being ready</b>	<b>The affordance of Cheerleading</b>
PA1a Sustained multiple injuries	PA1b Fear of re-injury	PA1e Having a drive to continue	PC1f Overcommitted	PA1f Cheerleading is an outlet for stress
PB1a Sustained injuries during try-outs	PA1d Conscious of re-injury	PC1b Utilize stubbornness to perform a stunt	PA2a Eagerness to return before being ready	PA1g Cheerleading is a space for relaxation
PC1a Sustained multiple injuries	PB1h Anxiety towards re-injury	PC1e Would not survive without that innate stubbornness	PC3a Returning to competition before making a full recovery.	

#### **4.2.4 (Step 4 of 4) Developing themes from level 2 codes**

In the final step of the data analysis, similar categories were grouped, and themes were developed. Four themes emerged from the data analysis, that is Experiences of Injury in Cheerleading, Mental Preparedness, Rehabilitation and Psychosocial Support, and Personal experiences of MAR (Music assisted-relaxation) in Music Therapy. Figure 8, on the next page, provides an overview of the data analysis process, showing the three themes, twelve categories, and the corresponding level-two codes.

**Figure 9**

*Developing Themes*

Theme	Corresponding level 2 codes	Corresponding verbatim quotes
<b>Theme 1</b>		
<b>Experiences of Injury in Cheerleading</b>	Sustaining an Injury	"I think the second... think the second semester, the tryouts for second semester. I fell from a Lib and then I cracked my ribs."- Keabetswe
	Responses at the thought of re-injury	"Because I feel like now, especially with bases, I don't necessarily say I'm comfortable with, I still get that thing that I'm gonna fall again, I'm going to crack something again and no one's gonna catch me again. So it keeps coming back. Every time I have to do a Lib it's like (sigh's huh)."- Keabetswe
	Skills for injury prevention	"I'm going to be honest, I was a base. So I tend to, even though it's not the best move, but if a flyer falls especially when I'm in the stunt I literally dive underneath and bear hug them. So a lot of times they end up falling on me. And then, as spotter I'm very much like just stop the movement. So if they go forward, don't let them fall on their face, but also if I can get really hurt if they fall down, you should catch them with your forearm for example. So I slowed the movement. So a lot of times, I would kind of more gradually guide them."- Ciara
	Impact of re-injury anxiety during practice	"So it's always been scary, you know, so and with that, obviously, you can't do everything that you want to do because you're scared. If you're scared then most of the stuff doesn't happen." - Rose
<b>Theme 2</b>		
<b>Mental Preparedness</b>	Strong-willed mindset to persist	" If it wasn't for passion, I don't think I would have gone back. It was actually it for me, my mom, my parents were like, 'Why are you going back, you're going to get injured again.' I was like 'No I'm going, I'm going.' But yeah it was"-Keabetswe

	Returning to practice before being ready	“It was very long. And I did cut the time a little bit shorter than I should have. So I did go back into doing my sport before I should have, uhm, in the time of rehabilitation, it was, I was very eager to just go back and just let it go, just do it. Yeah, it was quite frustrating just to sit there because most of the time I’ll still go to practice even just to sit there and watch team practice. It was very frustrating sitting there being able to do nothing.”- Rose
	The affordance of Cheerleading	“Uhm I think, especially because my sport is my outlet for stress. So when I feel stressed, or emotionally beat or unstable, then going to cheerleading is like a relief just to get away. And yeah to just relax, actually.”- Rose
	Team Relationships	“And also like when I fall hard, you’ll see they also just kind of go away. Because like, they know that if they hover above me, I’m going to get up before I’m ready. So, they kind of act like they don’t really notice. That’s actually in my case, what’s best do with me.”- Keabetswe
<b>Theme 3</b>		
<b>Rehabilitation and Psychosocial Support</b>	The benefits of rehabilitation	“I felt, I felt great. I felt okay. Yeah, it was just like I was back, and ayy.” - Keabetswe
	Challenges of rehabilitation	“I was very angry just with the situation not even like the reason I dropped or the base or anything, just like how am I going to heal faster. So, I think that mostly. And then I at times, especially as time went on and on, I didn’t get to do the stunt, to see if I can still do it. I think I definitely started being like, more scared and being like okay, ‘Am I actually going to be able get back up in the air?’- Ciara

	Previous experience with psychosocial support	"Counselling yes, I went for counselling when I was in matric, uhm it was a very hard time and obviously, it was a hard time for, for my family. Uhm so obviously, it was a lot of emotions and being in matric as well. It was quite hard. So yeah I went for counselling then. That was a long time ago. Not for my injuries I didn't get, I didn't do any emotional support whatsoever."- Rose
<b>Theme 4</b>		
<b>Personal experiences of MAR (Music assisted-relaxation) in Music Therapy</b>	Perceived benefits of music	"But Music Therapy. I know like when I'm sad, I listen to some music, but that's about as well as my knowledge goes."- Ciara
	Expectations of Music Therapy	"I don't know exactly what to expect. But I know the kind of state music can put you in, so I expect to be in some kind of a state, possibly calm state. But yeah."- Keabetswe
	Personal experience of Music Therapy	"I really, really enjoyed it. It definitely put me out of my comfort zone, playing instruments and stuff because like, I played a bit of guitar when I was like 12, I think." - Ciara
	Perceived benefits of MAR	"I must say it was quite calming. Just to take a breath, breathe in, breathe out."- Rose

#### 4.2.5 Introducing the themes

Theme one, Experiences of Injury in Cheerleading, describes the frequency and impact of getting injured as well as the responses to re-injury. The theme highlights that even with precautionary measures in place, occurring an injury is inevitable. The theme further describes how this affects cheerleading as an outlet and place of relaxation.

Second theme, Mental Preparedness, highlights the participants' persistent and strong will to return to practice. This includes inner resources, such as self-regulation and passion for the sport. The theme also describes what cheerleading means to the participants as well as the support systems they have.

The third theme, Rehabilitation and Psychosocial Support, describes participants previous experiences with rehabilitation and psychosocial support. The theme further highlights the benefits and challenges experienced during rehabilitation and creates opportunity to discuss what is helpful and what should improve.

The fourth theme, Personal experiences of MAR (Music assisted-relaxation) in Music Therapy, discusses the participants expectations for the process. Then it discusses their perceived experience of the MAR and Music Therapy sessions in general. Lastly, it highlights the benefits of MAR.

### **4.3 Conclusion**

During the data analysis process, pre and post interviews were transcribed and coded. The data analysis process comprised four steps. From the first two levels of coding fifteen codes were identified. The codes were then sorted into four themes, namely: Experiences of Injury in Cheerleading, Mental Preparedness, Rehabilitation and Psychosocial Support, and Personal experiences of MAR (Music assisted-relaxation) in Music Therapy. Appendix G shows the full data analysis process. The following chapter will discuss the themes in relation to the research questions.

## 5. Discussion

This chapter will discuss the study's findings with reference to the four themes that emerged from the data analysis. The first three themes, Experiences of injury in cheerleading, Mental preparedness, and Rehabilitation and psychosocial Support address the first research question: How do tertiary-level cheerleaders describe their lived experience of re-injury anxiety?

The fourth theme, Personal experiences of MAR, addresses the second research question: What role does Music-Assisted Relaxation play in the rehabilitation process for tertiary-level cheerleaders living with re-injury anxiety?

Please note that in the sections that follow the terms 'participants' of the study, 'cheerleaders' and their 'pseudonyms' will be used interchangeably.

### 5.1 Theme 1: Experience of injury in cheerleading

This theme describes experiences of injury in cheerleading, with a focus on the nature of injury in cheerleading and the participants' response to injury. This theme also describes the impact of re-injury anxiety during practice, as well as the skills necessary for prevention. This theme is discussed through two main aspects, namely (i) The nature of injury in cheerleading and (ii) the Impact of re-injury anxiety.

