

**The effect of a dance and movement intervention program on the  
perceived emotional well-being and self-esteem of a clinical sample  
of adolescents**

**A mini dissertation submitted in partial fulfilment of the  
requirements of the degree**

**MA Clinical Psychology**

**In the Department of Psychology at the  
UNIVERSITY OF PRETORIA  
FACULTY OF HUMANITIES**

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**August 2010**

## Acknowledgements

- To God my Father, Friend and Protector
- To my parents, Susan and Pieter, sister, Marina, and my family and friends for believing in me and holding my hand through this journey
- To Prof Maree, my supervisor, for his patience and support
- To Gill Collett, my language editor, and Juanita Haug, my formatter, for assisting me in making my thesis as perfect as possible



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## Summary

The researcher aimed to determine the effect of a dance and movement intervention on the perceived emotional well-being and self-esteem of a group of in-patient adolescents in Weskoppies Psychiatric Hospital. A quantitative study, using a quasi-experimental design, was carried out using the positive and negative affect scale for children (PANAS-C) and the Rosenberg self-esteem scale to measure the two independent variables, namely perceived emotional well-being and self-esteem. There were four participants in the experimental group and six in the control group. A between-group comparison was made between the pre-test and post-test scores of the two groups. Both groups completed the positive and negative affect scale for children (PANAS-C) and the Rosenberg self-esteem scale at which point the experimental group took part in a two week, twelve session, dance and movement intervention program. After two weeks both groups once again completed these two measures. Although the results were statistically non-significant, effect size and outcome patterns pointed to an improvement in these two variables due to the intervention program.

### Key words

dance, movement, dance and movement therapy, dance and movement intervention programme, self-esteem, perceived emotional well-being, holistic, mind-body, positive affect, negative affect.

## CHAPTER ONE

### Introduction

Although dance and movement therapy and its effectiveness and applicability have been widely researched with various population groups and measuring a range of constructs, much less research has been conducted within a South African context (Bojner-Horwitz, Theorell, & Anderberg, 2003; Buckroyd, 2001; Ellis, 2001; Holyoake & Reyner, 2005; Horton, 2005; Milliken, 2002). Furthermore, no research could be found that measures both the perceived emotional well-being and the self-esteem of participants who take part in a therapeutic dance and movement intervention program. What follows, in this mini-dissertation, is a discussion of the results obtained after a two week dance and movement intervention program was implemented with four in-patient adolescents at Weskoppies Psychiatric Hospital as participants. These adolescents took part in twelve dance and movement sessions and their perceived emotional well-being was measured using the positive and negative affect scale for children (PANAS-C) while their self-esteem was operationalised using the Rosenberg self-esteem scale. A control group also completed the aforementioned measures but did not take part in the dance and movement sessions. Both groups completed the two questionnaires twice. That is to say, a pre-test was conducted before the dance and movement intervention program and a post-test after the dance and movement intervention program.

The aim of the study was to determine whether a dance and movement intervention program would be effective in improving the perceived emotional well-being and self-esteem of adolescent patients in a psychiatric institution. It was hypothesised that a two week, twelve session, dance and movement intervention program would lead to a greater improvement in the perceived emotional well-being of the participants who took part in the dance and movement intervention program than in the control group who only took part in the therapeutic interventions presented in the ward.

Furthermore it was hypothesised that since emotional well-being and self-esteem are positively correlated (Diener and Lucas, 1999), an improvement in the emotional well-being of the participants would lead to an improvement in their self-esteem. Since the results obtained are based on data collected using a very small sample, the study should be regarded as a pilot study rather than one from which generalisations can be made.

Before discussing the intervention program and the results obtained, past research that reports on the various benefits of dance and movement therapy and its applicability in affecting both the physiological and psychological aspects of the individual will be explored and presented in a literature review, chapter two. Because it affects both body and psyche, dance and movement therapy is a holistic therapeutic intervention rather than a one dimensional therapy (Aposhyan, 2004; Block & Kissell, 2001; Carter, 2004; Cruz, 2003; Ellis, 2001). Chapter two will also include:

- a discussion of the historical beginnings of dance and movement as a creative therapeutic intervention;
- a discussion of research which found little or no change or improvement due to dance and movement therapy; and
- a theoretical synopsis of dance and movement therapy.

The methodology of the study will be described in chapter three. The following aspects will be discussed:

- the independent and dependent variables as well as the hypotheses of the study since the study is a quantitative investigation;
- the operationalisation of constructs, data collection procedure and data analysis process;
- the threats to the study and variables which could potentially influence the results (An exploration of the threats to the study is important as most of these factors were beyond the researcher's control but could have had a profound influence on the results.

Therefore although these variables could not be controlled they were taken into consideration during data analysis as well as while inferences were being drawn.); and

- the ethical requirements the researcher adhered to while conducting the research.

In the fourth chapter the dance and movement intervention program that was conducted with the adolescents will be discussed in detail. It will also include:

- the rationale for choosing the specific dance and movement activities; and
- the difference between the structured and unstructured or free association sections of the dance and movement intervention program and the importance of both.

This chapter will be followed by the results chapter, chapter five, in which the following will be reported:

- the demographic information of the participants;
- the raw score results obtained from the positive and negative affect scale and Rosenberg self-esteem scale;
- the change scores, obtained from the Mann-Whitney U test; and
- effect size differences and outcome evaluations.

A discussion of the results will be given in chapter six. Chapter seven, the conclusion, will briefly summarise the study and will include an exploration of the limitations of this study and recommendations for future research.

## Definitions

The following definitions are important as they will improve the reader's understanding of the concepts used in the literature review discussion and of the constructs measured in this study:

*Dance and movement therapy:* A therapy method that incorporates physiological and psychological processes to lead to personal growth and which does so through a combination of dance and movement (Sharf, 2000). Dance and movement therapy consists of a combination of light exercise, music and sensory stimulation (Jeong et al., 2005).

*Dance and movement intervention program:* A program developed for a specific population based on the principles, aims, objectives and ideals of dance and movement therapy.

*Movement:* Bodily activity in which an individual's body is moved either by himself or herself or by others into a posture or position different to that previously maintained.

*Dance:* A form of movement in which parts of the body or the body as a whole are moved in a rhythmic manner or pattern usually to the beat of music of some kind.

*Perceived emotional well-being:* Adapted from the definition of Jorm et al. (2003), perceived emotional well-being can be defined as an individual's perceived affective state with specific reference to positive and negative emotions and mood. High positive affect includes feelings such as enthusiasm, calmness and serenity and high negative affect includes feelings such as sadness, anger and fear (Schutte, Malouff, Simunek, McKenley, & Hollander, 2002). This term is used interchangeably with the term *subjective emotional well-being*.

*Self-esteem:* Adapted from the definition given by Carter (2004), self-esteem can be defined as the level to which an individual is satisfied with himself or herself and the extent to which an individual has a feeling of personal worth. According to Taylor (2009), self esteem refers to how an individual evaluates his or her self-concept, which in turn refers to whether he or she has positive or negative feelings about his or her personal attributes or qualities.

*Adolescent:* The definition of an adolescent will be based on the age group within which Weskoppies Psychiatric Hospital delineates an adolescent. This refers to a person who is chronologically between the ages of thirteen and seventeen years, inclusive.

*Holistic:* This term refers to the all encompassing being of an individual. It includes an integration of the physiological, psychological, emotional, cognitive and social aspects of the individual (Goetz & Caron, 2005). A holistic treatment, such as dance and movement therapy, is one that attempts to address and integrate all these aspects of the individual rather than just one or only a few. Often an individual, for various reasons, such as psychological difficulties or upbringing, experiences a disintegration of his or her holistic being. For example an individual may focus on cognitive aspects while ignoring the psychological and emotional aspects. In such instances a reintegration can improve the individual's understanding of himself or herself leading to a feeling of wholeness (Aposhyan, 2004; Carter, 2004; Holyoake & Reyner, 2005; Kaban, 2003; Payne, 1993).

## **CHAPTER TWO**

### **Literature Review**

#### **Introduction**

Dance and movement as a psychological intervention can affect an individual physically, emotionally and socially (Payne, 1993). What follows is a discussion of the various aspects of an individual's being that are affected by dance and movement as well as the historical, cultural and theoretical underpinnings. Since the research study was conducted on adolescents a brief discussion of adolescent development is included.

#### **Adolescent Development**

Adolescence is a period of significant physiological, emotional, personality, identity and social change and development. As such it is a sensitive or critical period and various difficulties may arise (Bosman & Kunnen, 2001; Pylvänäiner, 2003; Rudolph, 2002; Steinberg, 2005; Waterman, 1999). These changes are often highly stressful for the adolescent (Rudolph, 2002). Physiological changes during adolescence can affect the body image of the individual, which can, if the individual experiences an increasingly poor body image, cause psychological difficulties such as eating disorders, anxiety and depression (Pylvänäiner, 2003). Dance and movement is an effective means of addressing body image difficulties and improving the body image of individuals (Pylvänäiner, 2003). What is of further importance is that an individual's body image and how that individual experiences his or her body, influences the manner in which that individual perceives the bodies of others. As such, an improvement in how an individual experiences his or her own body can lead to a better understanding of others, which holds the potential for improving social relations, awareness and interaction. Through dance and movement, an adolescent has the opportunity to focus on and respond to his or her own bodily sensations while interacting with others, which allows the individual to develop and maintain his or her bodily integrity within a social setting (Erfer & Ziv, 2006; Pylvänäiner, 2003).

Identity development and the establishment of a sense of autonomy are further significant developmental processes that occur during adolescence (Bosman & Kunnen, 2001; Waterman, 1999). According to Waterman (1999) the pace of change that occurs in identity development is faster during middle and late adolescence than it is during early adolescence, as the adolescent is faced with more challenges and experiences that encourage deeper self-exploration. According to Erikson's theory of human development, the period of adolescent development is signified by either the development of a secure identity or identity diffusion (Bosman & Kunnen, 2001; Meeus, Iedema, Helsen, & Vollebergh, 1999). Erikson's theory is based on a careful integration of both genetically determined and societally mediated stages through which an individual progresses during development (Meyer & van Ede, 1998; Papalia, Olds, & Feldman, 2001). This is referred to as epigenetic development (Newman & Newman, 2007; Sadock & Sadock, 2007).

According to Erikson, during development from infancy to old age, individuals go through eight consecutive stages consisting of two crises or developmental challenges. These crises are located on the opposite poles of a continuum and the resolution of the crises and the progression to the next stage depends on the synthesis or resolution of the crises of the preceding stage (Papalia et al., 2001; Sadock & Sadock, 2007). The synthesis does not occur through choosing one or other extreme on the continuum but is the result of finding a balance. Each stage is determined by the chronological age of the individual (genetic) and the developmental expectations placed on the individual by society at that specific age (Meyer & van Ede, 1998; Newman & Newman, 2007; Papalia et al., 2001; Peterson, 1996). Specific crises are associated with certain stages of development and the resolution of these crises forms a part of the individual's continued development (Newman & Newman, 2007; Sadock & Sadock, 2007). As the individual develops and matures, he or she continuously needs to maintain the synthesis of the earlier stages to ensure that previous crises do not resurface (Meyer & van Ede, 1998; Papalia et al., 2001; Peterson, 1996).

According to Erikson, adolescents experience an identity crisis which, if not coped with and adjusted to correctly, can cause the adolescent to experience role confusion. Identity crises are due to the various changes that occur during adolescence. Erikson identified three components which constitute a feeling of identity. The first is having a sense of certainty about ones character, the second is having confidence in ones social identity and the third is being sure of ones own ideas and values (Meyer & van Ede, 1998; Newman & Newman, 2007; Papalia et al., 2001; Peterson, 1996). Society allows for a period of experimentation in which the adolescent can explore various possibilities in an attempt to develop a secure identity. If this stage is to be completed successfully, the adolescent should experience a sense of confidence in his or her identity otherwise feelings of identity confusion will manifest, and this will have long-lasting effects on his or her functioning and development (Meyer & van Ede, 1998; Papalia et al., 2001; Peterson, 1996).

Because of the significant changes and challenges individuals experience during the period of adolescence, their emotional well-being and self-esteem might be negatively affected (Dusso, 2000). Buckroyd (2001) states that dance and movement promotes the building of autonomy in the individual; gives the adolescent the opportunity to participate in self-discovery; fosters the development of important social skills; and provides a space for building peer relations. Payne (1993) agrees with Buckroyd (2001) and states that dance and movement improves the growth of an individual's identity. She also states that dance and movement intervention programs can be used to improve an individual's sense of achievement, which holds important benefits for the self-esteem of the adolescent (Payne, 1993).

### **Creative Therapies**

Creative therapies such as dance, drama, music and art have been found to play an important part in the healthy development of children (Hunter, Piner, & Rosenberg, 2004). These activities serve to improve the quality of life, psychological adjustment and physical health of children and adolescents (Hunter et al., 2004; Karakou & Sanderson, 2001; Milliken,

2002; Puig, Lee, Goodwin, & Sherrard, 2006). Creative therapies are particularly effective in treating individuals who are at greater risk of developing depression and for those individuals with low self-esteem (Hunter et al., 2004). Creative therapies have furthermore been found to be effective in relieving physical pain, anxiety and stress (Pratt, 2004). The creative property embedded in creative therapies, allows an individual to integrate better and also to cope better with the after effects of a traumatic experience. These therapies are thus highly effective in the treatment of trauma related disturbances (Harris, 2007).

Bojner-Horwitz et al. (2003) state that creative therapies can be used to improve the emotional well-being, self-esteem and self-control of an individual. Horton (2005) found that creative therapies, specifically dance, are especially effective in treating adolescents and are effective in the treatment of mental disorders regardless of the individual's cultural background. The major contribution of creative therapies, with reference to their therapeutic properties, lies in the distancing property they provide. Since creative therapies do not confront the individual directly with his or her internal and unconscious feelings and conflicts, these feelings can be explored in a manner that is more comfortable for the individual, thus giving him or her greater access to these internal and hidden emotions (Klorer, 2005; Meekums, 1999). Unconscious feelings or emotions are those emotions which an individual finds too threatening or uncomfortable to experience at a level of awareness. Nevertheless these unconscious emotions do influence the behaviour and experiences of the individual. Creative therapies, such as dance and movement therapy, allow an individual to explore emotions without necessarily being confronted with them directly. Exploring unconscious emotions in a less threatening manner can make the individual more willing to explore these emotions through discussion and verbal exploration (Klorer, 2005; Meekums, 1999; Payne, 1993).

Meekums (1999) states that creative therapies have a containing property which facilitates greater and more holistic integration within the individual (refer to the following

sections for a more detailed explanation: Dance and Movement: The Mind-Body Connection; and Dance and Movement: Theoretical Perspective).

### **Dance and Movement: Brief Historical Overview**

There are authors who hold that dance and movement as a therapeutic technique developed during the 1940s (Koshland & Wittaker, 2004) while others estimate that the development of dance and movement therapy occurred during the 1950s (Cohen & Walco, 1999). Regardless of the date of development, it appears that dance and movement therapy developed out of and was based on psychodynamic theory, which focused on making the unconscious conscious using various techniques (Pratt, 2004). According to Ballou (1995), the founder of modern dance and movement therapy in the United States was Marian Chace who influenced others such as Liljan Espanek and Trudy Schoop. Amy Whitehouse is also known as a prominent figure in the development and growth of dance and movement as a therapeutic technique. She is responsible for the development of a dance and movement technique called authentic movement, which is used widely throughout the world today (Ballou, 1995; Musicant, 2001). In Britain the use of dance and movement therapy first began in the 1940s but it was not until the 1970s that it really became an acknowledged and accredited therapeutic technique (Meekums, 2002). Although no data or dates could be obtained regarding the history of dance and movement therapy in South-Africa, there are a few therapists who have used dance and movement therapeutically in their clinical practices for some years.