#### 5.1.1 The nature of injury in Cheerleading

The participants, Rose, Keabetswe, and Ciara, candidly share their encounters with injuries in cheerleading, illustrating the inevitable nature of such incidents (PA1a, PB1b and PC1c). Rose recounts facing injury three times, attributing some to "freak accidents," despite precautionary measures (PA3b and PA3c). Keabetswe details her rib injury during a try-out while doing a Liberty in Cheerleading (PB1a) stunt whilst doing a stunt called a Liberty<sup>1</sup> in Cheerleading (PB1a). Ciara's experiences demonstrate the recurring challenges with ankle injuries, revealing the difficulty of managing sprains and torn ligaments during practice (PC4a). Jones and Khazzam (2017) emphasise the physical risks associated with complex cheerleading manoeuvres. Mueller (2009) thus highlights the need for continued attention to safety protocols and injury prevention strategies in the sport and provides a safety recommendations list, as included in the NCCSIR report (Mueller, 2009).

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<sup>1</sup>Liberty or Liberties are one of the numerous stunts Cheerleaders perform.

Ciara, drawing from her experience as a base<sup>2</sup> demonstrates the significance of controlled movements to prevent injuries. She describes adopting techniques to slow down stunts and practising safe falls, reducing the risk of injuries during cheerleading activities (PC4g). Winget (2015) writes about the significance of teamwork and proper technique in minimising injury risks. Therefore, comprehensive training in injury prevention techniques is crucial for all team members, not just athletes in specific roles such as Ciara.

### **5.1.2 Impact of re-injury anxiety**

Fear of re-injury resonates among participants, influencing their mindset during practice. Keabetswe's unease is evident, especially when performing certain stunts like Liberties (PB1d). Rose shares her anxiousness, highlighting the fear that lingers even after recovery, noting that fear affects her ability to execute certain movements, impacting the overall cheer experience (PA1d). The burden of potential re-injury extends to Rose's everyday life, affecting her usual cheerleading experience as a form of stress relief (PA1h and PA1i) through cheerleading. These sentiments echo the literature on re-injury anxiety (Ford et al., 2017; Terese et al., 2017), which states the need for targeted interventions to address anxiety and boost athletes' confidence during the rehabilitation process.

## **5.2 Theme 2: Mental Preparedness**

This theme describes the participants' mentality around cheerleading, focusing with a focus on their strong-willed mindset to persist and the resultant impact of returning to practice before being ready. This theme also describes the affordance of cheerleading and how team relationships play a significant role in mental preparedness. This theme is discussed through three main aspects, namely (i) Mindset (ii) The affordance cheerleading and (iii) Team Relationships.

### **5.2.1 Mindset**

Participants demonstrate a strong-willed mindset, driven by passion and determination to overcome challenges (PA1e, PB4d and PC5c). Keabetswe's resolute decision to continue cheerleading, in spite of concerns raised by her parents, highlights the pivotal role passion plays in her commitment (PB4d). Ciara credits her persistence to stubbornness, drawing on her genetic disposition (PC1e). The mental strength exhibited by participants enables them to navigate the physical and emotional hurdles associated with cheer injuries. Loberg (2008) mentions that athletes' strong will and passion

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<sup>2</sup> A Base forms part of a standard cheerleading team that includes 'flyers,' who are people lifted or tossed into the air by their 'bases,' and 'spotters' in essential spots around the stunt to prevent falls in cheer stunts



act as crucial to factors in overcoming injury setbacks, which is demonstrated by the resilience of the cheerleaders and their commitment to their sport, even in the face of challenges.

The journey of rehabilitation is often fraught with challenges, as expressed by the participants (PA4c, PB3b and PC2d). Rose, for instance, revealed the frustration of sitting on the sidelines, eager to return to cheerleading but knowing she had to be patient (PA2a and PA2b). Her sentiment echoes the findings by McGowan-Stinski (2016), who highlighted the psychological difficulties associated with athletes being unable to participate in their sport during the early phases of rehabilitation. Ciara also acknowledges a tendency to overcommit and rush back into activities (PC1f). The urgency to rejoin the team often overshadows the potential risks, emphasising the challenge of balancing the desire to return quickly with the need for proper rehabilitation (PA2a, PC3a and PA4a). This aligns with Sabol et al (2021) findings that athletes often return to sports before their psychological symptoms have reached baseline levels, potentially impacting their performance.

Rose's eagerness to return to practice before completing rehabilitation resonates with the notion that athletes may be prone to returning prematurely, potentially increasing the risk of re-injury (Machuca, 2014). This insight shows the importance of supportive staff members, such as coaches and medical staff, in guiding athletes through the psychological challenges of injury (Winget, 2015). McGowan-Stinski (2016) notes that negative psychological responses, including frustration and anxiety, are common during rehabilitation. Sabol et al. (2021) highlight the prevalence of anxiety among athletes returning to sports, potentially impacting performance. The participants' experiences align with these findings, demonstrating the psychological toll of injuries in competitive cheerleading.

### **5.2.2 The Affordance of Cheerleading**

For Rose, cheerleading serves as a stress-relieving outlet, offering a space that helps deal with emotional challenges (PA1f and PA1g). While she was the only participant to mention this, it nonetheless indicates the multifaceted role of cheerleading beyond physical activity, emphasising its significance as a coping mechanism and source of relaxation amid life's pressures. Her view aligns with literature acknowledging sports as a source of emotional and psychological support for athletes (Ford et al., 2017). This alignment suggests that recognizing the multifaceted benefits of sports, beyond physical activity, is crucial for athletes' overall well-being.

### **5.2.3 Team Relationships**

Team dynamics play a crucial role in participants' experiences. Keabetswe expresses anxiety with new team members, highlighting the importance of trust that she has felt with older team members, especially in challenging stunts like Liberties (PB1c, PB1f and PB1g). Ciara sheds light on the team's

response to her injuries, with teammates giving her space when needed and intervening to ensure her safety during practice (PC4d). The supportive team environment, such as giving each other grace, contributes to the overall cheer experience and aids in overcoming individual challenges (PC4j). This was supported by the literature on the importance of team support and understanding in the context of injuries (Winget, 2015). This insight demonstrates the need for a supportive team environment that accommodates individual needs during the recovery process.

### **5.3 Theme 3: Rehabilitation and Psychosocial Support**

This theme describes the participants' rehabilitation experiences with receiving any form of rehabilitation due to cheerleading-related injuries, including reference to psychosocial support. This theme also describes the participants' experience of psychosocial support. This theme is discussed through three main aspects, namely (i) previous experience with psychosocial support (ii) The benefits of rehabilitation and (iii) The challenges of rehabilitation.

#### **5.3.1 Previous experience with psychosocial support**

Mental health or mental illness, as indicated by various studies (Olesen et al., 2012; Schuch et al., 2016), impacts millions of individuals globally. According to Fadare et al. (2022), it is crucial for everyone to oversee the well-being of athletes and individuals engaged in sports performance to ensure their mental health is sufficiently robust for active participation in any endeavour. According to Rose's mention of seeking counselling during a difficult time in matric, not related to cheerleading injuries, aligns with literature acknowledging the role of psychosocial support in athletes' overall well-being (PA4e). Keabetswe also mentions engaging in meditation and listening to sound frequencies, indicating diverse approaches to psychosocial support (PB5b). The use of meditation and sound frequencies as a coping mechanism provides implications for incorporating different rehabilitative strategies. Venter et al. (2010) assert that due to the demanding nature of training regimens and competition schedules, athletes may incorporate a variety of recovery techniques into an effective regeneration strategy. They argue that the concept of employing efficient, frequent, and diverse restorative exercises has become ingrained in the vocabulary of contemporary intelligent, professional athletes (Venter et al., 2010).