### **Dance and Movement: The Mind-Body Connection**

According to Krantz (1999) dance is concurrently physical and psychological. What makes dance and movement effective in improving not only emotional well-being but also overall psychological functioning, is that it connects both the body (physical) and the mind (psycho-emotional) leading to a more holistic and integrated treatment of the individual (Aposhyan, 2004; Block & Kissell, 2001; Carter, 2004; Cruz, 2003; Ellis, 2001; Holyoake & Reyner, 2005; Kaban, 2003; Karkou & Sanderson, 2001; Koshland & Wittaker, 2004; Payne,

1993). Dance and movement therapies allow for the reintegration of body and mind by bringing together the emotions, cognitions and the physical or physiological aspects of an individual's being (Gray, 2001). In instances where psychological difficulties or disorders are experienced there is a disintegration or disconnection that occurs among the various aspects that make up the being of the individual. The more severe the problem the more difficult it is for the individual to recognise the disintegration. Through dance and movement a stable, containing space is created where, with the assistance of a therapist, emotions are explored physically and cognitively through movement and communication with group members and/or with the therapist. This encourages participants to be more open to a whole or holistic body and mind experience of a situation or emotion, rather than limiting such an experience to only the body or the mind (Kaban, 2003; Karkou & Sanderson, 2001; Koshland & Wittaker, 2004; Payne, 1993).

The reintegration or reconnection of body and mind (emotions and cognitions) allows an individual to recognise the meaning of his or her behaviour and relationships and therefore to express his or her inner world and feelings more easily (Krantz, 1999). This connection between the body and mind encourages patients to realise that a positive attitude (psycho-emotional) can improve their physical well-being and visa versa (Puig et al., 2006). Furthermore, dance involves multiple senses such as sight, sound, smell and touch, which also contribute to the holistic experience of the participating individual (Block & Kissell, 2001; Carter, 2004; Hanna, 1999).

The primary reason for the effectiveness of dance and movement in creating a mind-body integration is that movement can cause a specific emotion to become conscious and that specific emotion can then be uniquely expressed through a particular movement by the individual (Payne, 1993). Dance and movement thus holds the potential to be a psycho-physiological outlet that can function as a cathartic release (Krantz, 1999). According to Ellis (2001), and Mills and Daniluk (2002), unconscious memories are stored kinaesthetically (in the body) and can emerge and be expressed through body movement.

Memories are said to be more quickly stimulated or brought to consciousness using body movement than by using traditional therapies such as purely verbal communication (Gray, 2001; Mills & Daniluk, 2002). Not only are memories stored and experienced physically but the body is also the medium through which an individual experiences his or her world and experiences others as well as himself or herself, and is the medium through which an individual learns about the world (Best, 2000; Erfer & Ziv, 2006). The body and its movements and experiences are thus closely connected to the psyche.

Payne (1993) cautions, however, that dance and movement therapy will not be effective if it focuses on the physical dimension alone but that the physical dimension must be worked in conjunction with the emotional dimension. Dance and movement must be used in a manner that encourages the participant to express and experience emotions using the body rather than moving around aimlessly. If an understanding or exploration of emotions in and through movement is not created within the participant, the emotional aspect of the individual will remain untouched and undiscovered (Payne, 1993). Dance and movement in itself will thus not be effective in improving the mind-body connection but must be used to continuously identify certain emotions. These emotions can then be discussed and reflected upon on a session-by-session basis (Krantz, 1999; Payne, 1993). The movement and emotions must be meaningfully connected and integrated during each session. If this can be done effectively, growth towards full potential, change in attitude and improved self-image, can be achieved (Payne, 1993).

### **Dance and Movement: Theoretical Perspective**

As mentioned, dance and movement therapy was originally based on psychodynamic theory. Various other theoretical perspectives also indicate that dance and movement can be effective in treating psychological difficulties and disorders. These theoretical perspectives include Gestalt theory, object relational theories such as Winnicott's theory, Jungian theory and cognitive-behavioural theory and therapy (Chyle, 1999; Karkou & Sanderson, 2001). Systemic or eco-systemic theory describes the value of dance and movement therapy as being embedded

in the holistic treatment it provides and in the reciprocal interrelatedness of body and mind (Best, 2000; Ellis, 2001). The bio-psycho-social model, based on the eco-systemic approach will be briefly discussed as one theoretical perspective on dance and movement theory. Since most conventional therapies and many other creative therapies only focus on the psycho-emotional or mind aspect of the individual, the mind-body integration provided by a dance and movement intervention program is very beneficial and therefore of great importance (Holyoake & Reyner, 2005). Dance and movement therapy contains physical, emotional, cognitive and cultural (social) dimensions (Bojner-Horwitz et al., 2003). The physical and emotional aspects of dance and movement refer to the physiological benefits that are obtained through bodily movements and to the emotional expression and experience that occurs because of the connection of body and mind that is activated during dance and movement (Atkinson & Wells, 2000). Dance and movement therapy is cultural, since the dance and movement group forms its own sub-culture within the greater community of the institution in which the intervention program takes place. Participating in a dance and movement program also fosters a sense of respect among the group members for one another and for the cultures of the other group members (Kaban, 2003). The respect and sense of unity that is created among the group members is due to their cooperation as a group during each session and to the close interpersonal relationships that are built up during a dance and movement intervention program (Kaban, 2003). The cognitive dimension, which also forms part of each dance and movement session, originates from the fact that emotions are discussed and thought about on a cognitive as well as a “feeling” level to assist the group members to develop a better *understanding* of their own feelings (Bojner-Horwitz et al., 2003).

Within the bio-psycho-social model there is a reciprocal and dynamic relationship between the physical body of an individual (biology), the psychological state of the individual (emotions and cognitions) and the social aspects of an individual’s life such as interpersonal relationships (Goetz & Caron, 2005). This model thus explains human experiences and emotions

holistically in much the same way that dance and movement intervention programs aim to improve the holistic functioning of an individual (Aposhyan, 2004; Carter, 2004; Holyoake & Reyner, 2005; Kaban, 2003; Payne, 1993). Before the bio-psycho-social model is discussed, a brief discussion on the broader eco-systemic approach will be given. The eco-systemic approach places an individual at the centre of a series of interconnected systems (Goetz & Caron, 2005). These interconnected systems interact with or communicate with one another in a reciprocal manner, therefore a change in one system has an effect on and in all the other systems regardless of how small that change may be (Jordaan, 2007; Potgieter, 2004). A major theoretical underpinning of this perspective is that there is no linear cause and effect relationship between systems. The relationship can rather be seen as circular causality in that multiple systems interact and cause a specific effect (Potgieter, 2004). This leads to a more holistic understanding of an individual's experiences and behaviours since the individual is not viewed as an entity existing in a vacuum but rather as being made up of different systems (emotional, cognitive and physical). These systems exist within an ever changing dynamic in which various sub-systems (family, friends and larger community) affect one another (Jordaan, 2007).

As mentioned earlier, the bio-psycho-social model refers more specifically to the biological, psychological and social aspects of an individual's life and the relationship between these different systems. Conflict and harmony are determined by these different systems and how they relate to and influence one another. Change in one of these systems thus causes change in the others (Goetz & Caron, 1999). Within the bio-psycho-social model there is the eco-systemic bio-psycho-social grid which includes various systems that interact with one another and affect an individual. This grid provides a better understanding of the various realms or sub-systems in which an individual exists (Goetz & Caron, 1999). The first sub-system is the material realm which is the physical environment of the individual. The second sub-system is the biomedical realm which incorporates the physiology of the individual. There are also the relational and family realms which include primary relationships and the individual's emotional

family. Larger realms around the individual include the social network, community and culture of the individual (Goetz & Caron, 2005).

The bio-psycho-social model thus incorporates the mind (psychological) and body (biological) dimensions of dance and movement therapy, while also explaining the social effects that are observed with this form of intervention. As mentioned earlier, affect (emotions/feelings) can be expressed and experienced at both a physical and psychological level (Payne, 1993), placing the experience of subjective emotional well-being within the explanatory realm of the bio-psycho-social model. Self-esteem is also closely linked to both bodily and emotional or psychological experiences between individuals and within the individual himself or herself (Carter, 2004).

### **Dance and Movement: Culture**

According to Dosamantes-Beaudry (1999) all aspects of an individual's social life are influenced by his or her culture, mostly at an unconscious level. Since an individual's culture plays such a prominent role in his or her development and experience of the world, cultural aspects affect the individual's experience of dance and movement therapy. Since South Africa is such a culturally diverse country, cultural influences cannot be ignored. Literature and research on the effects of culture on the effectiveness and applicability of dance and movement therapy is unfortunately limited. What has been found is that, with reference to dance and movement therapy, cultural differences influence how emotions are experienced and expressed and how much an individual is willing to share during dance and movement therapy sessions. It appears that the difference between individualistic cultures, such as those found in Westernised countries, and collectivistic cultures, such as those found in third world countries, influences how individuals experience themselves and others and thus how they experience the dance and movement therapy process (Block & Kissell, 2001; Dosamantes-Beaudry, 1999). Harris (2007) maintains that dance and movement therapy assists patients in overcoming cultural differences

and boundaries, in a sense bringing different cultures together in a unique way. He describes dance and movement therapies as being transculturally applicable (Harris, 2007).

### **Dance and Movement: The Physiological Effect**

Atkinson and Wells (2000, p. 175) state that “...physical activity promotes a deeper level of emotional release than purely verbal expression...”. Because dance is a physical activity, using the body through movement will produce the same benefits as other forms of physical exercise such as an improvement in psychological well-being as well as physiological well-being (Dusso, 2000). According to Dusso (2000), dance being an excellent form of exercise, is highly preferred by adolescents. Exercise in the form of dance holds the potential to improve the overall mental health of the individuals who participate in it. Psychological benefits include a boost in morale, decreased depression, lower anxiety levels, strengthening of the mind, less substance use, better sleep, reduced neuroticism and an overall improvement in emotional well-being (Dusso, 2000; Wessels-Bloom, 2004).

Exercise or physical activity has been found to be closely connected to self-esteem and an increase in regular exercise has been found to increase self-esteem. As mentioned during the discussion on adolescent development, adolescence is a period during which individuals may experience a significant decrease in self-esteem. Furthermore, dance can provide a valuable form of physical activity which not only counters the negative effects that stresses and experiences of adolescence can have on the individual but also improves the self-esteem of the adolescent (Dusso, 2000).

Dance and movement therapy increases serotonin levels and decreases dopamine levels, which leads to a stabilisation of the sympathetic nervous system (Dusso, 2000; Jeong et al., 2005). Serotonin has a regulatory function and low levels of serotonin have been associated with impulsivity, aggression and suicide (Nolen-Hoeksema, 2004). A dysregulation of serotonin is a contributing factor to anxiety, mood and eating disorders (Nolen-Hoeksema, 2004). Dopamine also plays a regulatory function, inhibiting or enabling emotions and behaviour (Nolen-

Hoeksema, 2004). High levels of dopamine can lead to lowered inhibition and increased pleasure-seeking behaviour (Nolen-Hoeksema, 2004). Serotonin and dopamine neurotransmitter circuits are connected, which means that an imbalance between these two neurotransmitters can have serious psychological implications (Gazzaniga, Ivry, & Mangun, 2002).

Dance and movement improves neuromuscular skills as well as coordination and balance (Payne, 1993) while leading to the relaxation of muscles (Bojner-Horwitz et al., 2003; Jeong et al., 2005). Dance and movement therapy has a positive effect on the concentration of stress hormones in patients who participate in this form of intervention (Bojner-Horwitz et al., 2003). Other positive effects attributable to dance that help counter the stress reaction or the long-term problems associated with stress include, the increased flow of oxygen to the muscles and brain as well as the increased release of endorphins which promote positive emotions and feelings about the self (Carter, 2004; Hanna, 1999). As such, the physical element of dance and movement can have both physical and psychological benefits, improving the mind-body connection (Wessels-Bloom, 2004).

### **Dance and Movement: The Psychological Effects**

Multiple studies have been conducted showing that dance improves not only an individual's (child or adult) physical well-being but also their emotional well-being, self-esteem, creativity and overall psychological functioning (Bojner-Horwitz et al., 2003; Buckroyd, 2001; Holyoake & Reyner, 2005; Jeong, et al., 2005). Dance and movement therapy has the capacity to increase the overall quality of life of those who participate in such an intervention program (Cruz, 2003). Dance is effective in fostering change because each treatment program can be uniquely designed and created, taking into account the particular psychological needs of the participants (Karkou & Sanderson, 2001; Koch & Bräuninger, 2005; Krantz, 1999; Targ & Levine, 2002).

Because dance and movement improves the mind-body connection and because of the significance of the body in how we experience both ourselves and others as well as the world

around us, dance and movement can function as a bridge between the internal and external worlds of an individual, allowing the individual to explore alternative ways of behaving and thinking about the self and about others. On an intrapsychic level, movement improves body-awareness, which in turn fosters the reintegration of the sense of self and improved self-expression of the individual (Capello, 2008; Ellis, 2001; Erfer & Ziv, 2006; Gray, 2001; Krantz, 1999).

What makes dance and movement so effective in improving the emotional well-being and self-esteem of individuals is its symbolic or metaphorical nature, which allows an individual to explore conscious and unconscious emotions, fantasies, dreams and images (Bojner-Horwitz et al., 2003; Buckroyd, 2001; Dibbell-Hope, 2000; Holyoake & Reyner, 2005; Jeong et al., 2005; Karkou & Sanderson, 2001; Krantz, 1999). The creative aspect of dance and movement further adds to the effectiveness of this form of intervention by improving psychological functioning (Capello, 2008). Because adolescence is a significant period of personality and identity development and growth, dance and movement can be used as a medium through which individuals can explore and express their identity and personality, thereby assisting the adolescent in his or her exploration of the self (Harris, 2007; Karkou & Sanderson, 2001).

Dance and movement therapy combines emotional, cognitive, cultural, social and physical aspects and can reduce feelings of helplessness while providing a constructive medium for emotional expression (Bojner-Horwitz et al., 2003; Capello, 2008; Gray, 2001). Bojner-Horwitz et al. (2003) state that dance and movement therapy allows individuals to express the emotions they are experiencing. These authors conducted a study using dance and movement therapy to determine how a sample of women with fibromyalgia, a disease that causes severe physical pain and psychological symptoms, would react to this form of intervention. The patients responded positively to the therapy and reported fewer somatic and psychological symptoms as well as an improved body image (Bojner-Horwitz et al., 2003).

**Dance and movement: The psychological effects - emotional expression.** Hanna (1999) states that dance is language-like and requires the same brain activities as verbal language, thus giving dance an expressive quality similar to that of spoken language. Jeong et al. (2005) found that dance and movement therapy lowers psychological distress in adolescents with mild depression and enhances emotional expression. More specifically, *body movements* are used as a medium for emotional expression (Atkinson & Wells, 2000; Payne, 1993). Dance and movement allows an individual to express his or her feelings and emotions in a healthy fashion rather than by destructive means such as outbursts and tantrums, and rather than by repressing his or her feelings (Bannister, 2003; Buckroyd, 2001; Hanna, 1999).

The metaphoric quality of dance allows an individual to explore and express the emotions that he or she finds too difficult or too painful to explore directly (Ellis, 2001; Koshland & Wittaker, 2004; Krantz, 1999; Mills & Daniluk, 2002). According to Milliken (2002) the creative processes of dance and movement allow an individual to express his or her innermost feelings in a new manner thus providing the individual with a deeply healing experience. Through dance and movement, participants might be challenged to express what they feel or to portray a situation they have experienced in a less conventional manner, using their bodies rather than words. This could assist the individual to develop a better understanding of something that might have been difficult to comprehend or express verbally (Milliken, 2002). The reconnection that occurs between the mind and body becomes important when discussing emotional expression during dance and movement, since the reconnection of the body with feelings allows an individual not only to express his or her emotions but also to recognise the meaning of these emotions in his or her behaviour and relationships (Krantz, 1999). Krantz (1999, p. 81) conducted research with a twenty-four year old bulimic woman and found that dance and movement was effective in creating a healthier “psychophysical unity”. Specific affective problems or issues which can be synthesised and addressed through dance and

movement therapy include aggression and rage, grief and loss, abandonment and emotions associated with sexual trauma and pain (Harris, 2007; Pratt, 2004).

Dance and movement can also be used to induce certain feelings within an individual (Hanna, 1999). This is particularly effective when a therapist wants to assist individuals to explore unconscious emotions of which the individual is not aware. By using music, dance and movement, an inner experience might be induced within an individual. The therapist could then assist the individual to label that emotion and to explore its impact. It might then be possible to establish when the individual first experienced that inner feeling, even though he or she might not have been aware of it at the time or known what it meant (Hanna, 1999). Since an individual's body movements reflect his or her emotional state, a change in movement can bring about a change in his or her inner world. Emotions can thus be explored during dance and movement therapy sessions in such a way that emotions are not only induced by movement but induced in such a manner that an individual's experience of a particular emotion is redefined physically and psychologically (Wessels-Bloom, 2004).