#### **5.3.2 The benefits of rehabilitation**

Participants shared their varied experiences of rehabilitation, emphasising the benefits and challenges thereof (PA2d, PB3a and PC2d). Rose (PA2c), having experienced a more extended period of rehabilitation, acknowledges the emotional relief gained from physiotherapy appointments and her connection with a physiotherapist, formerly a cheerleader who understood her feelings and

frustrations, underscoring the significance of personalised and empathetic care in the rehabilitation process, stating, "She did know exactly what I was going through."

Keabetswe, having undergone physiotherapy, shares, "I felt great. I felt okay. Yeah, it was just like I was back, and ay! This emphasises the emotional and physical recovery facilitated by rehabilitation and suggests that well-executed rehabilitation programs contribute not only to physical recovery but also to athletes' emotional well-being for a successful return to sport (Jones & Khazzam, 2017).

However, challenges persist, as highlighted by Rose's admission of still being scared after rehabilitation (PA4f). The psychological impact of fear and anxiety, especially in the context of re-injury, is a recurring theme in the literature (Sabol et al., 2021), and emphasises the necessity for psychological interventions during rehabilitation.

### **5.3.3 Challenges of rehabilitation**

Ciara's experience introduces the challenges associated with rehabilitation, as she grapples with anger and anxiety (PC2a and PC2b). She describes her emotional turmoil, stating, "I was very angry just with the situation not even like the reason I dropped or the base or anything, just like how am I going to heal faster?" This reveals the psychological struggles intertwined with the physical rehabilitation process. Rose and Keabetswe also echo concerns about anxiety post-rehabilitation, shedding light on the multifaceted nature of the recovery journey (PA4c and PB3b). This frustration and fear during rehabilitation resonate with literature on the psychological challenges that athletes face during the recovery process (McGowan-Stinski, 2016). The review included numerous studies which examined negative psychological responses at each stage of rehabilitation. During the early phases of rehabilitation, athletes frequently presented with frustration and depression due to lack of participation in sports. Athletes who were in the middle of their rehabilitation process had difficulty adapting to the regimen or were impatient to return to their sport's activities. Lastly, athletes may experience self-confidence issues prior to returning to play because of their fear and anxiety of re-injury (McGowan-Stinski, 2016).

The fourth theme, Personal experiences of MAR (Music-Assisted Relaxation) in Music Therapy, addresses the second research question:

What role does Music-Assisted Relaxation play in the rehabilitation process for tertiary-level cheerleaders living with re-injury anxiety?

## 5.4 Theme 4: Personal experiences of MAR (Music-Assisted Relaxation) in Music Therapy

Participants attended 30–45-minute Music Therapy sessions over three weeks in a pre-booked location. The sessions included MAR (Music-Assisted Relaxation) as drawn from the protocols stipulated by Prensner et al. (2001) as well as the Wood et al. (2021) procedural session format. Each session began with a greeting ritual by engaging in active music-making with instruments or asking the participant to choose a song for movement<sup>3</sup>. Participants were invited to process their thoughts around re-injury anxiety through improvisation<sup>4</sup>, sound-sketches<sup>5</sup> and written musical dialogue, where a piece with two contrasting instruments are played<sup>6</sup> and the participant associates one of the instruments with the voice of their re-injury anxiety and the other with the part with their personal voice. The musical dialogue allows for an externalisation of their re-injury anxiety as the two voices interact with each other. Following MAR which was the last component of each session, there was space for reflection through multi-modal practices such as drawing in a mandala, movement and improvising on the instruments.

Theme 4 describes experiences of Music-Assisted Relaxation within the Music Therapy sessions, and is discussed through three main aspects, namely (i) The perceived benefits of music: (ii) An exploration of personal expectations and experiences of Music Therapy and (iii) The perceived benefits of Music-Assisted Relaxation (MAR).

### 5.4.1 The perceived benefits of music

The participants highlighted how music has an impact on the mind as stated in the following statements: Rose says that “[...] Whenever I feel something, I do like to put music on that suits the emotions that I'm feeling,” (PA5c) and that “[...] music plays a role in your mindset. And you think about things when there's certain music playing” (PD1b).

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<sup>3</sup>Ciara requested Geronimo - Sheppard

<sup>4</sup>Rose and I engaged in an improvisation on the piano, exploring the idea that re-injury anxiety can be loud in comparison to her softness. The purpose was for her to externalise these associations and explore different dynamics, and for me to witness and praise her spontaneous contributions on the piano.

<sup>5</sup>Rose and Keabetswe were invited to engage in a sonic-sketch, which was set to a sonic sketch piece from a CD selection provided to students in the MMUS Music Therapy Course

<sup>6</sup>Abdullah Ibrahim and Ekaya - Dreamtime

According to Keabetswe, “[...] music always puts you in a mood, where you want to be or you can try to be or the mood that itself sets and it helps quite a lot. Changes a lot how you feel” (PE2b and PE2c).

Keabetswe emphasises the physical and mental effects of music that she experiences, noting that,

“I guess physically just get a bit more energy. I think that's the other thing, like you're a bit more... fine now you're a bit sad, you know, when you're sad you're a bit slumped and you're like... then after listening to music, you're a bit up like your body's a bit awake. So, I guess I could say that's how it makes me feel or made me feel physically” (PE2d).

Ciara, while admitting limited knowledge of Music Therapy, recognises music's influence on her emotions, saying, “I know like when I'm sad, I listen to some music, but that's about as well as my knowledge goes” (PC5b). Ciara's acknowledgment of using music for emotional support aligns with the literature on the positive effects of music on mood and emotional well-being (Hirokawa & Hideki, 2003). Hirokawa and Hideki (2003) research suggests that music with a low-uplifting quality exhibited a tendency to enhance feelings of well-being. Conversely, high-uplifting music demonstrated trends associated with elevated norepinephrine levels, increased liveliness, and reduced levels of depression (Hirokawa & Hideki, 2003). Additionally, active NK cells experienced a decrease following 20 minutes of silence. This suggests that incorporating music into rehabilitation programs may have broader mental health benefits for athletes (Hirokawa & Hideki, 2003).

“I loved it”- Ciara stated in response to how she experienced the different genres used. Rose's detailed description of how different genres of music induced various emotional responses, highlights the potential of musical elements to evoke different emotional states. She says,

“With the genres I could feel we played like, more fast rhythm or more like uh where you did more, what do you call it? I wouldn't say rock because it wasn't rock. It wasn't like, hard. But it was still fast in tempo and whatever. I could definitely start seeing, like how I'm getting angry, how I'm being frustrated by being afraid, whatever. When the more calming sounds like the piano, or all those things was more for me like, okay, calm down, take a breath. Be still, it was a nice slower tempo and a light rhythm. Yeah. So I must say, I went through lots of emotions for different genres” (PD3d and PD3e).

Karageorghis and Drew (1996) and Lanzillo et al. (2001) describe how the use of musical stimuli to stimulate, calm, or manage the mood of an athlete or a team is known as pre-task music and can be used before a physical task or sporting event. This has implications for music's role in mood modulation and anxiety reduction (Priest & Karageorghis, 2008). With regards to re-injury anxiety, the affordance of music can be utilised to alleviate the impact of re-injury anxiety.

#### 5.4.2 An exploration of personal expectations and experiences of Music Therapy

According to Stahr and Stegemann (2016), the expectations on the part of patients, therapists, relatives or institutions can influence therapy (Stahr & Stegemann, 2016). Hence aligning athletes' expectations with the potential outcomes of Music Therapy is crucial for its effectiveness. Ciara says, "I think more than anything, I'm just intrigued," (PC5a) whereas Keabetswe states, "I don't know exactly what to expect. But I know the kind of state music can put you in, so I expect to be in some kind of a state, possibly calm state. But yeah," (PB5a) and lastly Rose says "[...] I feel what I do expect is being more relaxed, being more confident in myself after the session. Uhm just getting rid of anxiety that may be within me or something (PA5d, PA5e and PA5f). By expecting to be 'relaxed and confident' after a Music Therapy session, underscores the therapeutic potential of music in promoting emotional well-being and self-confidence, underlining the participants' diverse hopes for the therapeutic experience.