Dance can help individuals deal with buried, emotionally traumatising experiences since it assists them to acknowledge a specific emotion by expressing it through dance and movement (Payne, 1993).

There is thus a recursive relationship between dance and unconscious emotions (Ellis, 2001). This means that a specific emotion that might be chosen as a topic for a dance session, may make an individual aware of an emotion which he or she might not have been able to label or address. Thereafter, the individual can start to think about the emotion or experience in his or her *inner* world, which can then lead to a communication of this emotion or experience to his or her *outer* world (Payne, 1993).

**Dance and movement: The psychological effects – life skills and coping strategy.**

Jeong et al. (2005) state that dance and movement leads to a healthier body image, a relief of physical tension and to lower levels of disorientation, depression and anxiety while improving

communication, self-esteem, spontaneity and pleasure. Conducting a study on forty adolescents with mild depression and a mean age of sixteen years, Jeong et al. (2005) implemented a twelve week dance and movement intervention program with these adolescents as participants. The intervention program resulted in the psychological improvements mentioned above. Hanna (1999) found that dance assists individuals in coping with stress by creating a buffer against the negative impact of stress, improving insight and fostering a sense of control and mastery, which can empower them so that they feel better able to cope with stressful life experiences. She states that dance is thus self-empowering, especially for young people (Hanna, 1999). According to Koshland and Wittaker (2004), movement can assist an individual in gaining a greater sense of self-control. Using a twelve week dance and movement program, primary school children were exposed to movement, story telling and various discussions in order to assess whether dance and movement would be effective in preventing violent behaviour. Teachers reported higher frustration tolerance and less violent behaviour from the participants who in turn described a change in their view on aggression and their attitude towards it. It appears that they were starting to view violent behaviour as saddening and unacceptable. The study did however not find an increase in prosocial behaviour (Koshland & Wittaker, 2004).

Moving and dancing is a form of nonverbal communication that fosters love, understanding, tolerance and appreciation for the self and others through emotional experiences and increased social interaction while also improving spontaneity and imagination (Boris, 2001). Dance and movement creates within an individual an overall feeling of psychological and emotional well-being (Bannister, 2003). Because dance and movement focuses on emotional expression through the use of talking and thinking about specific emotions and emotional experiences while performing creative bodily movements, dance and movement promotes emotional, cognitive, physical and social integration. This lends itself again to the creation of a healthy mind-body connection and a holistic experience for the individual (Meekums, 2002; Payne, 1993; Wessels-Bloom, 2004). Dance and movement allows individuals to release built-

up aggression, decrease apathy and rigidity and assists individuals to integrate the body and mind in a socially acceptable manner (Payne, 1993). Ellis (2001) conducted a twenty-five week dance and movement intervention program with four schizophrenic men who were struggling with aggression. Ellis (2001) concluded that through dance and movement the participants were better able to express their emotions, including aggression, and also that they became more active as the sessions progressed. Milliken (2002) conducted a dance and movement intervention program with twenty-eight imprisoned men who had high levels of aggression. She found that the program was effective in allowing the participants to express their aggression in a healthy manner using movement rather than violence. With reference to the reintegration of body and mind, Gray (2001) conducted a dance and movement intervention program with an individual who had been tortured and found that it was effective in assisting the participant in reintegrating body and mind and improving relational capacity and interactional skills. This integrative experience for the individual who participates in a dance and movement intervention program, provides further evidence of the improved psychological and emotional well-being that an individual experiences (Meekums, 2002).

Because of the rhythmic nature of dance it can lead to improved organisation in the lives of disorganised, disordered and perplexed individuals (Payne, 1993) and can thus be used very effectively to supplement conventional psychotherapy (Holyoake & Reyner, 2005).

A very interesting project, and one of very few that involved adolescents in a clinical setting, was undertaken by Holyoake and Reyner (2005) where nurses led an expressive body movement group. The participants were between the ages of twelve and eighteen and suffered from a range of psychological disorders (Holyoake & Reyner, 2005). This project was launched to increase the patients' physical exercise, socialisation as a group, and creativity, while allowing the patients to express themselves through movement (Holyoake & Reyner, 2005). It focussed specifically on emotional expression and explored themes such as loneliness, sadness and anger (Holyoake & Reyner, 2005).

This project rendered very positive results and achieved all the benefits the study aimed to achieve (Holyoake & Reyner, 2005). Dance and movement therapy programs thus hold the potential to provide adolescents with various coping strategies and life skills, which can assist them in their maturation into adulthood.

### **Dance and Movement: Social Aspects**

Throughout the discussion thus far, mention has been made of the social aspects and of the interpersonal benefits that dance and movement therapy has for its participants. Group dance and movement therapy sessions improve interactional and interpersonal skills. More specifically dance and movement therapy can play a valuable role in resocialising individuals, repairing object relations and rebuilding trust (Gray, 2001). Because participants interact with one another and communicate with one another through symbolic expression, a sense of connectivity or shared meaning can start to develop among the participants (Ellis, 2001). During dance and movement sessions individuals are required to work together and to adjust their movements so that they are more in sync with the rest of the group, thus building rapport among the participants and creating a sense of unity (Milliken, 2002).

As it requires group work, dance and movement therapy appears to be particularly effective in creating social bonds among highly diverse individuals (Best, 2000; Harris, 2007).

Good group relations are imperative in an institutional setting such as Weskoppies where adolescents interact with one another on a daily basis. Dance and movement therapy can improve group cohesion by providing the participants with a structured format such as a warm-up and a group creative movement section. Through such activities, participants can explore social interaction and in the process improve their self-awareness within a group context (Erwin-Grabner, Goodill, Hill & Von Neida, 1999). Group dance and movement therapy sessions thus help establish a sense of empathic understanding among the participants while alleviating fears of isolation and loneliness (Röhricht & Priebe, 2006). Dance and movement, being a group therapy, can also foster a sense of belonging among the individual group members while

teaching them how to act appropriately within a group context (Hanna, 1999). Group work can further improve the self-esteem, emotional regulation and self-control of the group members (Dwivedi & Harper, 2004).

Because of the highly social nature of dance and movement therapy, the therapeutic relationship between the therapist and participants is critical to the effectiveness of the intervention (Gray, 2001). A dance and movement therapist must be available and sensitive to the needs of the group as a whole, as well as to the individual members, giving each member individual attention without neglecting the rest of the group (Hanna, 1999).

### **Dance and Movement: Implementation**

Dance and movement therapy has been found to be effective in treating a range of psychological disorders and difficulties. Grönlund, Renck and Weibull (2005), for example, implemented a dance and movement intervention program with two boys diagnosed with attention-deficit-hyperactivity disorder and found that it partially reduced the emotional and behavioural symptoms the boys presented and improved their motor functioning.

Jeong et al. (2005) found that dance and movement therapy was effective in modulating the concentration of neurohormones and improving the emotional responsiveness of a group of twenty mildly depressed adolescent girls. Krantz (1999) found that dance and movement therapy had a beneficial effect on a bulimic woman and Röhrich and Priebe (2006) implemented a creative movement and structured movement intervention with twenty-four patients diagnosed with schizophrenia. The researchers found that these participants exhibited fewer negative symptoms than those in the control group (Röhrich & Priebe, 2006).

Dance and movement is particularly effective as a therapy for abused, tortured and neglected children since, initially, abuse and neglect is a physical phenomenon and dance provides the child with a physical outlet allowing for a healing experience (Gray, 2001; Kaban, 2003; Meekums, 1999). According to Klorer (2005) the nonverbal aspect of dance and movement is more effective in treating maltreated children than are verbal therapies, especially

in addressing attachment difficulties associated with abuse. Since physical torture impacts both the physical and psychological being of the tortured individual, dance and movement provides tortured individuals with the opportunity to regain a sense of safety within their own bodies and allows them to reconstruct their relational capacity (Gray, 2001). Harris (2007) found that dance and movement therapy is especially effective in treating tortured adolescents in Africa as it fosters recovery and resilience.

Dance and movement therapy can be implemented effectively in school and hospital settings and in psychiatric institutions (Best, 2000; Chyle, 1999; Capello, 2008; Erfer & Ziv, 2006). Erfer and Ziv (2006), for example, conducted a dance and movement intervention with a group of children, aged five to twelve, who were in-patients in a short term or acute psychiatric institution. The children were diagnosed with a range of psychological disorders and after the dance and movement intervention an improvement in frustration tolerance, socialisation and gratification delay was reported.

Dance and movement therapy has been found to be effective for children and adolescents with autism, Down's syndrome, drug dependencies as well as for youth who are troubled and at risk and who are therefore likely to encounter problems in the future (Boris, 2001; Capello, 2008; Cruz, 2003; Milliken, 2002). Dance and movement is also effective in treating children with mild mental retardation and developmental delays (Capello, 2008). It is especially effective for the treatment of verbally under responsive and withdrawn youth as it combines physical activity and intellectual self-study, resulting in the benefits being both physical and emotional (Boris, 2001).

Dance and movement has been found to be effective in treating a wide range of psychological and physical ailments around the world (Capello, 2008). In Israel, dance and movement is used to treat post-traumatic stress disorder and in Spain, Korea and Germany it is used to treat attention-deficit-hyperactivity disorder and personality disorders. Specific personality disorders where dance and movement therapy have had a positive effect include

borderline, narcissistic, schizoid and paranoid personality disorders (Pratt, 2004). In Germany, Argentina and Egypt, dance and movement therapy is used to address problems with enuresis, encopresis, interpersonal problems and behavioural disorders (Capello, 2008). In Canada and Japan, dance and movement therapy is used to assist children in learning about boundaries and in overcoming or coping with attachment difficulties. In France, dance and movement is used to improve body-image and self-esteem and in Sierra Leone it is used to reduce sleep disturbances. India employs dance and movement therapy programs to assist children in building self-confidence and in coping with the psychological and physical effects of HIV/AIDS (Capello, 2008). Wessels-Bloom (2004) also found dance and movement therapy to be effective in treating the psychological symptoms of HIV. In various countries, dance and movement has also be found to be effective in treating children and adolescents with epilepsy, deafness and blindness, cancer and psychosomatic disorders (Cohen & Walco, 1999; Capello, 2008).

Dance and movement has been found to be beneficial for individuals with symptoms of severe psychopathology such as schizophrenia (Capello, 2008; Ellis, 2001; Payne, 1993; Pratt, 2004). Dance and movement therapy employs techniques aimed at body-ego structuring, focusing on body-ego boundaries, expression in movement and reality based contact, which makes dance and movement effective in treating schizophrenia (Röhricht & Priebe, 2006). As mentioned previously, dance and movement therapy is also effective in treating anxiety and depression and in reducing high levels of stress (Cruz, 2003; Koch & Bräuninger, 2005). Specific anxiety disorders that have been found to be effectively treated by dance and movement therapy include test anxiety and obsessive compulsive disorder (Capello, 2008; Ervin-Grabner et al., 1999).

Dance and movement intervention programs have been found to be effective in treating eating disorders as it fosters a reconnection of body and emotions, which allows the individual with an eating disorder to develop a psychophysical unity (Capello, 2008; Krantz, 1999). Dissociative disorders and self-mutilating behaviour can also be treated using dance and

movement therapy (Pratt, 2004). This therapy has been found to be effective in treating violence in prison populations and in preventing future violent behaviour (Milliken, 2002). Koshland and Wittaker (2004) implemented a twelve week dance and movement therapy program with primary school children and also found that it was effective in preventing violent behaviour and reducing aggressive behaviour among this population.

Dance and movement therapy can be implemented in group or individual sessions, using structured or semi-structured dance programs. This flexibility allows for tailor-made sessions to meet the unique needs of the individual or group (Puig et al., 2006). Whether implemented in group or individual sessions, dance and movement therapy or intervention incorporates improvisation and creative dance, both of which encourage “...unconscious free associational movement...” allowing an individual to communicate at a non-verbal level (Payne, 1993, p. 8). Ellis (2001) warns that initially participants might be resistant to the dance and movement therapy sessions as they might not be comfortable using their bodies as a means of communication. When conducting dance and movement sessions in a group context it is important not to have too big a group so that the therapist will be able to give group members individual attention should the need arise. It is also important that the dance and movement therapy sessions follow a set structure and routine as this will provide the participants with a sense of stability and consistency, which is important if the dance and movement intervention program is to be effective (Milliken, 2002).

It is imperative that dance and movement sessions take place in a space that is big enough for the group members to move around in and that the space that is created provides the participants with a safe, supportive and nonjudgmental atmosphere that fosters cohesiveness and makes it possible for the participants to reach their therapeutic goals. A space that is too small will constrict the movements that the participants might want to make, restricting their ability to experience and express emotions as freely as would be possible in a larger space (Erfer & Ziv, 2006; Milliken, 2002). Dance and movement therapy programs do not have to rely on dance and

movement alone but can also incorporate the use of poetry and storytelling to enhance the promotion of positive change in the participants (Koshland & Wittaker, 2004).

### **Music and Dance**

Music is an integral part of dance and movement intervention programs and according to Woodward, Sloth-Nielsen and Mathiti (2008), musical experiences can increase a sense of personal fulfilment and self-confidence in adolescents, particularly in delinquent adolescents. O' Kelly and Koffman (2007) found that music therapy also improves the emotional well-being and overall quality of life of individuals. Music also has the potential to improve children's self-esteem, lower aggression and make them feel more in control of their emotions (Choi, Lee, & Lee, 2008). The use of music helps children improve and develop their social skills, speech and language, and motor skills (Patterson, 2003). Music has a feeling or an affective component that can assist an individual in becoming aware of a particular emotion (Payne, 1993).

### **Emotional Well-Being and Self-Esteem**

Emotions and emotional well-being form an integral part of the development, maintenance and treatment of psychological problems and disorders such as antisocial and violent behaviour, post-traumatic stress, self-harm, mood disorders, anxiety disorders, personality disorders and eating disorders (Dwivedi & Harper, 2004). The reason for this is that poor emotional tolerance and management can lead to poor emotional regulation and thus to psychological disorders (Dwivedi & Harper, 2004). Emotions are made up of three components: a physiological aspect, a feeling state and a form of bodily expression such as body postures and movements (Rutter, 1980). Since emotions are made up of three components that contain bodily and emotional features, dance and movement is a powerful medium when it comes to the expression of both conscious and unconscious emotions (Payne, 1993). Unconscious emotions are those emotions which an individual is not aware of but which nevertheless influence his or her behaviour and experiences. These unconscious emotions are expressed and experienced through dance and movement and only become conscious when they are explored and when the

individual attempts to understand them and to understand how they influence him or her. This is achieved during dance and movement therapy by combining dance and movement with discussions after the activities or sessions. During these discussions, the emotions that were expressed and experienced using dance and movement are explored thereby improving the participants insight into their emotions and making the unconscious emotions conscious (Payne, 1993).

As stated earlier, dance and movement can lead to the improvement of emotional well-being and according to Schutte, Malouff, Simunek, McKenley and Hollander (2002) two core components of emotional well-being are mood and self-esteem. Low self-esteem leads to impulsivity, poor body image, increased anger and aggression and poor eye contact (Kaban, 2003). Diener and Lucas (1999) and Katz, Joiner and Kwon (2002) also report that self-esteem correlates with subjective emotional well-being. A change in emotional well-being has thus been found to correlate with a change in the self-esteem of the individual. Dance and movement therapy has therefore also been found to be effective in improving the self-esteem of the individuals who participate in such programs (Milliken, 2002).

## **Conclusion**

Research reporting on unsuccessful or negative outcomes with reference to dance and movement appear to be limited. An extensive literature search was conducted but no study could be identified where dance and movement therapy had a detrimental or negative effect on the participants. With reference to the effect that dance and movement therapy has on self-esteem, one study, conducted by Ho (2005) reported that although an improvement in self-esteem was reported, the change or improvement was not large enough to be significant. Ho (2005) conducted a pilot study to determine whether dance and movement therapy would be effective in reducing the stress levels and improving the self-esteem of cancer patients. She found that dance and movement was able to reduce the stress levels of the participants but as in the study referred to above it was not effective in improving the self-esteem of the participants

significantly. Ho (2005) reported that the insignificant improvement might have been due to the small sample size of her study or, it is possible that a longer period of intervention might be required before an improvement in self-esteem can be anticipated. Her study took place weekly, over a six week period. A study conducted by McComb and Clopton (2003) reported no change in the self-esteem of a group of bulimic women who participated once a week in an eight week intervention that included improvisation movement and relaxation. The research did however find that the intervention led to decreased anxiety levels and McComb and Clopton (2003) stated that the self-esteem of the participants might have improved had the intervention continued for a longer period. No studies could be identified where dance and movement had an insignificant effect or no effect on the emotional well-being of the participants.