Participants indicated overall enjoyment of the Music Therapy sessions (PD1a, PD3b, PE1a, PE1b and PF3a). Ciara reported that "It put me out of my comfort zone. But I think that's actually a good thing. Because I tend to stay in a very little box and not move" (PF1a and PF2a) and Rose reflected saying "I think you did a great job with like, helping me come out of my shell" (PD3a). Although Rose felt tentative at first, she says, "I can remember the feeling like ugh flip just leave it. Just go. Just enjoy it. Don't be scared. Just do it. So yeah, that stood out" (PD1e and PD1f). Keabetswe's positive experience and acknowledgment of learning how to make use of the processes used during Music Therapy sessions highlight the potential of such interventions to not only provide emotional support but also contribute to personal growth and skill development outside of sessions (PE5d and PE5e).

The participants' reflections of Music Therapy suggest the potential role of music in rehabilitation, as mentioned in Terry et al. (2019), promotes positive affective valence and enhances physiological efficiency. Keabetswe says, "I don't know, it helped me remember how much music can have an impact and not the regular music that we always listen to, but sometimes put yourself in a position to sit down and use that music to guide you, or to...you know, it helps quite a lot" (PE5b). This demonstrates how Weller and Baker (2011) recognised the positive impact of music interventions on participants' experiences and well-being, where they identified several research articles for the application of Music Therapy techniques to physical rehabilitation of persons with physical impairments. The research showed that applying Music Therapy techniques to the rehabilitation of gait, fine and gross motor function was effective and significant. They also found that through the use of music, intentional and structured rehabilitative activities, an external timekeeper, and increased motivation were all achieved. This insight supports the integration of creative and enjoyable activities, such as Music Therapy, into rehabilitation programs to enhance a person's overall experience.

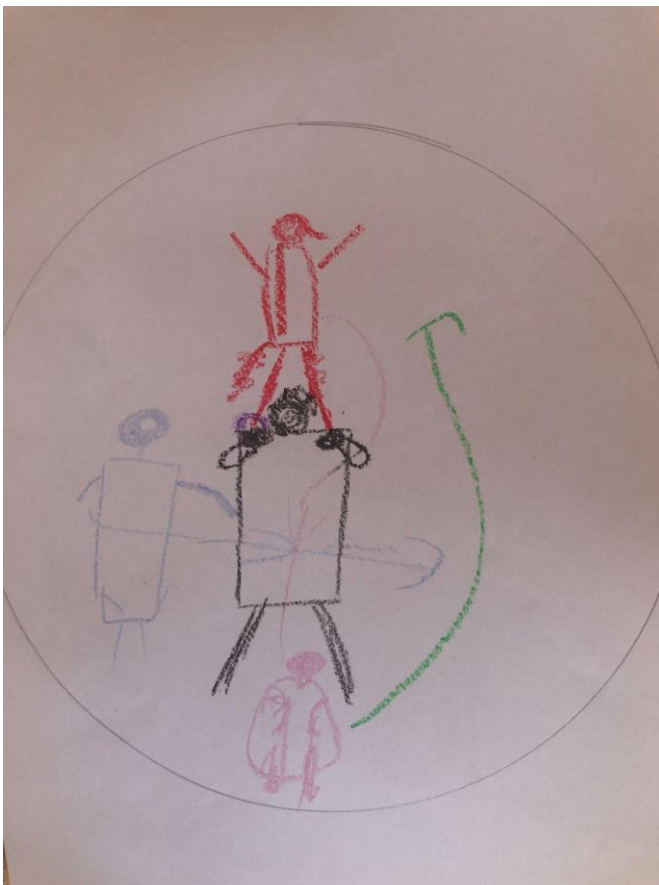
The following figures are examples of some of the processes included in the sessions. During our pre-interview session, I was curious about what Ciara was experiencing and how she felt about the concept of re-injury anxiety, thus inviting her to reflect on what she had shared with me through a Mandala. I first asked her to name a significant word that came up for her to which she responded 'Stubbornness' (Figure 5). One of her reflections on this 'stubbornness' states,

"Yeah I think it's not the entire answer. But I think with the sport we do and just the time limits on some of this stuff. And so, I think a lot of times you need to be stubborn like if the stunt is not wanting to come down you need to be stubborn and keep it up. You have your entire team relying on you so... Sometimes you have to take the backseat and just be stubborn" (PC5c).

This demonstrated resilience to continue and fight for your stunts, and this sense of duty to her teammates and the sport.

### Figure 10

*Reflection following the Pre-Interview: Stubbornness*





*Note.* Ciara depicts her innate drive of stubbornness upon reflection of the pre-interview. During the process, *Ikigai* by Keenen Meyer, was played and gave the participant a set amount of time to work in.

The first use of MAR in my session with Rose, as per the Prensner et al. (2001) protocols, I improvised a piece in the Key of Am, with changes throughout depending on how the participant responded. The participant was invited to lay comfortably and had the choice to close their eyes. Throughout the process which took around 10 minutes, there were occasional prompts to take deep breaths. When it came to the use of imagery, the participant was invited to imagine themselves in their safe space using all five senses, such as ‘What do you smell’ or ‘What textures do you feel?’ The participant was invited to be present and mindful of the physical space by using their five senses to ground them, as the process came to an end. Following the MAR, I invited the participant to reflect on their experience (Figure 6).

### **Figure 11**

*Reflection following the MAR process*



*Note.* Rose describes her comfort place as her attending to plants in a greenhouse. She proudly describes her line of work in agriculture. Healing by Keenen Meyer, was played and gave the participant a set amount of time to work in.



In the last session I had with Keabetswe, especially because of the limited time I had with her, I felt it was appropriate to make use of a sonic sketch (Figure 7) to get a sense and an overview of how we both view the cheerleading community. The purpose of joining her was, in part, to model how the process works, but also to offer a space where the conversation acknowledges that we both form part of the cheerleading community and the insights that come up, also have an impact on me. As the music changed from one piece to another, she was invited to change the orientation of the paper and draw pictures, words and symbols in different colours. I posed the following questions for both of us to grapple with: What strengths do you bring as a cheerleader? What are the challenges faced? What does the community of cheerleading mean to you? By engaging with her in the process, I felt we were able to relate to the sentiments shared, thus creating a space for an insightful conversation. The music played was from the CD selection provided to students in the MMUS Music Therapy Course.

**Figure 12**

*Sonic Sketch with Keabetswe*



*Note.* I invited Keabetswe to do a sonic sketch with me where the prompts were: What strengths do you bring as a cheerleader? What are the challenges faced? What does the community of cheerleading mean to you? Some of the reflections she stated about the image and how it relates to the questions asked was identifying the symbols for family and the complex team relationships, the coach's role, bringing her facial expressions and comments (essentially herself), the turmoil and anxiety especially as a fellow flyer, the good and scary moments. She decided to keep the black

drawn figure with eyes peeking out from the page, since it referred to being able to bring herself into the space.

Overall, Ciara, Rose, and Keabetswe describe having positive experiences with Music Therapy, emphasising the enjoyment, learning, and emotional exploration facilitated by the sessions. Ciara acknowledged the therapy's role in pushing her out of her comfort zone, and Rose commends the facilitator for creating a comfortable space. These insights suggest the value of Music Therapy in fostering personal growth and well-being.

### 5.4.3 The perceived benefits of Music-Assisted Relaxation (MAR)

Rose stated,

“I must say it was quite calming. Just to take a breath, breathe in, breathe out. Listen quietly. I do like to do, it's not meditation, it's for... sometimes, I do like to do that. I did at a little chapel thingy. Where they always have like pillows where you can sit and just be quiet for however long you want and so I do like that. And I must say it was a different, different experience with music, instead of just dead quiet. Silence. I must say I did fall into the meditative mindset quicker with the music. Than if when I'm just sitting in silence” (PD2a-2d).