Based on the above discussion on the effects of dance and movement, and specifically on the beneficial effect that a dance and movement intervention program can have on the perceived emotional well-being and self-esteem of children, adolescents and adults, the following chapter will highlight the hypotheses proposed by the researcher as well as the operationalisation of the constructs measured in this study.

## CHAPTER THREE

### Methodology

#### Introduction

Methodology refers to a discussion of the research design chosen for a study, the characteristics of the sample, the sample selection, the data collection procedure and data analysis techniques (Cozby, 1981; Haslam & McGarty, 1998). Further discussion points included in this chapter are threats to the validity of the study and ethical considerations.

#### Research problem

The research study originated from observations made at Weskoppies Psychiatric Hospital over a period of eleven months. It was observed that the adolescents in the adolescent ward at the Weskoppies Psychiatric Hospital were very passive and participated in a limited amount of physical exercise. The passivity of the adolescents could have been due to the side effects of the medication they were on or due to the limited space available to them. Another possible explanation for their poor activity levels could be their clinical diagnosis. Disorders, such as major depressive disorder, can cause individuals to experience low levels of energy and/or cause them to have high levels of insomnia or hypersomnia making them highly susceptible to sleepiness and physical apathy. Major depressive symptoms are also related to anhedonia which refers to a diminishing interest in previously pleasurable activities. Limited staff availability could also contribute to the inadequate physical activities that the adolescents could take part in as it is easier to monitor them within a confined space. Additionally staff supervision is necessary if the adolescents are to be taken out for a walk or to play outside games or to take part in sport. These reasons could contribute to the adolescents' highly passive behaviour while in-patients at Weskoppies Psychiatric Hospital (Sadock & Sadock, 2007).

Because of the beneficial effects of exercise on both the physical and psychological well-being of individuals (Benzer, Adams, & Whistler, 1999) and the adolescents' general interest in

dance, it was proposed that dance and movement could be a creative way in which to foster the physical and emotional well-being of adolescents in a clinical setting. The adolescents' excitement towards and interest in dance became apparent to the researcher while working in the ward in 2008 when periodic dancing activities were introduced. They were very enthusiastic about activities involving dance and movement.

After speaking to psychologists working in the adolescent ward at Weskoppies Psychiatric Hospital, the researcher discovered that there was a period when a regular dance and movement intervention group had been conducted in the adolescent ward. According to the psychologist, the adolescents had found it therapeutically beneficial and enjoyable. This information and the information gathered and stated in the literature review, led the researcher to conceptualise the following research question: Would a six week, twelve session, tailor-made group dance and movement intervention program significantly improve the perceived emotional well-being and self-esteem of the adolescents who were in-patients at Weskoppies Psychiatric Hospital?

This question had to be adapted because Weskoppies Psychiatric Hospital changed the criteria for admissions to the adolescent ward. According to the new criteria, adolescents may only be admitted to the hospital for a maximum of six weeks, making the ward a ward for those deemed to have an acute condition. The multi-disciplinary team of the adolescent ward at Weskoppies Psychiatric Hospital could thus not assist the researcher in obtaining a sufficiently large sample with which to conduct a dance and movement group intervention program over a six week period. The staff were however able to assist if the period was shortened to two weeks. For this reason the researcher conducted a two week, twelve session, dance and movement intervention program. The intervention program thus changed from a mid-term intervention to a short-term intervention which might have affected the results, especially as self-esteem has been found to change slowly and might have required a longer term intervention (Ho, 2005).

## Research Design and Strategy

Quantitative research, in the form of an outcome evaluation was conducted. This study is an outcome evaluation since it investigates the effectiveness of a treatment program (Whitley, 2002). For quantitative research numerical information, such as the frequency with which a certain behaviour or phenomenon takes place, is gathered (Gravetter & Forzano, 2006; Whitley, 2002). Furthermore, quantitative research refers to the assignment of quantities to certain behaviours or variables to determine whether a manipulation of any of the quantities gives rise to significant changes in the variables (Gravetter & Forzano, 2006). Since this study manipulates specific variables and uses statistical techniques to analyse the data, quantitative research was conducted.

The research made use of a quasi-experimental research strategy since a certain variable (independent variable) was manipulated to measure its effect on other variables (the two dependent variables) (Whitley, 2002). Within the study the researcher aimed to uncover a causal relationship between the dance and movement intervention program (independent variable) and the perceived emotional well-being and self-esteem (dependent variables) of the participants. Unfortunately there are variables, other than the intervention program, that could cause similar improvements in the perceived emotional well-being and self-esteem of the participants and so a definite cause-and-effect relationship will never be certain. Possible confounding variables will be discussed under the heading: Threats to Validity.

This study used a between-subjects design. A between-subject design refers to scores being obtained from two separate groups of individuals (Gravetter & Forzano, 2006). In the case of this research study, the two groups are the experimental and the control groups. The experimental group took part in the dance and movement intervention program while the control group only received the therapies originally offered namely the group and individual psychotherapy and occupational therapy. The adolescents in the experimental group also continued to take part in the therapies offered by the ward.

The participants selected for the experimental group can be defined as a closed group as no new participants were accepted into the group once the research had begun (Payne, 1993). The use of an experimental group and a control group is imperative as a comparison cannot be made without both groups. If there was only an experimental group the results could not be compared with a group that did not receive the dance and movement intervention to determine whether the hypothesised results were due to the intervention program.

### **Hypotheses**

The study has two main hypotheses. The first is that a series of dance and movement intervention sessions (forty-five minutes a session, six times a week for two weeks) within the clinical setting, will improve the perceived emotional well-being of the adolescents who participate. The second hypothesis is that an improvement in the emotional well-being of the participants as a consequence of the dance and movement sessions will be positively correlated with an improvement in the self-esteem of the participants.

### **Measurement Instrument**

Perceived emotional well-being was operationalised using the child version of the positive and negative affect scale (PANAS-C). The PANAS-C is attached in Appendix A. This scale can be used to measure state as well as trait affect and indicates positive and negative affect or emotions (Schutte et al., 2002). The children's version of this scale was developed for individuals with ages ranging from ten to eighteen years and consists of twenty-seven single word items for individuals to rate on a five point scale which ranges from *not much* or *not much at all* to *a lot* (Laurent et al., 1999). This scale is highly reliable with a coefficient alpha of 0.90 for positive affect and 0.89 for negative affect. The scale is high in convergent and discriminant validity and can be administered to both clinical and non-clinical samples (Laurent et al., 1999). Laurent et al. (1999) did correlational research comparing the PANAS-C to anxiety and depressive scales.

No statistical correlational data could be found to substantiate the aforementioned. No test-retest data has been collected for the PANAS-C and this study holds the potential to contribute to this lack of data with regard to test-retest reliability. The PANAS from which the PANAS-C was adapted has a Cronbach's alpha ranging from 0.85 to 0.88 (Schutte et al., 2002).

Self-esteem was operationalised using the Rosenberg self-esteem scale (Appendix B). The Rosenberg self-esteem scale was developed to measure global self-worth and has, according to Creed and Patton (2003), been used in many studies involving young people. It consists of ten structured self-report items and uses a four-point Likert scale with scores ranging from ten to forty (Schutte et al., 2002). This scale has been found to be highly reliable and valid (Schutte et al., 2002; Creed & Patton, 2003; Carter, 2004). This measurement scale has a one week test-retest correlation of 0.82 and a Cronbach's alpha ranging from 0.77 to 0.88 (Carter, 2004; Schutte et al., 2002). A Kuder-Richardson 20 reliability coefficient of 0.88 was established in previous research (Bornman, 1999). This scale has been proven to have high predictive, construct and convergent validity (Carter, 2004). Correlations ranging from 0.56 to 0.83 have been found between the Rosenberg self-esteem scale and other self-esteem measures such as the Coppersmith self-esteem inventory. The higher the score obtained by an individual the higher the person's level of self-esteem (Carter, 2004). Each participant receives a score out of thirty with a score lower than fifteen indicating low self-esteem. Although the Rosenberg self-esteem scale was developed for adolescents (high school students) (Rosenberg, 1965), it has been used with other psychiatric and non-psychiatric South African samples as well (Bornman, 1999; Dirks, 1998).

Both the PANAS-C and Rosenberg self-esteem measures were administered to the experimental and control group twice. The control group completed them once and then again two weeks later and the experimental group completed them once, took part in the dance and movement intervention program and then completed them again. This was done to determine whether the participants in the experimental group showed a significant improvement in their

perceived emotional well-being and self-esteem and at the same time to determine whether those in the control group showed no improvement or only minimal improvement in these two variables. A minimal improvement could be expected as members of the control group were undergoing other forms of therapy, which could affect the dependent variables.

## **Sampling**

The in-patient adolescents at the Weskoppies Psychiatric Hospital were the target population for this study. The researcher aimed to identify a large enough sample using volunteer sampling, as commitment to the program is imperative. Thereafter she wanted to obtain consent and assent from the participants who volunteered and then randomly assign these participants to either the experimental group or control group. Selecting the sample became challenging as there was not a large enough population group from which to select the adolescents. Therefore both the experimental group and the control group were pre-selected by the head psychiatrist and psychologists from the ward, based on the exclusion criteria provided by the researcher. The adolescents in the ward who were excluded from the study were those patients who, according to the hospital staff, would be discharged before the end of the two week period; those who were actively psychotic according to DSM-IV criteria; those who had moderate to severe mental retardation according to the DSM-IV criteria; and those who had been identified by hospital staff as being excessively aggressive and destructive. The participants were also required to understand English as the measurement instruments are only available in English. Including adolescents with psychotic disorders and extreme aggression could have had a detrimental effect on the rest of the group, lowering group cohesion and disrupting the individual processes of each of the participants. Adolescents with mild to severe levels of mental retardation may have difficulties in understanding what is expected of them and in maintaining concentration, and in addition they might be a disruptive influence within the group (Sadock & Sadock, 2007). Selecting participants from any of the groups who met the exclusion criteria could

have had a detrimental effect on the results. Because the sample was pre-selected and not randomly assigned, there is a lower probability that the experimental group and the control groups will be equivalent regarding age, race, gender and psychological disorder. The researcher took this into account when performing the data analysis as it could affect the results. As mentioned above, it was the staff at Weskoppies Psychiatric Hospital who selected the participants. They first identified four adolescents to make up the experimental group and over a period of six weeks identified other individuals to make up the control group. As new participants for the control group were identified by the staff, they completed the two questionnaires and two weeks later completed those same questionnaires again. This means that the data from the experimental group and the control group were not gathered concurrently.

### **Participant Characteristics**

Ten adolescents made up the combined study group. The sample consisted of five boys and five girls. These adolescents were in-patients at the time of the study and their ages ranged from thirteen to seventeen years. The mean age of the participants was fourteen and a half years. Two of the participants were black while eight were Caucasian.

Four participants were pre-selected for the experimental group. Although the researcher did not want a group that was too large, as it would not allow her to give each participant the individual attention that is required for the intervention to be successful, an experimental group of six participants would have been preferable as it might have made the results more conclusive. The experimental group consisted of two boys and two girls with ages ranging from thirteen to fifteen years with a mean age of fourteen years. All of the participants within the experimental group were Caucasian and had been diagnosed with a mood disorder. Major depressive disorder was diagnosed in the two boys while bipolar I disorder was diagnosed in the two girls. The two girls were further described as having borderline structures within their personalities.

Major depressive disorder, according to the DSM-IV, refers to single or recurrent major depressive episodes which have the following criteria; a depressed mood and/or a loss of interest in activities that were previously enjoyed as well as four other symptoms which might include weight loss or gain; increased or decreased sleep; psychomotor agitation or retardation; fatigue or loss of energy; excessive guilt or feelings of worthlessness; difficulty in thinking or concentrating; and recurrent thoughts of death. These symptoms must be present for at least two weeks and must not be due to bereavement, substance use or a general medical condition (Sadock & Sadock, 2007).

Bipolar I disorder refers to a period wherein an individual has met both the criteria for a major depressive episode as well as for a manic or mixed episode. A manic episode refers to a one week period of abnormal levels of elation or irritability. Other symptoms include inflated self-esteem; being more talkative; excessive involvement in pleasurable activities; and increased goal-directed activities. Although inflated self-esteem might be a further confounding variable, all of the participants who met the criteria for bipolar disorder were stabilised on medication and were not experiencing a manic episode. A mixed episode occurs when an individual meets both the criteria for a major depressive episode as well as a manic episode within a one week period for almost every day of that week (Sadock & Sadock, 2007). Although not meeting the DSM-IV criteria for borderline personality disorder, two of the participants have a borderline personality structure, which means that they might have instability in their interpersonal relationships, affect (emotions) and self-image as well as a fear of abandonment, identity disturbances, impulsivity in their behaviour, suicidal and self-mutilating behaviour and intense and inappropriate feelings of anger (Sadock & Sadock, 2007).

The control group consisted of three boys and three girls with ages ranging from thirteen to seventeen years with a slightly older mean age, compared to the experimental group, of fifteen years. Both the black participants were in the control group.

Two of the girls and one of the boys was diagnosed with major depressive disorder and one girl and one boy were diagnosed with Bipolar I disorder. In addition to the Bipolar I disorder diagnosis, two of the female participants were diagnosed with having borderline traits or structures within their personalities. Only a single participant was not diagnosed with a mood disorder. He was the only black male participant within the sample and he was diagnosed with conduct disorder.

Conduct disorder is one of the disruptive behaviour disorders and refers to a pattern of behaviour that continues for an extensive period of time and consists of acts that violate the rights of others and the rules of society. These acts could include aggression towards people and animals, deceitfulness and theft, and the destruction of property. This disorder is only diagnosed if the rule breaking behaviour has been present for at least the previous twelve months.

### **Threats to Validity**

Four types of validity or criteria are important when evaluating how well a research study is carried out. These validities or criteria are: construct, internal, external and statistical conclusion validity. These four criteria determine the degree to which a study accurately answers the question that it aimed to answer, thus predicting the overall validity of the research study (Cook & Campbell, 1979; Gravetter & Forzano, 2006; Whitley, 2002).

**Construct validity.** Construct validity refers to whether the measurement chosen to evaluate a specific variable, such as self-esteem, actually measures the variable as defined by the study (Whitney, 2002). The manner in which variables are operationalised is thus very important when considering the construct validity of the study. Self-esteem and perceived emotional well-being, as defined in chapter one, appear to be accurately measured by the PANAS-C and the Rosenberg self-esteem scale as these measurement instruments were specifically created to measure these variables (Laurent et al., 1999; Rosenberg, 1965; Schutte et al., 2002).

**Internal validity.** For a study to be high in internal validity there must be only one explanation for the results obtained, namely, the independent variable(s) (Gravetter & Forzano, 2006; Whitley, 2002). There are however various factors which could threaten the internal validity of a study, many of which the researcher could not control in the current study. If these factors are ignored and not considered during the statistical analysis process, they could affect the results obtained and decrease the internal validity of the study. The first category of threats that probably affected the internal validity of the present study, is that of time-related threats. History is a term used to refer to occurrences beyond the researcher's control which affected the responses of the adolescents thus affecting the dependent variable and therefore the results obtained (Whitley, 2002). Possible history effects might include an argument that a person may have had inside or outside the ward. A definite confounding event which might have affected the adolescents' responses is their discharge date. When the post-test was conducted some of the participants had received notification earlier in the week that they would be discharged from the ward within that week. There is a possibility that their observed excitement about this upcoming event might have influenced the responses they gave, causing them to be more inclined to associate with positive affects rather than negative ones.

Another factor that the researcher was aware of was maturation. This occurs when there is an improvement in a certain variable that it is not a result of the treatment but rather a result of a natural process of growth and development (Gravetter & Forzano, 2006). The improvements, or lack thereof, identified in the perceived emotional well-being and self-esteem of the participants in both the experimental group and the control group, might thus be the result of a natural maturation process rather than of the therapies offered by the ward or of the dance and movement intervention program. However, this effect should be minimal as two weeks is a relatively brief period for this to occur in.