Her description of Music-Assisted Relaxation as calming resonates with research by Wood et al. (2021) emphasising the effectiveness of MAR in pain and anxiety management where they found through the satisfaction survey, most patients thought that Music Therapy was beneficial to them. The rehabilitation staff also reported that Music Therapy did not obstruct standard clinical care (Wood et al., 2021). This suggests that incorporating MAR into rehabilitation protocols can contribute to a holistic approach to managing both physical and psychological aspects of injuries.

Rose highlights the positive impact of Music-Assisted Relaxation (MAR) on her feelings associated with re-injury anxiety. She shared how she made use of diaphragmatic breathing, experienced during MAR, whilst doing a stunt during one of her recent practices stating, “With someone stepping on my ankle last night, and it was fine. I was like, see you are okay, just breathe you're fine. It's not that bad” (PD2i-2l), demonstrating a sense of self-regulation that could be helpful in future incidents. Keabetswe's recognition of Music-Assisted Relaxation as a tool for gaining control and quieting the mind further supports the potential benefits of MAR in enhancing psychological well-being and coping mechanisms (PE2h-2j).

Keabetse also references the music itself<sup>7</sup> and how,

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<sup>7</sup>I improvised a piece according to the Prensner et al. (2001) Music Therapy protocols on Piano for Rose and on Guitar for Keabetswe and Ciara.

“They were very relaxing and very deep. As I said it was like, it's like, you know when you listen to a song, it makes you go deep into your brain. It's like, I don't know. Yeah, some of the songs were very deep. Like they make you think. That's why the songs were just relaxing, and then you know but yeah” (PE3c-PE3f).

The participants' reflections indicate that Integrating MAR into rehabilitation may offer athletes a valuable resource for managing stress and anxiety associated with their injuries. Ciara describes the unique experience of MAR, expressing how it helps create a mental safe space and promotes relaxation and sleep, stating

“[...] I love it. Strangely enough just like, you can just breathe because it feels like, like, you're not focusing on the real world or anything freaking you out or anything, like tunnel vision in your safe space and like, where you are... your happiness” (PF2e-PF2g).

MAR, as discussed by Prensner et al (2001), involves the use of music to manage pain and anxiety, which includes the use of sound or music to reduce pain (audioanalgesia) and/or the use of music or sound to reduce anxiety (anxiolytic music) (Prensner et al., 2001). The participants' positive experiences and perceived benefits of Music Therapy and, in particular, MAR provide valuable insights into their potential as a tool to address re-injury anxiety in cheerleading rehabilitation. These insights will guide the design of future Music Therapy sessions, contributing to the holistic well-being of athletes in the competitive cheerleading domain.

The integration of diverse models, notably the Wiese-Bjornstal model (Wiese-Bjornstal, 1998) and the biopsychosocial model (Brewer et al., 2002), highlighted the intricate nature of the psychological response to injury emphasizing the interplay between personal and situational factors in injury prediction, examining the emotional and behavioural responses of athletes to injuries. The discussion encompassed the profound impact of cognitive appraisals, emotional responses, and behavioural reactions on rehabilitation adherence. Identifying predictors for adherence, encompassing personal elements such as self-motivation and athletic identity, coping abilities, social support, and cognitive-behavioural interventions, enriched the understanding of the rehabilitation process. The evolving landscape of pain-reducing strategies, ranging from traditional methods like deep breathing to contemporary approaches like utilizing music, emphasized the dynamic nature of rehabilitation interventions (Marlow, 2023). Therefore, by connecting the findings back to the overarching goal of returning to competitive cheerleading and addressing psychological aspects like re-injury anxiety, adds a practical and motivational dimension to the narrative.

## **5.5 Implications for Practice**

The following implications for practice are derived from the findings in the developed themes above and may be utilised by coaches, teams, potential Music Therapists and any interested parties involved.

### **5.5.1 Comprehensive Injury Prevention Training**

Teams and coaches could prioritise comprehensive training in injury prevention techniques for all team members, and perhaps provide nuance to specific roles. By emphasising teamwork, proper technique, and controlled movements, the likelihood of injuries during cheerleading activities can significantly be reduced.

### **5.5.2 Safety Protocols**

It's essential for coaches and organisations to prioritise safety protocols and continuously implement injury prevention strategies, as well as pay attention to the latest strategies.

### **5.5.3 Psychological Support for Re-Injury Anxiety**

Coaches can acknowledge and address re-injury anxiety among cheerleaders. Where necessary, coaches may collaborate with professionals to provide services to cheerleaders who need psychological support. Coaches can implement targeted interventions to enhance athletes' confidence during the rehabilitation process, as it is critical to support their mental and emotional well-being.

### **5.5.4 Mindset Development Programs**

Perhaps develop programs that focus on cultivating a strong-willed mindset among athletes. Highlight the role of passion and determination in overcoming challenges and emphasise the psychological resilience needed during the rehabilitation journey.

### **5.5.5 Balance Urgency with Proper Rehabilitation**

Coaches and medical staff could play a crucial role in guiding athletes through the psychological challenges of injury, particularly in balancing the desire to return quickly with the need for proper rehabilitation. They can emphasise the importance of patience during the recovery process.

### **5.5.6 Recognize Multifaceted Benefits of Cheerleading**

Coaches and teams can acknowledge and promote the multifaceted benefits of cheerleading beyond physical activity. Recognize its role as a stress-relieving outlet and source of emotional support, contributing to athletes' overall well-being.

### **5.5.7 Build and Maintain Supportive Team Environments**

Coaches and teams can foster a supportive team environment that accommodates individual needs during the recovery process. Highlight the importance of trust, understanding, and intervention, when necessary, particularly in challenging stunts.

### **5.5.8 Personalized and Empathetic Care**

Provide personalised and empathetic care during rehabilitation, acknowledging the emotional aspects of the recovery journey. Establish strong connections between athletes and rehabilitation professionals to enhance the overall rehabilitation experience. A Music Therapist may aid in this aspect as the field utilises client-centred practices (Pickard, 2018).

### **5.5.9 Educating Coaches on Rehabilitative Modalities**

Coaches can get comprehensive training on different rehabilitative modalities, including psychosocial support strategies. Address financial constraints that may limit access to diverse rehabilitative approaches.

### **5.5.10 Balancing Physical and Emotional Recovery**

Acknowledge and attend to the psychological challenges that accompany physical rehabilitation. Emphasise the significance of balancing both physical and emotional recovery to maximise the likelihood of a successful return to sports.

### **5.5.11 The inclusion of Music Therapy and MAR in Rehabilitation Programs**

Integrating therapeutic programs such as Music Therapy into rehabilitation may enhance the overall individuals' experience by recognizing the multifaceted impact of music on emotional well-being and physiological efficiency. Music interventions, especially Music-Assisted Relaxation, can be incorporated into rehabilitation programs while considering individual preferences. Thus, educating interested individuals on the therapeutic potential of music in promoting emotional well-being and self-confidence.

These implications aim to enhance the overall well-being and performance of tertiary-level cheerleaders, addressing the psychological and physical aspects of their experiences, particularly in the context of re-injury anxiety. By addressing the psychological and physical aspects of cheerleading, this could help cheerleaders feel more confident, resilient, and motivated to perform at their best. Ultimately, this can lead to a more positive and rewarding cheerleading experience for all involved.

## 6. Conclusion

### 6.1 Aim of the study

The study aimed to explore and describe the experiences of tertiary-level cheerleaders who have faced injuries and the subsequent anxiety related to the possibility of re-injury. This involved understanding the nature of injuries in cheerleading, the psychological impact of re-injury anxiety, and the skills and strategies used for injury prevention.

The study also sought to investigate the role of a specific intervention, Music-Assisted Relaxation (MAR), as a potential strategy in the rehabilitation process for tertiary-level cheerleaders dealing with re-injury anxiety. This involved exploring the participants' experiences with MAR, their expectations, and perceived benefits of incorporating Music Therapy into the rehabilitation program. The findings could have implications for both athletes and coaches in terms of understanding and addressing psychological challenges associated with injuries in the competitive cheerleading context.