Testing effects that could threaten the internal validity of this study are caused by using the same measurement instrument for the pre-test and the post-test. The very act of taking a pre-

test might affect the responses the participants give in the post-test. Whitley (2002) says that the participants might attempt to keep their responses consistent from pre-test to post-test or might try to improve on the responses they gave in the pre-test. The results could therefore be a consequence of familiarity with the measurement instruments rather than a consequence of the treatment program that was implemented. The above threat could be countered using a Solomon four-group experimental design. Unfortunately the population of the proposed study is too small to use a Solomon four-group experimental design, as it requires two experimental groups and two control groups. The results could therefore be a consequence of familiarity with the measurement instruments rather than a consequence of the treatment program that was implemented (Whitley, 2002).

Selection threats or biases refer to differences that are present between the experimental group and the control group. These differences can usually be prevented by using random sampling and random distribution between the experimental group and the control group (Whitley, 2002). As mentioned elsewhere in this chapter, this was impossible for the researcher to accomplish. Statistical techniques have been employed to determine whether the demographic differences between the two groups are sufficiently significant to negatively affect the results. Demographic differences such as age, race and gender might thus be further confounding variables.

Another threat that was attended to during this study is that of participant roles such as the good participant, negative participant and apathetic participant (Whitley, 2002). This threat was addressed by stressing the importance of being honest during the completion of the questionnaires and by assuring the participants of their anonymity. According to Diener and Lucas (1999) an advantage of self-report measures of perceived emotional well-being is that it has low social desirability contamination. Participant effects should thus be minimal.

**External validity.** External validity refers to the extent to which the results obtained in a particular study can be repeated in a different setting or at a different time or with a different

population group using a different research procedure (Gravetter & Forzano, 2006; Whitley, 2002). Generalisability is thus a key component of external validity. Whether a different research procedure, such as using a different measurement scale for self-esteem, would provide similar results to those obtained in this study is difficult to say and thus it is recommended that this study be enhanced to improve its external validity. Because the study was conducted with such a small sub-set and with a relatively limited section of the population, further research is necessary to determine whether this study could be generalised to other populations, whether in a clinical or in a “normal” setting. The small sample size also makes generalisation difficult and a similar study conducted with a larger sample might provide more valid and generalisable results. Previous research has however found that dance and movement therapy can be effectively implemented in a range of populations and in a variety of settings (Bojner-Horwitz et al., 2003; Buckroyd, 2001; Holyoake & Reyner, 2005; Jeong et al., 2005).

A definite threat to the external validity of the present study is the use of convenience sampling where the sample is selected due to availability (Gravetter & Forzano, 2006). There is therefore a high probability that the demographic characteristics will not be equally distributed thus affecting the inferences that can be drawn from the data. Because the aim of this study is not to generalise the results to other populations but rather to determine the effectiveness of a dance and movement intervention program on a specific population, threats to the external validity of this study were minimal.

Generalisability is not the only factor that determines the external validity of a study; ecological validity is another factor. Ecological validity refers to the degree to which the study conditions are similar to the natural situation to which it is to be applied (Gravetter & Forzano, 2006; Whitley, 2002). Although a clinical setting can be described as relatively artificial, as it is not similar to the circumstances from which the in-patient came (their home environment), the dance and movement intervention program was developed for and aimed to draw inferences from this specific sample and for that reason it should have good ecological validity.

**Statistical conclusion validity.** This aspect of validity refers to the correct or proper use of statistics to interpret results (Whitley, 2002). To ensure that this study does not lack statistical conclusion validity, the researcher must be sensitive to the possible threats or confounding variables which might affect the construct, internal and external validity of the study. If, for example, demographic data was to be ignored when interpreting the results obtained from the experimental and control groups, the results would probably be invalid or low in validity as differences between these two groups would not have been statistically accounted for. According to Whitley (2002) it is important that the correct statistical techniques be employed and that the test assumptions such as homogeneity of variance, distribution characteristics, power, and levels of measurement are met. In this instance, the sample size and corresponding inability to utilise random population distributions must be taken into account.

### **Data Collection Procedure**

As discussed above, the researcher contacted the staff of Weskoppies Psychiatric Hospital and a sample of four participants was pre-selected to take part in the dance and movement intervention program. At this point the intervention program and the aims of the study were discussed with each participant individually and they were given the opportunity to assent to the study or to refuse to participate. All of the participants in the experimental group assented to taking part in the study. Thereafter informed consent was obtained from their parents. Both the assent and consent information leaflets and forms are attached in Appendix C. The researcher obtained a sufficiently large, open, quiet space in which to implement the intervention program. This was an important aspect as it would affect the effectiveness of the program since the adolescents needed a structured, safe space in which to express themselves and a stable, controlled environment in which the theme of each session could be explored (Kaban, 2003). The aforementioned allowed the participants to experience a sense of safety and routine (Kaban, 2003).

In a separate process, informed assent was also obtained from the adolescents selected for the control group and informed consent from their parents (Appendix C). The participants in both the experimental group and the control group completed both the Rosenberg self-esteem scale and the PANAS-C. A once-off demographic questionnaire was also completed by the participants to determine their age, race and gender. Information about their psychological diagnosis was obtained from the head psychologist. Each adolescent was taken individually into a quiet area to complete both the questionnaires. The researcher read the instructions, questions and answer options to him or her to ensure that he or she understood what was required.

Thereafter the individuals in the experimental group participated in the group dance and movement intervention program six times a week over a period of two weeks with each session lasting forty-five minutes. The intervention program will be discussed in the next chapter. After a two week period had lapsed the participants in both the experimental and control groups again completed the Rosenberg self-esteem scale and the PANAS-C. After this the participants were debriefed. The results of the study were also made available to interested participants and parents.

### **Data Analysis**

Descriptive statistics were employed to describe the characteristics of the sample such as the gender, race and age of the participants (Whitley, 2002). Inferential statistics were used to determine whether there was a significant difference between the pre-test and post-test results of the experimental and control groups. Since random assignment to the experimental and control groups was not possible, the two groups do not have equally distributed demographic characteristics, which could affect the results. The study thus has a non-equivalent control group design (Cook & Campbell, 1979; Kenny, 1975). According to Gliner, Morgan and Harmon (2003) there are two methods with which to analyse non-equivalent groups namely; an analysis of covariance (ANCOVA); and the gain score approach which is also known as the change score approach (Kenny, 1975).

With an analysis of covariance, a comparison is made between the post-tests scores of the experimental and control groups which are adjusted according to the pre-test scores. With the gain score approach, the pre-test and post-test scores of the experimental group are subtracted from each other and the same is done with the control group scores. The change scores from the two groups are then compared to determine whether these scores are significantly different. The gain score approach allows a simultaneous comparison of the difference between each groups' pre-tests and post-tests, as well as the difference between the two groups' post-test scores (Gliner et al., 2003).

Given the small sample size and the non-random nature of selection and assignment to each group, it would be difficult to use parametric statistics. These are largely dependent on the distribution of the underlying population, and with the small sample size it is nearly impossible to test for normality and to utilise parametric tests. Non-parametric statistics are distribution free. Because the experimental and control groups are independent, a statistical test for two independent samples was used (Howell, 2002). The Mann-Whitney U test, equivalent to the Wilcoxon's rank-sum test, was selected as the most appropriate non-parametric, independent two sample test to evaluate the gain scores (Howell, 2002; Siegel, 1956). According to Siegel (1956) the Mann-Whitney U test is a highly effective test when the sample consists of two independent groups. It is, moreover, an appropriate method to use with a small sample, as is the case in the current study.

The null hypothesis of the Mann-Whitney U test is somewhat broader than that of the parametric t-test. The Mann-Whitney U test determines whether the distribution of the two groups was done randomly from identical populations. It implies a difference in central tendency but differences could be due to other factors, which is in contrast to the specific focus of a t-test on differences in the means of the two groups (Howell, 2002). Because the Mann-Whitney U test ( $U$ ) uses the sum of ranks ( $W_S$ ), the null hypothesis states that there is no difference in the sum of ranks between the two groups.

In addition, it is expected that that the control group would not have benefited from any treatment effects, which means that their change scores should be small and thus their sum of ranks should also be small.

The alternative hypothesis is thus directional (or one-tailed) and states that the sum of ranks of the changes scores of the experimental group should be larger than that of the control group (Howell, 2002; Siegel, 1956). Because the sample was small, an exact test was used to estimate the significance probabilities (Field, 2005). Thus the exact significance (one-tailed) rather than the asymptotic significance was used. In addition the effect size ( $r$ ) was calculated (small effect size  $< 0.3$ , medium effect size is from 0.3 to 0.5 and a large effect size  $> 0.5$ ) (Field, 2005, p. 532):

$$r = \frac{Z}{\sqrt{N}}$$

Where  $Z$  = the converted  $z$ -score of the U-test statistics and  $N$  = total sample size.

To compare the distribution of each group between the pre-test and post-test, the Wilcoxon signed-rank test was used. It is used for dependent or related groups and also makes use of ranks as is the case with the Mann-Whitney U test above (Field, 2005). Effect size is calculated in the same manner but in this case  $N$  is doubled for each group (i.e.  $N = 8$  for the experimental group and  $N = 12$  for the control group) (Field, 2005). The exact one-tailed probability was also calculated and used because of the small sample size.

### **Ethical Considerations**

Specific ethical guidelines were adhered to while conducting the research. Before conducting the study, ethical clearance was obtained from Weskoppies Psychiatric Hospital, the Health Faculty of the University of Pretoria and the ethical committee of the Humanities Faculty of the University of Pretoria. According to the Health Professions Act, 56 of 1974, Annexure 12, the following ethical considerations and guidelines must be (and were) adhered to by the psychologists/researcher:

The work that a psychologist performs as well as the research he or she does must be based on established scientific knowledge of psychology as a discipline. All the exercises that were conducted during the study and all the themes that were incorporated into this study were based on past scientific research. If an exercise or theme was not able to be used exactly as was originally intended, it was minimally adjusted to make it more appropriate for the study sample.

Another important ethical consideration is that a professional must respect the rights and dignity as well as the attitudes, beliefs and opinions of the client even if they differ from those of the professional. During this investigation it was kept in mind that the participants had the right to withdraw from the study at any time. This was made clear to them during the briefing session of the study as well as in the consent and assent forms that they and their parents or guardians signed. The participants and their parents or guardians were assured of their anonymity and that confidentiality would be maintained at all times. After the completion of the proposed research the participants were thoroughly debriefed.

Furthermore, the Health Professions Act states that the researcher must avoid harm to the participant at all times. The dance and movement intervention might not result in the psychological benefits that the researcher hoped for with regard to improved perceived emotional well-being and self-esteem but would in no way be harmful to the participants, psychologically or physically. During each session the adolescents underwent a thorough warm-up and cool-down procedure to prevent physical injury. Furthermore, dancing is a physical activity and physical exercise has been proven to decrease mortality rate and lower an individual's risk for cardiovascular disease, cancer and chronic diseases such as diabetes (Bonhauser et al., 2005). It has also been found to improve balance and physical strength (Hunter, Piner, & Rosenberg, 2004). In a study that focussed on improving the physical fitness and emotional well-being of adolescents in Chile, it was found that physical exercise improved the emotional well-being of the participants by preventing emotional distress, lowering anxiety and improving self-esteem (Bonhauser et al., 2005).

In addition, this study found that physical exercise can improve the overall mental health status of adolescents (Bonhauser et al., 2005).

To ensure that no participant is treated in a discriminatory manner and that the services provided are language and culture appropriate, participants who understood English well were selected because the measurement scales are only available in English. Furthermore, if the adolescent had reading or writing limitations the researcher read the instructions, questions and answer options to him or her to ensure that he or she understood what was required. Although the measurement scales that were used were not created for a South African population, they have been found to be reliable and valid for use with adolescents (Creed & Patton, 2003; Laurent et al., 1999). The researcher took great care when analysing and interpreting the data and considered the fact that cultural factors might influence the results obtained. This was done in order to further comply with the ethical requirements set by the Health Professions Act.

Lastly, the interaction with each adolescent was carried out in a sensitive manner and no pressure was placed on him or her to do anything with which he or she did not feel comfortable. A warm and friendly environment was created and the researcher acted in the best interest of each adolescent.

## **Conclusion**

Based on the research methodology described above and considering the ethical implications and possible confounding variables, the following chapters will describe the dance and movement intervention program that was implemented, analyse the results after conducting the pre-tests and post-tests with the experimental and the control groups using the Rosenberg self-esteem scale and PANAS-C, and discuss the results descriptively.

## **CHAPTER FOUR**

### **Intervention Programme**

#### **Introduction**

In this chapter the intervention programme that was implemented is described. Firstly, a brief description of the rationale for this intervention programme will be presented and thereafter the specific exercises that were implemented will be discussed according to the chosen themes. The twelve sessions consisted of six free association sessions and six structured dance sessions. The adolescents participated three times a week in two sessions a day. The first forty-five minute session was the free association session that was based on a specific theme and the second forty-five minute session was the structured dance session, which was a hip-hop dance choreographed by a qualified dance instructor. The researcher, who was also the facilitator of the dance and movement intervention programme, received training from the dance instructor in order to facilitate the structured dance sessions.

The free association or creative emotional expression sessions were comparatively unstructured and allowed the adolescents to explore various emotions and experiences through dance and movement. For most of the activities they were given the freedom to express what they were experiencing using any form of dance and/or movement. Between the two sessions the participants had a fifteen minute break. After the two week period the adolescents performed in a concert for the hospital staff. The concert comprised the hip hop dance that they learnt from the researcher/facilitator, a self-choreographed dance the group created during their free time in the ward and a story dance they created during the second free association session they took part in.

#### **Rationale**

Kaban (2003) states that since the needs of the children or adolescents who will be participating in a dance and movement intervention programme will be continuously changing, the intervention programme sessions must be flexible and open to change from session to

session. Therefore, although each session had a specific theme and each session consisted of certain aspects, the researcher/facilitator was flexible and prepared to adjust the sessions to the needs of the adolescents. To improve group participation and the exploration of specific themes, certain aspects of each session were structured while others were more flexible. The structured aspects of each session served to create some routine over the two week period, which gave the participants a sense of stability, control and consistency. The researcher/facilitator chose to implement the intervention programme in a group format to improve the interpersonal relationships as well as the social skills of the participants and to give the participants the opportunity to support one another when the need arose (Kaban, 2003).

Both the creative movement or free association sessions and structured dance sessions had a warm-up and a cool-down section. These sections allowed the participants to stretch their muscles, thereby preventing injury, and enable them to relax and calm down before and after each of the creative movement or structured dance sections. The programme was specifically designed for this group of participants. The warm-up and cool-down sections were incorporated because previous research has found them to be very effective (Carter, 2004; Kaban, 2003; Jeppe, 2006). The first session each day included a creative emotional expression section and the second session, a structured movement section. During the first session each day the warm-up and cool-down sections were each seven minutes long and consisted of stretching and breathing exercises to improve the relaxation of the participants. Not only does relaxation lead to a reduction in stress levels but it also has the ability to change an individual's endocrinal responses and can lead to the stabilisation of an individual's autonomic nervous system (Choi et al., 2008). During the second session the warm-up was ten minutes long and the cool-down five minutes long. These sections included stretching and breathing exercises.

### **Free Association Sessions**

The creative emotional expression sections were thirty-one minutes long and were based on the theme of the day. Each day had a specific theme created around the exploration of

specific emotions. In some instances the researcher/facilitator used music to elicit an emotion in the participants while at other times the researcher/facilitator gave the participants a specific emotion to express. The sessions always took place in a group context but within the group the adolescents would, at times, work with a partner while at other times they would work individually. Each theme was chosen with the objective of deepening emotional expression at a physical, psychological and social level. This would lead to improved emotional understanding and address processes which could have an effect on the perceived emotional well-being and self-esteem of the individual. Such processes include group cohesion, self-expression, improved confidence and interpersonal relatedness (Kaban, 2003; Choi et al., 2008; Diener & Lucas, 1999; Dwivedi & Harper, 2004; Holyoake & Reyner, 2005).

Table 1: *Unstructured or free association dance and movement sessions*

<b>Session #</b>	<b>Theme</b>	<b>Activities</b>
<b>1</b>	Attachment	Introduction Mirroring exercise
<b>2</b>	Relationships	Mirroring exercise Group choreographed story telling
<b>3</b>	Feelings	Emotions charades Exploring anger, sadness and happiness Jumping exercise
<b>4</b>	Control and helplessness	Personal space activity Body control activity Improvisation exercise
<b>5</b>	Grief, loss and rejection	Exploring sadness Exploring anger Ball tossing game
<b>6</b>	Fears, hopes and dreams	Exploring fear Expressing individual hope and dreams

The order in which the themes were presented was chosen because it would be the most conducive to the therapeutic process, facilitating the building of rapport and group cohesion (Gibson, Swartz, & Sandenbergh, 2002; Egan, 2007).