### 6.2 Summary of findings

As described in chapter 4, the transcripts of the interviews were analysed, and four themes emerged from the data.

Theme 1 discusses the experience of injury in cheerleading, including the nature of injury and the impact of re-injury anxiety. Theme 2 focuses on mental preparedness, highlighting cheerleaders' strong-willed mindset and the role of cheerleading as a stress-relieving outlet. Theme 3 covers rehabilitation and psychosocial support, including previous experience with psychosocial support and the benefits and challenges of rehabilitation. Theme 4 explores personal experiences of Music-Assisted Relaxation (MAR) in Music Therapy, highlighting its perceived benefits. The implications for practice include comprehensive injury prevention training, psychological support for re-injury anxiety, personalised and empathetic care during rehabilitation, and incorporating therapeutic programs like Music Therapy to enhance individuals' experiences.

### 6.2 Research Quality

The study aimed to align with the criteria for trustworthiness outlined by Lincoln and Guba (1985):

#### 6.2.1 Credibility

As the researcher, to ensure credibility, I acknowledge that I am a cheerleader surrounded by many members of the community and therefore have persistent observation of the research setting and participants. This aligns with the idea of establishing credibility through prolonged engagement and familiarity with the context (Lincoln and Guba, 1985). Since this may create bias, I utilised the process of reflexivity throughout the research process to ensure I gained a better understanding of the participants' unique lived experiences.

### **6.2.2 Applicability (Transferability)**

The research context has been introduced as well as the procedures that took place in conducting the study in order for interested parties to conduct a study of a similar nature in a different context. Providing detailed context is a strategy to enhance the potential for applying the study's results to other situations (Lincoln and Guba, 1985).

### **6.2.3 Consistency (Dependability)**

The concept of consistency is addressed by mentioning triangulation. Triangulation involves using multiple methods or data sources to corroborate findings, enhancing the dependability and reliability of the data. In this case, the study made use of semi-structured interviews along with thematic analysis, indicating a methodological approach that allows for a comprehensive examination of the research question (Lincoln and Guba, 1985). Session notes supported my reflections from the participants interviews. Transparent reporting of methods, participant selection, data collection, and analysis procedures contribute to the overall trustworthiness of the study. Additionally, the study addresses any potential biases through the use of reflexivity, discussing limitations (see 6.3 Limitations), and adhering to the ethical considerations stipulated in the methodology chapter, to further enhance its trustworthiness.

## **6.3 Limitations**

My research only shows the personal experience and subjective views of three South African tertiary level cheerleaders. This means that my data only shows the opinions from a very limited sample size, and therefore can't be generalizable. Contacting other cheerleaders proved difficult because of conflicting schedules and follow up delays. I was aware of my potential bias as a competitive cheerleader and my own perceived experiences of the phenomenon of re-injury anxiety. I addressed this through my own reflexivity throughout the research process, self-disclosure to the participants and being open minded to their different experiences.

## **6.4 Recommendations for future research**

### **6.4.1 Longitudinal Studies:**

In order to gain a better understanding of the long-term psychological effects of re-injury anxiety, perhaps conducting longitudinal studies that track athletes' performance, well-being, and career trajectories over time. By following athletes throughout their cheerleading careers, there can be observation and analysis on how psychological factors evolve and influence their experiences.

### **6.4.2 Comparative Studies**

By examining the experiences of cheerleaders across primary/high-school, tertiary and professional levels of competition, potential differences in the nature and impact of re-injury anxiety can be



identified. This research could offer valuable insights into the unique challenges faced by athletes at different stages of their cheerleading journey.

### **6.4.3 Effectiveness of Various Psychological Interventions**

In addition to Music Therapy, there are various psychological interventions such as mindfulness training, cognitive-behavioural therapy, and other therapeutic approaches that may help alleviate re-injury anxiety. Researching and comparing the efficacy of these strategies can provide valuable insights for coaches and sports psychologists in offering targeted support to athletes.

### **6.4.4 Impact of Team Dynamics**

There can be an exploration into the influence of team dynamics on athletes' experiences with re-injury anxiety. Investigate how team support, communication, and cohesion contribute to or alleviate anxiety. Understanding the team's role in the psychological well-being of athletes can inform strategies for fostering a supportive team environment.

### **6.4.5 Coach and Support Staff Training**

There could be investigation into the impact of coach and support staff training programs on creating a psychologically supportive environment for athletes dealing with injuries. Assess the effectiveness of education and training in enhancing coaches' ability to understand and address the psychological aspects of sports injuries.

### **6.4.6 Quantitative Approaches**

Using qualitative findings with quantitative research to assess the prevalence and quantitative measures of re-injury anxiety among cheerleaders, with a larger sample size, could further enhance the studies credibility. This could involve the development and validation of standardised assessment tools specific to cheerleading.

### **6.4.7 Interdisciplinary Approaches**

There can be interdisciplinary research collaborations between sports science, psychology, Music Therapy, and other relevant fields. This can lead to a more comprehensive understanding of the multifaceted aspects of cheerleaders' experiences and the potential benefits of integrated interventions.

These recommendations aim to further enrich the knowledge base in the field of cheerleading, sports psychology, and injury rehabilitation, contributing to the development of more effective strategies to support athletes in managing re-injury anxiety.

## 6.5 Conclusion

This research explored the experiences of tertiary-level cheerleaders who have experienced re-injury anxiety and investigated the potential benefits of Music-Assisted Relaxation (MAR) during their rehabilitation process. The insights gained from this study reveal the significance of taking a holistic approach, encompassing both physical and psychological dimensions, to promote the well-being and resilience of cheerleaders in the face of injury-related adversities. This modest study contributes to further understanding of cheerleading-specific challenges, and also advocates for the integration of innovative and tailored strategies to aid athletes in their road to recovery and optimal performance. The findings call for further research endeavours and practical implementations aimed at enhancing the overall health and resilience of athletes in the dynamic realm of competitive cheerleading.

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## 7. Appendices

### Appendix A: Letter of introduction and informed consent



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

FACULTY OF HUMANITIES

School of the Arts: Music

MUSIC THERAPY

TEL (083) 462 6173

#### Consent form

Dear Cheerleader, you are invited to take part in a research study about re-injury anxiety and South African tertiary cheerleading. I am inviting tertiary cheerleaders who are not currently competing due to injuries and have received or currently seeking health care services. This document forms part of a process known as "informed consent," which enables you to fully understand the study before agreeing to participate. I, Chuma Msindo, a researcher at the University of Pretoria pursuing a master's degree, am the author of this paper. The study will only commence after ethical clearance has been granted by the Research Ethics Committee of the Faculty of Humanities, UP. As the researcher involved in the study, I will apply ethical practices in every aspect possible in using human participants for research, from the point of inception to the point of publishing the results.

#### Background Information:

This study aims to explore your experiences with re-injury anxiety (an emotional reaction brought on by the possibility of an injury reoccurring after an initial injury of the same type or location), and the intervention set during the research process. The intervention used includes "Music-Assisted Relaxation" (MAR), which makes use of music to aid with pain and anxiety management.

### **Procedures:**

If you consent to participate in this study:

- You will be asked to participate in an interview prior to and after the Music Therapy sessions
- You will be informed that the interviews will be audio-recorded for the research study's purposes.
- You will be asked to participate in two, 30–45-minute sessions each week for three weeks.
- You will be able to request to have a debriefing session following the research study.

During the session, you will undergo a 20-minute tailored Music-Assisted Relaxation with live music under my guidance as the researcher. The main purpose of the music is to aid in relaxing and to assist with the experience. There will be cues for guided imagery, muscle relaxation, and diaphragmatic breathing.

Sessions will take place at the TuksSport Campus

Address: Burnett St, Hatfield, Pretoria, 0186

Cover letter: details of sessions site. Provisionally made and will be confirmed

### **Voluntary Nature of the study:**

This research is entirely voluntary. You may decide at any time whether or not to participate in the study, and the researcher will respect that decision. If you decide to withdraw from the study, you won't be penalised.

### **Benefits and Risks of Participating in the Study:**

Your safety or wellness would not be at risk if you participated in this study. The study's benefits include providing you a chance to express your opinions and concerns about re-injury anxiety and your current healthcare services. If you require further sessions, please contact the provided Music Therapist using the referral letter.

### **Payment:**

There will be no remuneration or time payment for participating in this study; it is entirely voluntary.

### **Privacy:**

The researcher won't utilize your personal information for reasons beyond this research study. Your identity will be kept private in compliance with the POPI Act, and when discussing the study's results, a pseudonym, such as Participant A, will be used. Data encryption and password protection will be used prior to uploading onto relevant platforms to keep your data safe. Data, which can be found on the UP Repository, will be retained for a period of at least 10 years, as required by the university.

### **Contacts and Questions:**

If you have questions now or at any time, you may contact the researcher, Chuma Msindo through email or cellular device. You can ask any questions you have before you begin the interview and sessions.

Chuma Msindo:

Tel: 0716806091 E-mail: u16133260@tuks.co.za.

Debriefing Therapist Contact Details:

Anja Pollard:

Tel: 084 206 8471 E-mail: anja@pollard.co.za

**Please print or save this consent form for your records.**

**Statement of Consent**

I have read the above information. I feel I understand the study well enough to be involved. By signing the consent form below, I understand and agree to the terms described above.

Sign: \_\_\_\_\_

Date: \_\_\_\_\_

**MUSIC THERAPY RESEARCH STUDY: PERMISSION TO PARTICIPATE**

I \_\_\_\_\_ hereby give / do not give my consent for Music-Assisted Relaxation/Music Therapy sessions and interviews, which would be audio-recorded, to be held for the purposes of the research study. I understand that Music-Assisted Relaxation/ Music Therapy sessions form part of the researcher's degree requirements.

With full acknowledgment of the above, I agree to participate / not participate in this study on this \_\_\_\_\_ (day) of this \_\_\_\_\_ (month) and this \_\_\_\_\_ (year).

**PARTICIPANT DETAILS:**

Participant name: \_\_\_\_\_ Signature: \_\_\_\_\_

Participant Contact No: \_\_\_\_\_ Date: \_\_\_\_\_

**RESEARCHER & SUPERVISOR:**

Researcher Name:

Researcher Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Supervisor Name:

Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix B: Interview Guide

### Pre-interview

I express my sincere gratitude for participating in this interview. Your identity will remain confidential and a pseudonym will be used e.g. Participant A, when reporting on the findings of the study. The interview will be video recorded for purposes of the research study. If you are comfortable with that, may we begin.

1) Firstly, have you personally been impacted by injury due to cheerleading?

- How has this affected your practice?

- How has this impacted you emotionally?

2) What feelings did you experience during rehabilitation of your injury?

- Were you able to express these feelings during the rehabilitation? If so, how?

- How did you feel after the rehabilitation(s)?

3) Have you been re-injured following a rehabilitative process?

-Have you been re-injured during rehabilitation?

-Have you been re-injured while returning to sport activities?

4)Have you ever experienced re-injury anxiety?

-Have you experienced re-injury anxiety during rehabilitation?

-Have you experienced re-injury anxiety whilst returning to sport activities?

5) What can you tell me about your expectation of experiencing Music Therapy?

-Have you experienced Music Therapy before?

## Post-interview

I express my sincere gratitude for participating in this post interview. Your identity will remain confidential and a pseudonym will be used e.g. Participant A, when reporting on the findings of the study. The interview will be video recorded for purposes of the research study. If you are comfortable with that, may we begin.

1) Firstly, how have you experienced the Music Therapy sessions?

- Are there any moments that stand out to you?

2) What was your experience of Music-Assisted Relaxation?

- How did you feel emotionally?

- How did you feel physically?

- How did you experience the Music-Assisted Relaxation in relation to your re-injury anxiety?

3) What do you think could have been better or what could have been done differently?

- Was the time convenient for you?

- Was the venue comfortable and convenient?

- How did you experience the musical genres/styles used?

4) Would you attend Music Therapy sessions in the future? Why/why not?

- Why / why not?

5) Before we end, is there anything else you would like to add to our conversation?

Thank you very much for helping me find out more about your experience.

## Appendix C: Referral Letter

ANJA POLLARD - MUSIC THERAPIST

BMus(NWU), Hons(Psychology)(NWU), MMus (Music Therapy)(UP), Fellow (Guided Imagery & Music Psychotherapy)(AMI)  
Practice Nr. 0670000294578 Reg Nr. AT0000035

**Tel: 084 206 8471      E-mail: [anja@pollard.co.za](mailto:anja@pollard.co.za)**

19 Giraffe street, Monumentpark, Pretoria, 0181

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31 October 2022

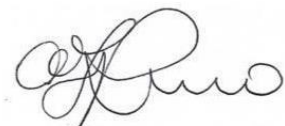
Dear Research Participant

My name is Anja Pollard. I am a registered music therapist working in private practice at my studio in Pretoria-East.

I'm confident that the research project you took part in was an interesting learning experience. If you do however feel that you need an additional debriefing space post-participation in the study, you are welcome to contact me and arrange for one session, free of charge. Further sessions can also be arranged (if deemed necessary) at a negotiable rate.

I'm offering you this option in support of Chuma Msindo's (Music Therapy student) research.

Warmest regards  
Anja



## Appendix D: Infographic Information

Have you experienced re-injury anxiety as a cheerleader?

### Overview

Participate in a research study on exploring your experience around re-injury anxiety (an emotional response arising due to a possibility of an injury re-occurring after an initial injury of the same type or location) and your experience of rehabilitation.

You will be asked to participate in an interview prior to and after six Music Therapy sessions. Two, 30–45-minute sessions twice weekly for a three week period. Sessions include a 20-minute tailored Music-Assisted Relaxation with live music aiding with the experience. There will be cues given for guided imagery, muscle relaxation, and diaphragmatic breathing. Reflective time will be set after the Music-Assisted Relaxation has taken place.

### Eligibility

Tertiary-level cheerleader

Sustained different degrees of injuries throughout the training season

Currently experiencing re-injury anxiety

Have undergone or currently undergoing rehabilitation

Currently not competing

Conversant in English

### Contact Details

Chuma Msindo:

Tel: 0716806091

E-mail: [u16133260@tuks.co.za](mailto:u16133260@tuks.co.za).

Upon agreeing to participate in this study you will receive further information.



## HAVE YOU EXPERIENCED RE-INJURY ANXIETY AS A CHEERLEADER?

Participate in a research study on exploring your experience around re-injury anxiety (an emotional response arising due to a possibility of an injury re-occurring after an initial injury of the same type or location) and your experience of rehabilitation.



## ELIGIBILITY



### Eligibility:

- Tertiary-level cheerleader
- Sustained different degrees of injuries throughout the training season
- Currently experiencing re-injury anxiety
- Have undergone or currently undergoing rehabilitation
- Currently not competing
- Conversant in English



## WHAT TO EXPECT?

You will be asked to participate in an interview prior to and after six music therapy sessions. Two, 30–45-minute sessions twice weekly for a three week period. Sessions include a 20-minute tailored music-assisted relaxation with live music aiding with the experience.

There will be cues given for guided imagery, muscle relaxation, and diaphragmatic breathing. Reflective time will be set after the music-assisted relaxation has taken place.



Contact Details:  
Chuma Msindo  
Tel: 0716806091  
E-mail: u16133260@tuks.co.za.

Upon agreeing to participate in this study you will receive further information.



## Appendix E: Signed example of Letter of introduction and informed consent form

**Please print or save this consent form for your records.**


### Statement of Consent

I have read the above information. I feel I understand the study well enough to be involved. By signing the consent form below, I understand and agree to the terms described above.