The themes of the first two sessions, *attachment and relationships*, assisted the group members in becoming more comfortable within the group and helped build group rapport. These themes also provided a framework in which the adolescents felt safe and contained before proceeding to the more emotionally taxing and possibly anxiety producing themes. A containing space was imperative, because if the adolescents perceived that the researcher/facilitator was unable to cope with and protect their individual feelings, they would have been too afraid and anxious to explore their emotions openly and freely. Containing thus refers to the facilitator's ability to "hold" the participants' emotions. These two sessions focused on the building of relationships, trust and rapport (Gibson et al., 2002).

During the third session, the theme was *feelings*. This is a relatively broad theme where both positive and negative emotions were explored. Again, this was done to introduce the exploration of a more emotional theme while still being relatively unfocused. This allowed the participants more time to feel comfortable when discussing possibly difficult themes. During sessions four and five of the free-association section, the two most emotionally difficult themes, *control and helplessness*, and *grief, loss and rejection*, were explored. The last session had a more positive theme; *fears, hopes and dreams*. The specific exercises associated with each theme will now be discussed:

The first session, with the theme *attachment*, was the introductory session and during this session time was spent getting to know one another. The adolescents were asked to decide on a name for the group and create a group logo. The group chose the name, "The Dirty Dancers". The participants set specific rules and objectives for their group. The rules set for "The Dirty Dancers" were: no sexual behaviour, no swearing, no fighting, respect one another, at least try, no laughing at one another and have fun. Their objectives were: to enjoy themselves, to improve their self-confidence, to do their best, to trust others, to be more creative and to have fun with others. An introductory session which includes the setting of rules and objectives is very important because it starts building cohesion within the group so that trust among the group

members and between the group members and the facilitator, can start to develop (Holyoake & Reyner, 2005). During this session the exact procedure for the following two weeks was explained to the adolescents and they were given an opportunity to ask any questions.

Table 2: *Experimental group's rules and objectives*

Rules	no sexual behaviour no swearing no fighting respect one another at least try no laughing at one another have fun
Objectives	enjoying ourselves improving our self-confidence doing our best trusting others be more creative have fun with others

A mirroring exercise followed this initial exercise. Mirroring is a very constructive dance and movement technique during which one person carries out a movement and the rest of the group follow (Kaban, 2003). Mirroring improves the development of a secure attachment and also fosters the building of trust (Kaban, 2003). At the beginning of the exercise the researcher/facilitator executed certain body movements and encouraged the rest of the group to follow her lead. Thereafter the group divided into pairs and practiced their mirroring skills, taking turns to carry out a movement or to mirror the partner's movement. The participants were then given the opportunity to perform movements with the rest of the group mirroring. During this exercise the participants were encouraged not to speak but rather to focus on the movement of the other person and to mirror it. To motivate the adolescents to keep moving, the researcher/facilitator continuously changed the music thereby allowing the adolescents to move to a variety of rhythms and music styles.

After the exercise the group discussed how it felt being the mirror image, how it felt not to speak but to communicate through their bodies and how it felt to have others do exactly the same as they did and to have the movement that they performed accepted by the rest of the group (Kaban, 2003).

During the second session, the theme was *relationships*, a mirroring exercise was again introduced after the rules and objectives of the group had been reviewed. The adolescents worked in pairs and stood very close together. One participant was asked to mirror the movement of the other but the music stopped at random, at which point the pair had to freeze. The music would then start again. The participant executing the movement had to try to make their movements challenging for the participant who was mirroring to follow. At certain intervals the person who moved changed roles with the person who mirrored (Payne, 1993). The participants were then given a group creative movement activity. The researcher/facilitator played them a piece of classical music while they sat quietly and listened. They were then given the instruction to work together and choreograph a dance of their own to present to the researcher/facilitator. They were allowed to execute any movements to the music and were encouraged to tell a story or portray a situation that the music reminded them of. They chose to tell a comical story about two robbers (the boys) who wanted to rob two rich ladies but whose plans failed and who were caught in the end. At the end of the session, in a group discussion, the adolescents spoke about their partners for the different activities and said what they appreciated about that person. As a means of sharing their experience of the session, the adolescents were also required to complete the sentence, “I did not expect...” (Payne, 1993).

The theme of the next session was *feelings*. During the first activity the adolescents drew different emotions out of a hat at random and individually portrayed the emotion to the group using movement and dance. The rest of the group had to guess what emotion was being portrayed. Thereafter the adolescents discussed which of the emotions they found easy to portray and which they found more difficult to portray.

Each participant was then given an emotion to portray through movement, using his or her body. The adolescents were encouraged to think about the body part where they most experienced that emotion and then, before they started moving, to think about how they would move their body when experiencing that emotion. The adolescents explored different emotions. Anger, sadness and happiness were specifically explored. The adolescents then reflected on how it felt for them to use their bodies to portray different emotions. Finally a jumping exercise was used to explore different emotions. An emotion was given to the adolescents and music that conveyed that emotion was played. The adolescents were then encouraged, using only jumping movements, to portray that emotion (Payne, 1993). Anger, sadness and happiness were again explored. A final discussion was conducted where the participants reflected on which feelings were the most difficult for them to express using movement only and which were the easiest. Their experience of the jumping exercise and how it compared with the body movement only exercise was also explored.

During the fourth session the theme was *control and helplessness* and an activity that fostered a sense of control over one's personal space was carried out. The participants had to stretch out their arms and legs and move around the room exploring their personal space and the personal space of others (Kaban, 2003). At the same time the adolescents took turns exploring their personal space, as well as that of others, by standing a distance away from another participant and having one person approach the other. The person being approached could then tell the approaching person to stop when they were coming too close and into their personal space. Those who did not participate observed the process and learnt that the personal space of each person differs. This activity was followed by a discussion on personal space. The adolescents discussed specifically whom they feel comfortable allowing into their personal space, whom they do not allow into their personal space and how another person should enter their personal space (Kaban, 2003).

Following the above activity, the participants took part in an activity that would help them learn how to control their own bodies. First the adolescents had to tighten or contract their arms, legs, neck and head towards their torso as closely and tightly as they possibly could. The researcher/facilitator then attempted to undo the tightness but without success (Payne, 1993). Next the adolescents had to open or stretch out their arms and legs as widely as they could. Finally they had the opportunity to walk around the room normally, then to contract or tighten their arms and legs against their bodies and finally to open or extend their arms and legs as they walked. This was followed by a group discussion on how it felt when their bodies were closed and the researcher/facilitator could not undo the tightness and how it felt when their bodies were open. They furthermore discussed which body position made them feel more in control and which made them feel helpless. The participants lastly took part in an improvisation exercise in which they first explored the feeling of being helpless and then the feeling of being in control. Music was chosen to foster the exploration of these two emotions and here the adolescents worked individually using dance and creating body movements to express the emotions.

In order to explore the fifth theme, *grief, loss and rejection*, the participants were asked to spread out in the room and lie on their backs with their eyes closed. The researcher/facilitator played soft, calm music and encouraged each group member to think of a situation when they had felt tremendously sad after losing something or someone very special to them. After allowing them a minute to do this the researcher/facilitator encouraged the participants to start moving their heads in a way that they thought would express their emotion at that time. They were then encouraged to add arm movements and finally to stand up and add body movements and leg movements. They were allowed to move around until everyone felt satisfied that they had expressed what they were feeling. During the next activity the adolescents lay on their backs again with their eyes closed and this time had to think of a situation where they felt angry after losing something or being rejected by someone. They then followed exactly the same movement procedure as they did when they expressed their feelings of sadness.

To assist the participants in dealing with rejection and in tolerating the frustration created by being rejected, a simple ball tossing game was introduced (Kaban, 2003). The participants threw a soft ball to one another while the researcher/facilitator played music that frequently changed rhythm. The adolescents were told that they must pass the ball according to the rhythm of the music that was played. If a person missed the ball, instead of them being out of the game permanently, they were allowed to rejoin the group after five ball tosses. The game became progressively more difficult, with turning and hand clapping activities that had to be performed after throwing the ball, which could further add to the adolescents' frustration levels. By playing this game a safe and controlled environment was created in which the participants could learn how to cope with rejection and increased frustration (Kaban, 2003). According to Kaban (2003) this form of activity is not harmful to the self-esteem of the participant as the game is played in a safe space and the adolescents have the opportunity to rejoin the game, thus not being rejected by the group. At the end of this session the adolescents were given a chance to reflect on what situations or experiences they thought of when feelings of sadness and anger were elicited. No one was forced to share their experiences.

During the final session, *hopes, dreams and fears* were explored. The participants explored what made them feel afraid, by listening to music that could cause a person to feel afraid, and by moving freely to the music. They were told that they could portray an event or just explore the movements that the emotion causes. The rest of the session was used for each adolescent to use dance and movement to communicate their individual hopes and dreams to the rest of the group. They were allowed to use music, singing, talking or silence. The adolescents then discussed their individual hopes and dreams with the group and the group members were given the opportunity to talk about their fears if they wished to do so.

### **Structured Movement Sessions**

A structured movement section is particularly beneficial since it can provide the group with resources to use during the free association section.

In addition, learning the moves can also lead to a feeling of confidence and mastery, which can contribute to a feeling of emotional well-being and therefore to improved self-esteem (Payne, 1993). This section of the intervention programme helped the participants understand that it is possible to learn a small part of a dance every session and later to put all the parts together to create something beautiful. The structured section of each session was thirty minutes long. Because of the age of the participants the structured dance section comprised of hip-hop dancing. The entire hip-hop routine was one and a half minutes long. During each session, the section of the routine that had been learnt was reviewed and a new section was added. The last two sessions were used to practice the complete dance. The researcher/facilitator emphasised that it was not important for the participants to perform the movements perfectly but rather that they focus on enjoying themselves and putting their own personal stamp on the dance.

## **Conclusion**

Dance and movement intervention programmes can be adapted to provide for the particular needs of the population for whom it is intended. The intervention programme referred to above was chosen to assist the participants in exploring various emotions and experiences in order to affect positive change in their emotional well-being and self-esteem. Although a structured dance section is not always introduced as part of a dance and movement therapy programme, in this case the researcher/facilitator deemed it necessary as it seemed probable that it would have a beneficial effect on the self-confidence and self-esteem of the participants (Payne, 1993). What is of equal importance when considering the free association section referred to above, is that the sessions must include regular discussions. This is to ensure that the emotions and experiences of the participants are explored psychologically and cognitively rather than purely emotionally and physically, thus fostering a holistic integration of the self (Klorer, 2005; Meekums, 1999; Payne, 1993).

## CHAPTER FIVE

### Results

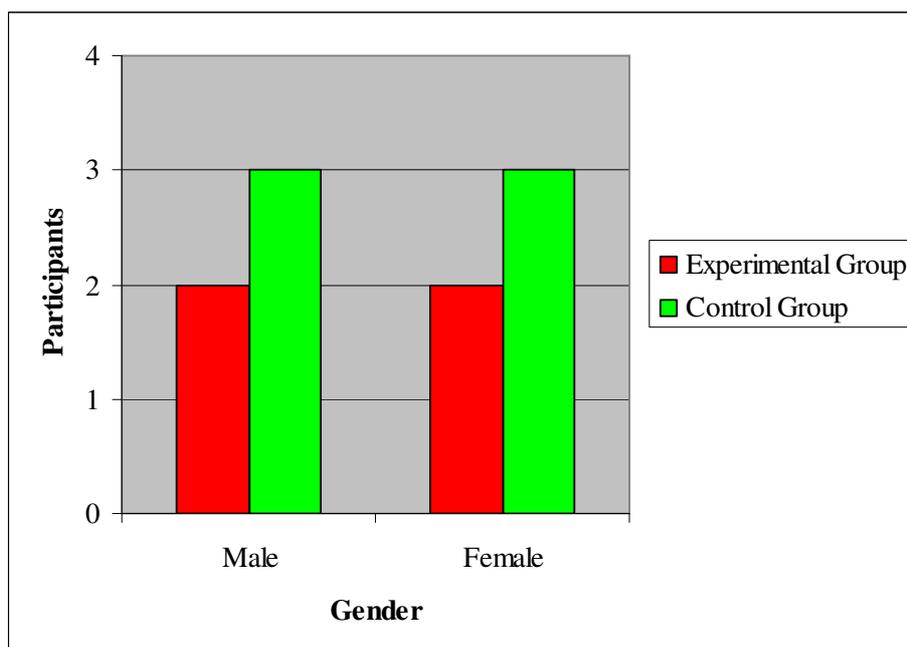
#### Introduction

In this chapter the statistical results will be described. The participants' demographic information will be described first; this will be followed by a discussion of the descriptive scores obtained from the pre-test and post-test of the positive and negative affective scale and the Rosenberg self-esteem scale; thereafter the significance of the results obtained from the Mann-Whitney U test will be discussed; and finally the Wilcoxon signed-rank test results will be discussed. The results from the positive and negative affect scale will be presented as positive affect and negative affect respectively, as the test measures both these constructs and gives separate scores for each.

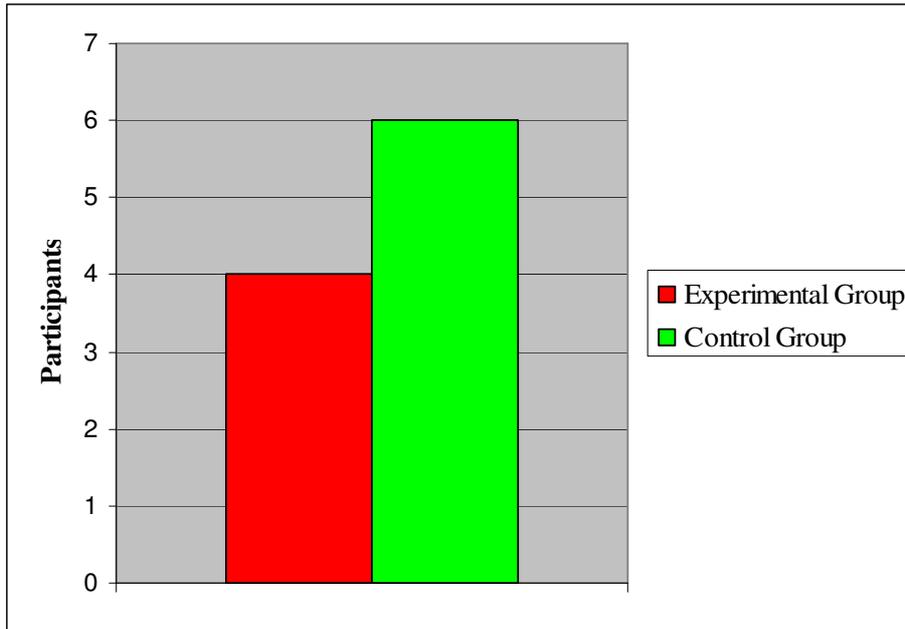
#### Demographic Information

The demographic data of the participant, including gender, age, race and psychological disorder, will be presented below.

**Figure 1: Gender distribution**



**Figure 2: Group distribution**



*Table 3: Gender and group distribution*

	<b>Experimental group</b>	<b>Control group</b>	<b>Total</b>
<b>Male</b>	2	3	5
<b>Female</b>	2	3	5
<b>Total</b>	4	6	10

Each group had an equal distribution of male and female participants with 50% being male and 50% being female. From table 3 it can be observed that the gender distribution within each group is thus equivalent and balanced. 60% of the participants were in the control group and 40% were in the experimental group.