Sign: 

Date: 19.04.2023

### MUSIC THERAPY RESEARCH STUDY: PERMISSION TO PARTICIPATE

I  hereby give / do not give my consent for music-assisted relaxation/music therapy sessions and interviews, which would be audio-recorded, to be held for the purposes of the research study. I understand that music-assisted relaxation/ music therapy sessions form part of the researcher's degree requirements.

With full acknowledgment of the above, I agree to participate / not participate in this study on this 19 (day) of this April (month) and this 2023 (year).

### PARTICIPANT DETAILS:

Participant name:  Signature:



Participant Contact No: 084 619 1011 Date:

19 April 2023

RESEARCHER & SUPERVISOR:

## Appendix F: Example of a transcript

Q1: Firstly, have you personally been impacted by injury due to cheerleading?

Chuma

The first question I want to ask is, have you personally been impacted by injury? During your cheer career?

Rose

Yes for sure. Multiple times. Yes. Yeah

Chuma

Like how has it affected your practice?

Rose

Uhm especially when I just start with getting back into it, starting to practice again and whatever, then I'm scared of re-injuring. Because obviously, it's not fully turned back, it's not fully healed, and for like a few years, so it's always in my back mind, like just thinking, if I land skew now it's going to be worse. Like, I'm gonna be out for longer, and I don't want that. So it's always been scary, you know, so and with that, obviously, you can't do everything that you want to do because you're scared. If you're scared then most of the stuff doesn't happen. So, yeah.

Chuma

I definitely understand that. And like, you know, how does that affect you emotionally?

Rose

Emotionally?

Chuma

Yeah.

Rose

Uhm I think, especially because my sport is my outlet for stress. So when I feel stressed, or emotionally beat or unstable, then going to cheerleading is like a relief just to get away. And yeah to just relax, actually. So to be scared to do that, to be scared in your relaxed place, is a little bit of problem because then you don't get relaxed and you don't get that fulfilling, feeling anymore from, that you've always gotten from it. So emotionally, it is worse, because then you don't have that outlet anymore. Just to get, where you can just relax. Yeah

Chuma

Now it's like stress here, stress there

Rose

Yeah everywhere

Chuma

Yeah, oh my word.

Q2: What feelings did you experience during rehabilitation of your injury?

Chuma

And you know, what things do you experience during, when you went for rehabilitation, if you have gone for rehabilitation? But how did you experience that, um,

Rose

It was very long. And I did cut the time a little bit shorter than I should have. So I did go back into doing my sport before I should have, uhm, in the time of rehabilitation, it was, I was very eager to just go back and just let it go, just do it. Yeah, it was quite frustrating just to sit there because most of the time I'll still go to practice even just to sit there and watch team practice. It was very frustrating sitting there being able to do nothing.

Chuma

And were you able to express that to the to the person who was helping you?

Rose

I really just went for physio, but I was able to express it to her because especially knowing my physio was also a cheerleader for the same team. She did know exactly what I was going through, she did know all the feelings, all the frustrations, everything. So it was quite easy to tell her and she and I knew that you will understand how I feel. So I know she also gave her best to get me back in as quickly as I can. So yeah

Chuma

And like when you were done, how did you feel after that?

Rose

After the rehabilitation? Still scared, but I did feel better. Especially if I went for a physio appointment. I didn't only feel better with my injury. I felt emotionally better as well. And I can feel okay, it's fine. It's getting better. Not getting worse. I can be back soon. And it was just uplifting to know okay, where I'm standing and to know how long I still need to wait.

Chuma

Okay, sho. And wait so what position are you?

Rose

A flyer?

Chuma

You're a flyer?

Rose

Yes

Chuma

Okay, and have you ever based, back-spotted?

Rose

Yes a lot. I was also in the junior South African team in 2019. Obviously, I'm quite taller than primary school children. So I did base and back for them a lot. I didn't fly. Uhm big learning curve, but it did help improve my skills a lot. Uhm just knowing how the base feels and the back feels it did help.

Chuma

I get that? I really do get that

Rose

Even in the team, if there's a position or something. I would, if they need someone, I would gladly give up a flying position to help back spot or base. So yeah.

Chuma

Q3: All right, cool. So still on the rehabilitation, after you did it, did you get re-injured again?

Rose

Yes, three times.

Chuma

Oof, was it the same place?

Rose

Yes my ankles. It was first my left then right and then left again. So it was an it was within a six months, six month period of time. Tore my ligaments all three times (giggles)

Chuma

Within six months! Oh my gosh! That is...

Rose

A lot.

Chuma

That is a lot! Oh my word and sho. How was that?

Rose

Yeah, so obviously I was out for a year more longer than a year. Uhm it was quite, I must say, when we went to doctors and whatever, they did test me to see if it was weak ligaments or if something was weak, uhm to make sure that it doesn't happen again. But it was just freak accidents. It just it was just, yeah, it just happened. It wasn't me being weak or anything. It wasn't me doing my

rehabilitation right or nothing. It was just an accident every time for three times in a row.

Chuma

Yoh and while you were receiving care, did you get hurt while receiving care as well?

Rose

Yes, obviously with the between the first and the second one. I was still busy rehabilitating my left ankle. Uhm I just started, uhm, practicing again. Uhm because the first one I didn't, it wasn't a bad tear. It was a minor one. So the rehabilitation was not that long. Uhm I was just getting back into practice wearing a brace everything like that, making, taking precautions and then the other foot got hurt.

Chuma

Q4: Before that other foot got hurt. Were you afraid of getting re-injury? Or did you experience anxiety?

Rose

No, on the first one it wasn't, no. With the first one I wasn't scared because I knew that I'm wearing a brace. The chances that I will re-injure the same ankle was not there. I was not scared for it. But then obviously the other ankle got it. So yeah, after that I was, I'm still scared for both my ankles doing anything uhm so yeah. And especially with the, just before the third one. I just got out of my brace, didn't practice with a brace anymore. My ankle was strong, did all my rehabilitation. It was fine. Uhm and then I landed on someone's foot and then it turned over. And that was my last tear, was the worse one. So it was the longest rehabilitation and wait, waiting game that I had.

Chuma

And would you say today? Do you experience that re-injury anxiety?

Rose

Yes. Every day. Even doing other sports or just walking on a uneven surface (giggles) I am scared to death. Doing anything these days is uh, just, just be careful of my ankles just yah doing anything.

Chuma

Got to take extra pre-caution.

Rose

Yes got to take extra but I feel it's also I know I did the rehabilitation, I know my ankles are fine. But it's just the like you said that anxiety of what if it happens again? Yeah.

Chuma

Mmm yeah. I get that. And you know, have you ever experienced emotional therapy? So like your psychology or anything like that?

Rose

Um, I had uhm I don't know what's it in English. A Berader. Where you go to church for someone to

Speak to you?

Chuma

Counselling, right?

Rose

Counselling yes, I went for counselling when I was in matric, uhm it was a very hard time and obviously, it was a hard time for for my family. Uhm so obviously, it was a lot of emotions and being in matric as well. It was quite hard. So yeah I went for counselling then. That was a long time ago. Not for my injuries I didn't get, I didn't do any emotional support whatsoever.

Chuma

Q5: And have you experienced Music Therapy before?

Rose

No, not yet.

Chuma

Okay, what do you expect from Music Therapy?

Rose

Um, I think I've worked with music my whole life. I've been dancing my whole life, whatever so I've been, music has been part of my life forever. And I do like music. Whenever I feel something, I do like to put music on that suits the emotions that I'm feeling. So uhm, I feel what I do expect is being more relaxed, being more confident in myself after the session. Uhm just getting rid of anxiety that may be within me or something. Yeah.

Chuma

Working through it.

Rose

Yes working through it.

Chuma

Okay, all right.

## Appendix G: Data Analysis Process

Please find attached an excel spreadsheet.