*Table 4: Age distribution*

<b>N = 10</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>Age</b>	14.50	14.0	1.51

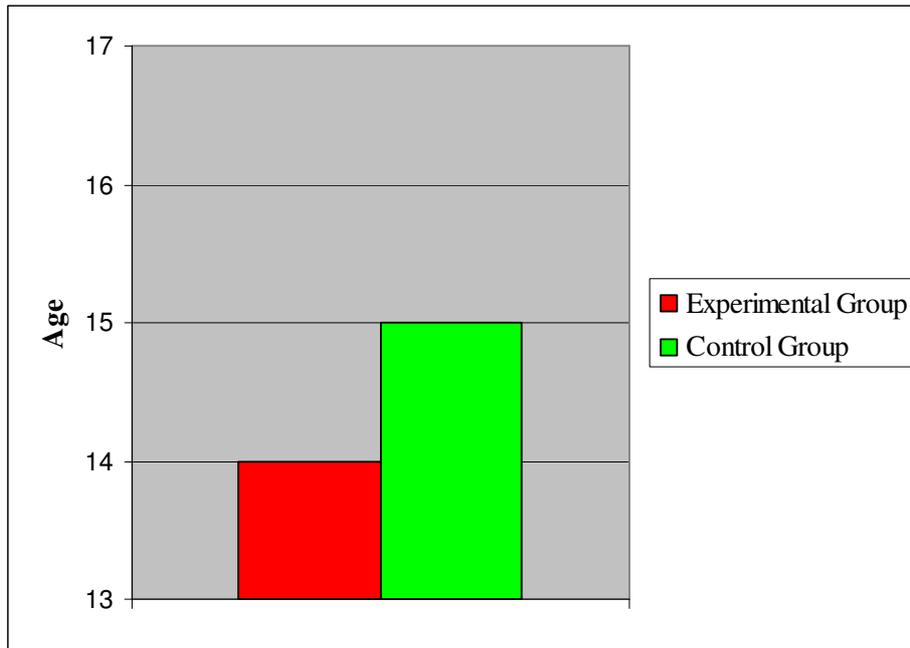
Table 4 represents the means scores, medians and standard deviations of the ages of the ten participants.

*Table 5: Age distribution (mean, median and standard deviation) for experimental (n=4) and control (n=6) groups respectively*

	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>Experimental</b>	13.75	13.5	0.96
<b>Control</b>	15.00	14.5	1.67

Table 5 represents the means, medians and standard deviations for the experimental and control groups. There is not a significant difference between the median ages of the two groups (experimental group  $Mdn = 13.5$ ; control group  $Mdn = 14.5$ ) ( $U = 6.5$ ,  $z = -1.2$ ,  $p = 0.27$ ).

**Figure 3: Experimental and control group mean ages**



As can be seen from figure 3, the mean age of the control group is slightly greater than the mean age of the experimental group.

**Figure 4: Overall race distribution**

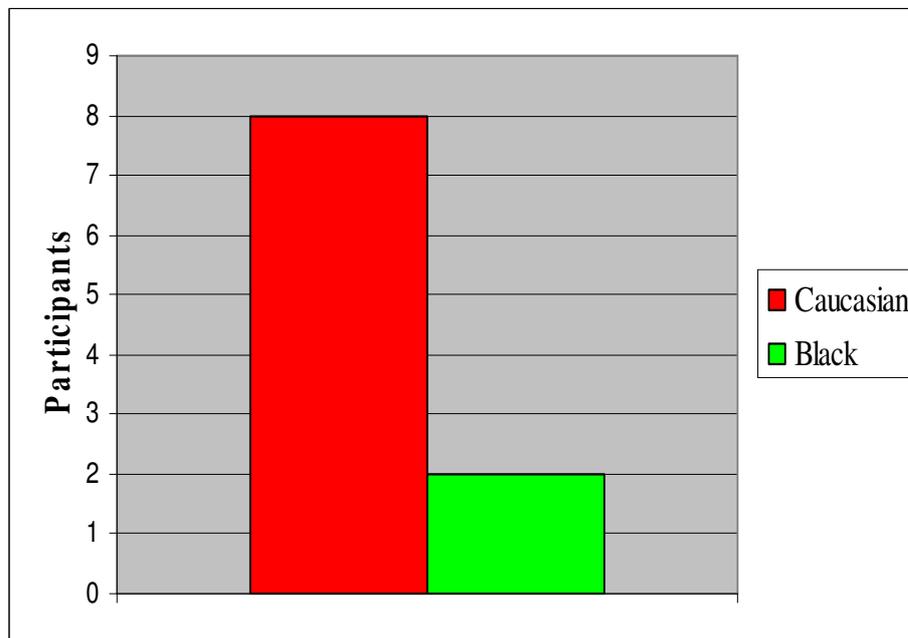


Figure 4 shows an uneven race distribution within the sample, with only two black participants (20% of the sample) and eight Caucasian participants (80% of the sample). Figure 5 displays the difference in race distribution between the experimental and the control groups. The experimental group had no black participants with 100% of the group being Caucasian. With reference to the control group the Caucasian participants made up 66.67% of the participants and the black participants made up 33.33%.

**Figure 5: Experimental and control group race distribution**

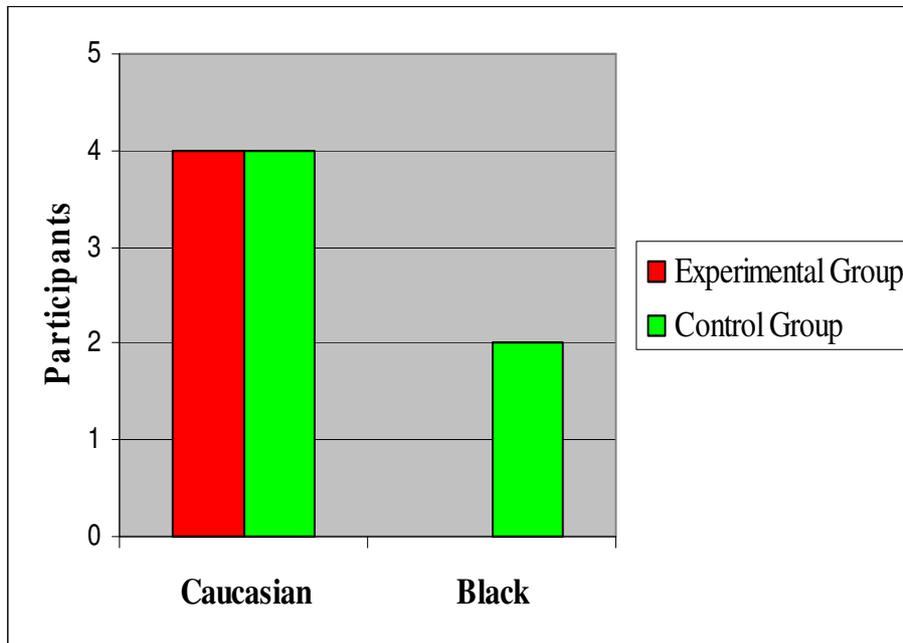


Table 6: Means, medians and standard deviations for major depressive disorder, Bipolar I disorder and conduct disorder according to positive affect (PA), negative affect (NA) and self-esteem variables

	Disorder	Mean	Median	Standard Deviation
<b>PA pre-test</b>	<i>MDD</i>	30.4	28.0	6.35
	<i>Bipolar I</i>	37.5	36.5	18.16
	<i>CD</i>	49.0	49.0	
<b>PA post-test</b>	<i>MDD</i>	46.2	50.0	8.67
	<i>Bipolar I</i>	50.5	50.5	8.96
	<i>CD</i>	43.0	43.0	
<b>NA pre-test</b>	<i>MDD</i>	52.8	53.0	9.36
	<i>Bipolar I</i>	50.5	55.0	17.94
	<i>CD</i>	42.0	42.0	
<b>NA post-test</b>	<i>MDD</i>	28.4	28.0	9.53
	<i>Bipolar I</i>	21.0	22.0	3.46
	<i>CD</i>	37.0	37.0	

	<i>Disorder</i>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>Rosenberg pre-test</b>	<i>MDD</i>	15.2	15.0	4.44
	<i>Bipolar I</i>	15.0	15.0	10.10
	<i>CD</i>	18.0	18.0	
<b>Rosenberg post-test</b>	<i>MDD</i>	19.0	18.0	7.04
	<i>Bipolar I</i>	17.5	17.5	10.85
	<i>CD</i>	16.0	16.0	

Table 7: Means, medians and standard deviations for major depressive disorder and Bipolar I disorder change scores according to positive affect, negative affect and self-esteem variables

	<b>Disorder</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>Positive Affect</b>	<i>MDD</i>	15.8	16.0	12.15
	<i>Bipolar I</i>	13.0	9.0	18.92
<b>Negative Affect</b>	<i>MDD</i>	-24.4	-22.0	10.36
	<i>Bipolar I</i>	-29.5	-32.0	14.98
<b>Self-esteem</b>	<i>MDD</i>	3.8	0.0	8.22
	<i>Bipolar I</i>	2.5	2.5	1.29

Figure 6: Psychological disorder distribution according to positive affect (PA), pre-test and post-test median scores

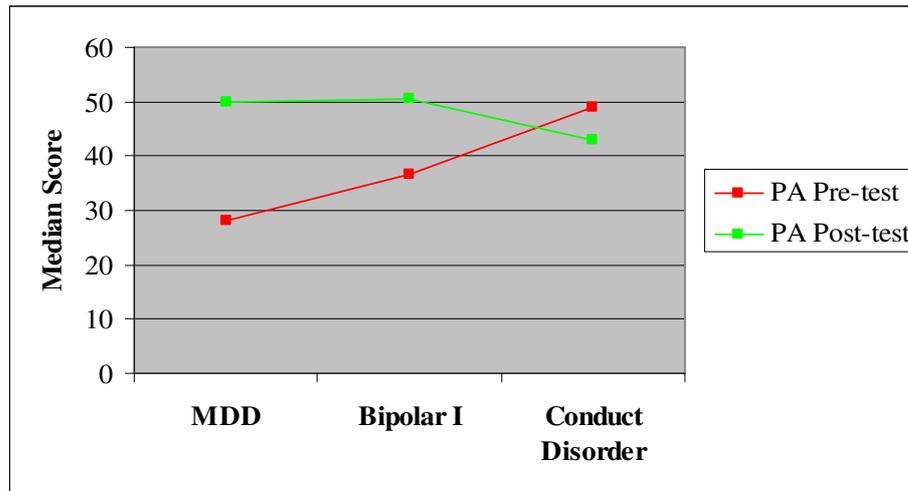
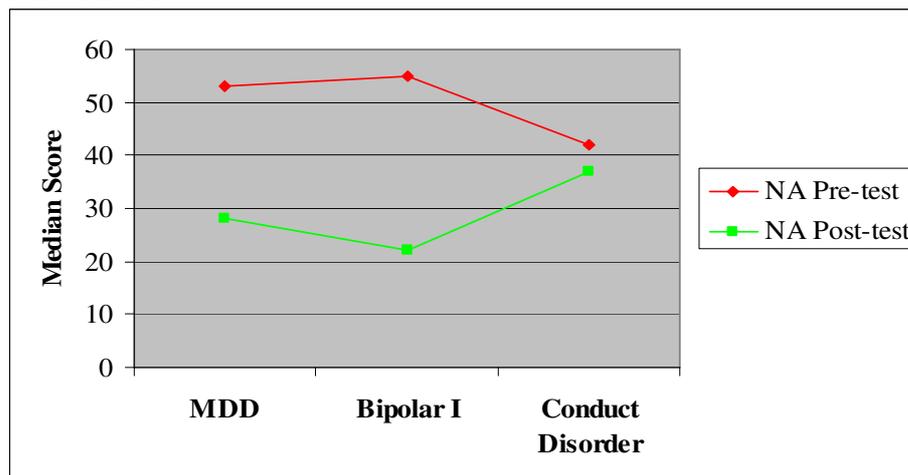
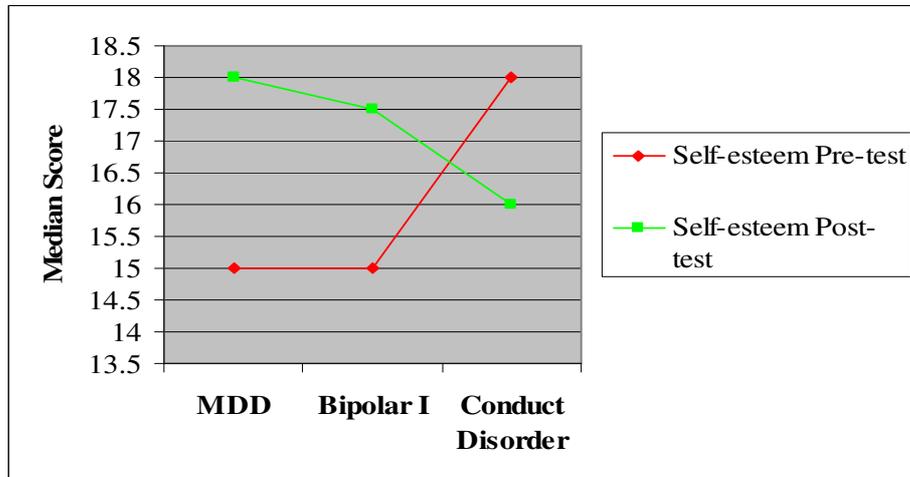


Figure 7: Psychological disorder distribution according to negative affect (NA), pre-test and post-test median scores

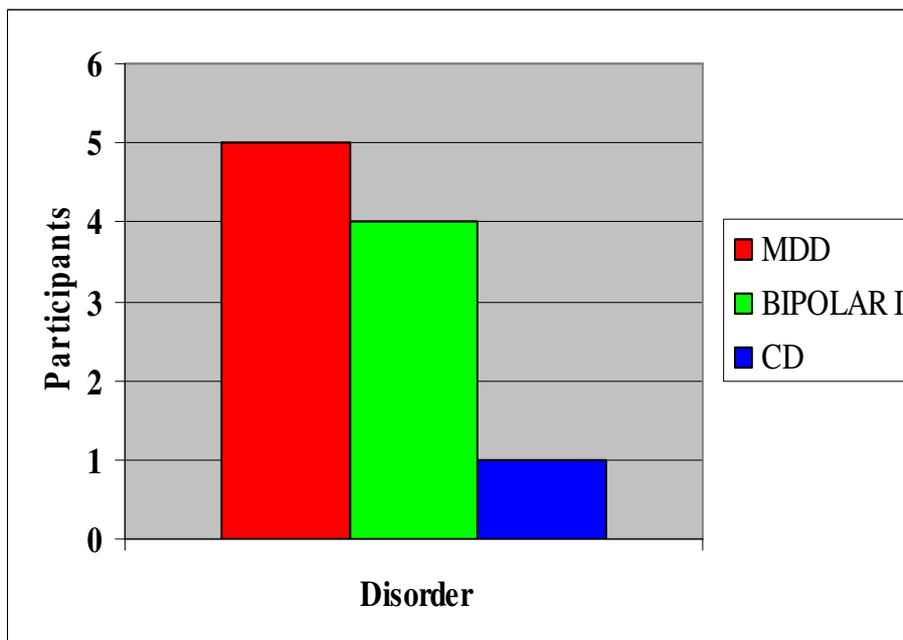


**Figure 8: Psychological disorder distribution according to self-esteem, pre-test and post-test median scores**

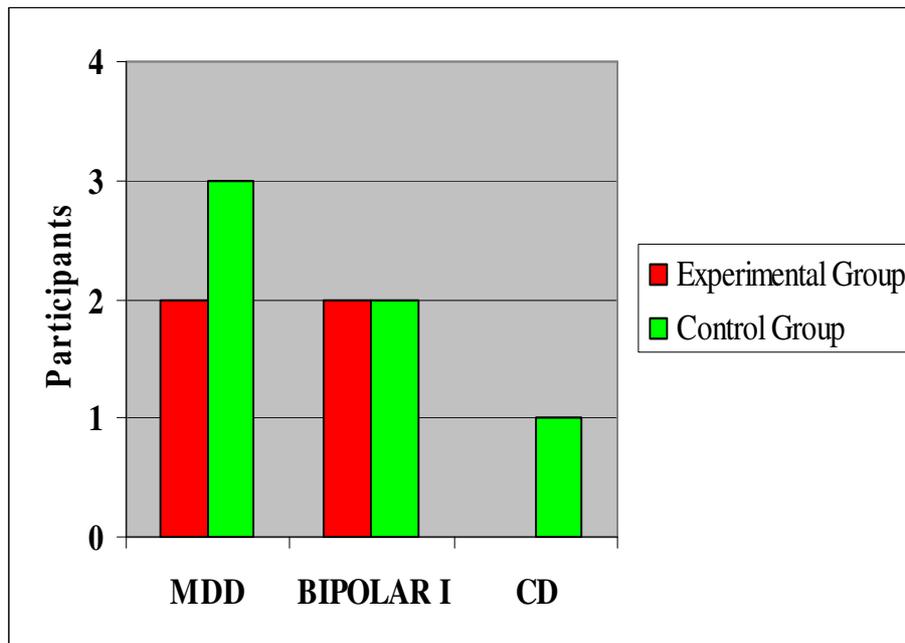


As can be seen in figures 6, 7 and 8, MDD and Bipolar I disorder show parallel change in the same direction. One participant with conduct disorder, with reference to PA, NA and self-esteem, caused changes in the direction of the slope and distorted the graph. Conduct disorder thus affects the results obtained from the PA, NA and self-esteem variables whereas MDD and Bipolar I disorder do not.

**Figure 9: Overall psychological disorder distribution**



**Figure 10: Experimental and control group psychological disorder distribution**



90% of the ten participants had been diagnosed with a mood disorder; 50% met the diagnostic criteria for major depressive disorder (MDD); and 40% met the criteria for Bipolar I disorder. Only one participant (10%) was not diagnosed with a mood disorder and met the criteria for a disruptive behaviour disorder, namely conduct disorder (CD). Figure 10 represents the distribution of the psychological disorders in each of the groups. In the experimental group, 50% of the participants met the criteria for MDD and 50% for Bipolar I. In the control group, 50% of the participants met the criteria for MDD, 33.33% for Bipolar I and 16.67% for CD.

**Dependent variables: Positive Affect, Negative Affect and Self-Esteem Raw Score Distribution**

Table 8: *Positive affect, negative affect and self-esteem raw score distribution for total sample (N=10)*

N=10		Mean	Median	Standard Deviation
Positive affect	Pre-test	35.1	31.5	12.81
	Post-test	47.6	47.5	8.21
Negative affect	Pre-test	50.8	53.5	12.53
	Post-test	26.3	23.0	8.49
Self-esteem	Pre-test	15.4	16.5	6.60
	Post-test	18.1	17.0	7.89

Table 9: Positive affect (PA), negative affect (NA) and self-esteem raw score distribution for experimental (n=4) and control (n=6) group respectively

	Group	Mean	Median	Standard Deviation
PA Pre-test	Experimental	35.50	32.5	17.90
	Control	34.83	31.5	10.15
PA Post-test	Experimental	55.25	54.5	3.59
	Control	42.50	43.5	5.96
NA Pre-test	Experimental	49.25	52.5	17.67
	Control	51.83	53.5	9.60
NA Post-test	Experimental	21.75	21.5	4.92
	Control	29.33	27.5	9.35
Self-esteem pre-test	Experimental	12.75	15.0	7.09
	Control	17.16	16.5	6.24
Self-esteem post-test	Experimental	17.25	18.5	9.54
	Control	18.67	17.0	7.52

Figure 11: Positive affect (PA) raw scores for experimental and control group pre-test and post-test

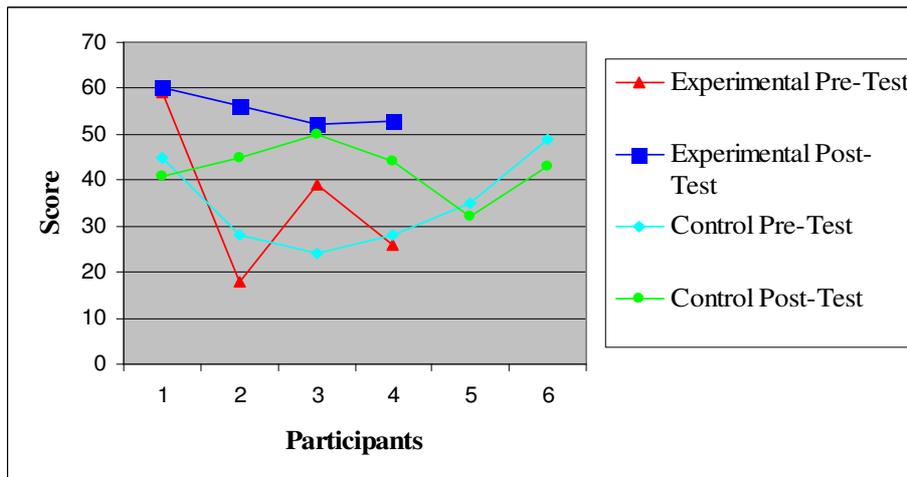
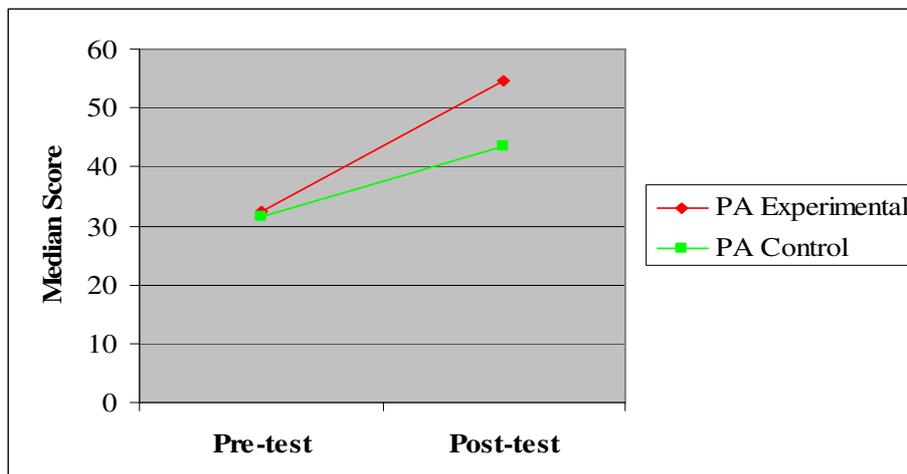


Figure 12: Positive affect (PA) median scores for experimental and control group pre-test and post-test



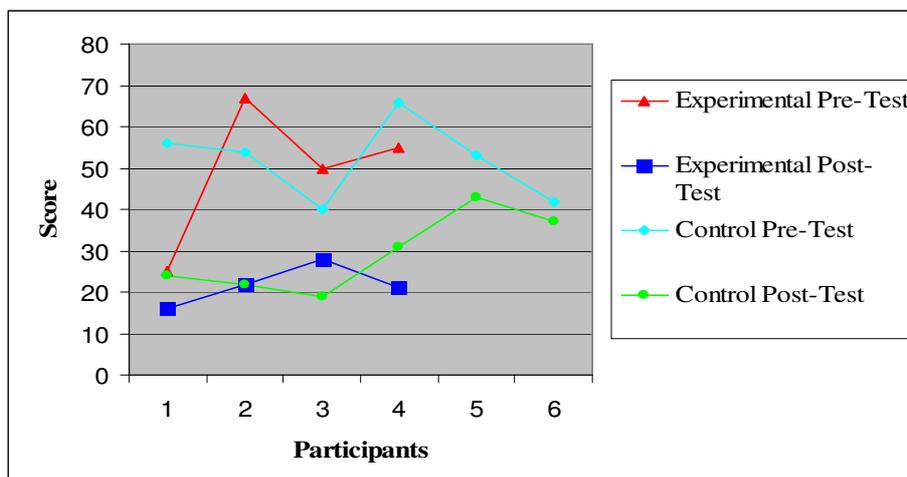
With reference to positive affect, 75% of the participants in the experimental group showed a large improvement in their experience of positive emotions while 25% (one participant) showed only a small improvement. In the control group, 50% of the participants showed some improvement while the other 50% appeared to have minimally lower levels of positive affect. Figure 12 shows that the experimental group displayed a slightly higher median score than the control group, pointing to an improvement in positive affect.

Figure 12 shows that one can probably expect a significant difference between the pre-test and post-test for each group and possibly between the post-test score of the experimental group compared with that of the control group.

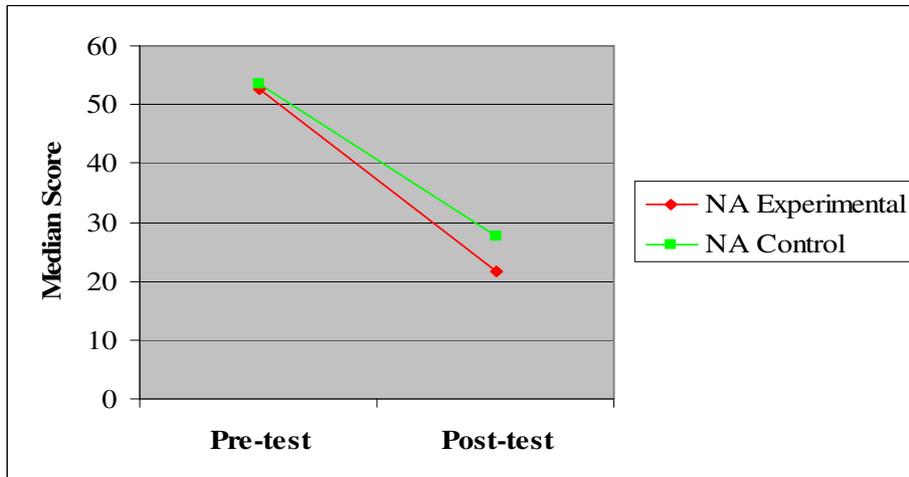
This outcome, as reflected in figure 12, is similar to Cook and Campbell’s (1979) outcome, where the experimental group’s pre-test score is slightly higher than the control group’s pre-test score and both groups display a growth in the expected direction with the difference between the two groups’ post-test scores being larger than the difference at the pre-test level.

A further discussion of the possible reasons for such results will be discussed in chapter six, the discussion chapter.

**Figure 13: Negative affect (NA) raw scores for experimental and control group pre-test and post-test**



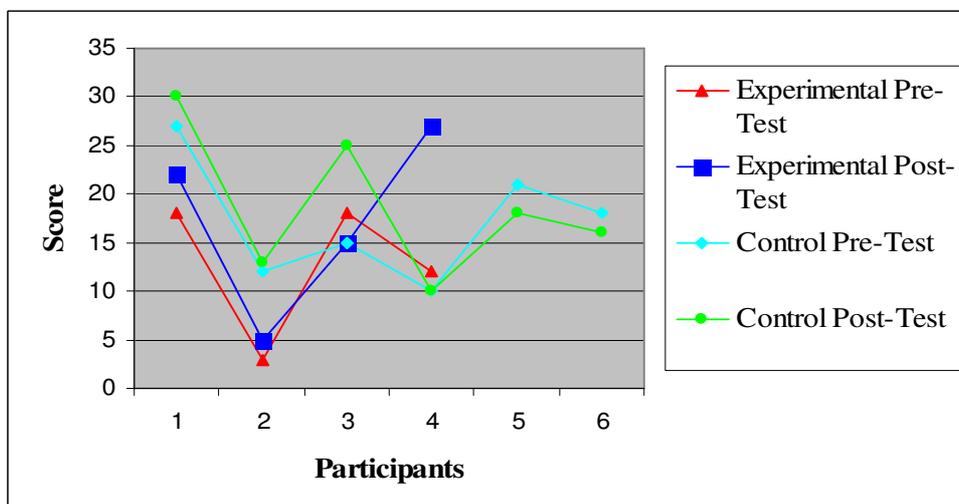
**Figure 14: Negative affect (NA) median scores for experimental and control group pre-test and post-test**



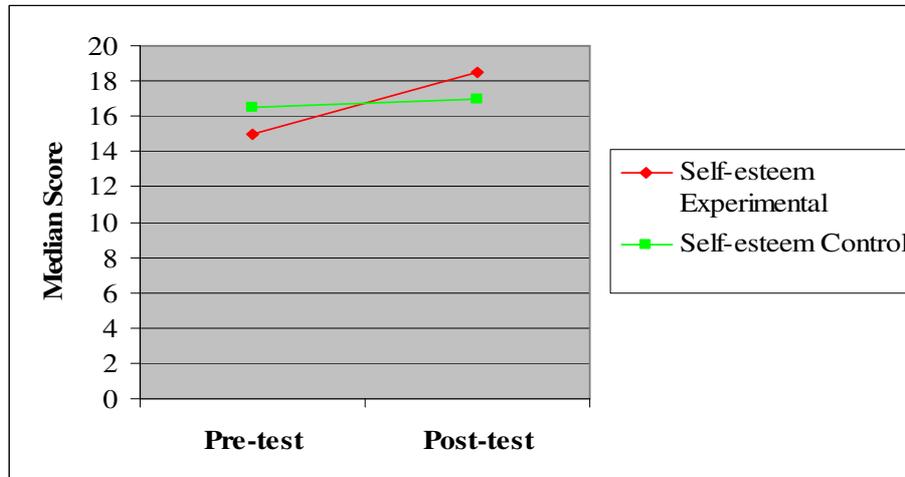
Both the experimental and control group experienced a decrease in negative affect. Figure 14 displays the median scores of the experimental and control groups before and after the intervention. The decrease between the pre-test and post-test seems quite substantial.

This figure also shows that the experimental group experienced a slightly greater decrease in negative affect. Looking at figure 14, one can expect a significant difference between the groups but a non-significant difference between the experimental and control groups for the post-test.

**Figure 15: Self-esteem raw scores for experimental and control group pre-test and post-test**



**Figure 16: Self-esteem median scores for experimental and control group pre-test and post-test**



In the experimental group, 50% of the participants showed a slight improvement in their level of self-esteem, one participant (25%) showed a larger improvement in his or her level of self-esteem than the others and one participant (25%) displayed a slight decrease in his or her self-esteem level. In the control group, 33.33% showed a slight improvement in their level of self-esteem, 33.33% showed a decrease in their level of self-esteem, one participant (16.67%) showed no change in self-esteem and one (16.67%) displayed a larger improvement in his or her level of self-esteem.

According to figure 16, one can expect a significant increase between the pre-test and post-test for the experimental group, but not for the control group because their scores stay relatively the same. According to Cook and Campbell (1979), this indicates a typical interaction effect. The experimental group's pre-test scores are lower than those of the control group and increase to beyond those of the control group on the post-test.

This outcome is a strong indication of a treatment effect. It might be that the extreme effect or improvement is due to the scale intervals presented in the measurement instrument but this does not mean that the improvement is not due to the intervention program. What it does mean is that the effect is possibly not as large as or as strong as it might appear in the figure (Cook & Campbell, 1979).

One probably would not obtain a significant difference between the post-test scores for the experimental and control groups because the control group's scores are almost the average of those of the experimental group's pre-test and post-test scores.

### Statistical Tests: Mann-Whitney U Test for Change Scores

As was discussed in the previous chapter, the change scores will be evaluated for significant differences. According to figures 12 and 14 for NA and PA, a change score evaluation makes sense because the outcome patterns conform to what one expects for a quasi-experimental situation, i.e. similarity of groups on the dependent variable initially but a difference between them on the post-test score. For both PA and NA the expected changes were in the correct direction i.e. although the control group also changed on PA and NA, the experimental group changed slightly more.

In this section the results will be evaluated for significant changes using the Mann-Whitney U test. The mean, median and standard deviation of the change scores of the two groups will be analysed and specific attention will be given to the effect size of the change scores.

Table 10: *Positive affect, negative affect and self-esteem change score mean, median and standard deviation*

<b>N=10</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>Positive affect</b>	12.5	14.5	15.14
<b>Negative affect</b>	-24.5	-27.0	13.26
<b>Self-esteem</b>	2.7	1.5	5.81

Table 11: *Positive affect (PA), negative affect (NA) and self-esteem change score mean, median and standard deviation for experimental (n=4) and control (n=6) groups*

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>PA change score</b>	<i>Experimental</i>	4	19.75	20.0	16.15
	<i>Control</i>	6	7.67	6.5	13.63
	<i>Total</i>	10	12.50	14.5	15.14
<b>NA change score</b>	<i>Experimental</i>	4	-27.50	-28.0	15.50
	<i>Control</i>	6	-22.50	-26.5	12.66
	<i>Total</i>	10	-24.50	-27.0	13.26

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>
<b>Self-esteem change score</b>	<i>Experimental</i>	4	4.50	3.0	7.59
	<i>Control</i>	6	1.50	0.5	4.68
	<i>Total</i>	10	2.70	1.5	5.81

Table 12: Mann-Whitney U test change score ranks for experimental and control groups respectively

	<b>Group</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Ranks</b>
<b>PA change score</b>	<i>Experimental</i>	4	7.00	28.00
	<i>Control</i>	6	4.50	27.00
	<i>Total</i>	10		
<b>NA change score</b>	<i>Experimental</i>	4	4.75	19.00
	<i>Control</i>	6	6.00	36.00
	<i>Total</i>	10		
<b>Self-esteem change score</b>	<i>Experimental</i>	4	6.38	25.50
	<i>Control</i>	6	4.92	29.50
	<i>Total</i>	10		

Table 13: Mann-Whitney U test change score and significance values for sample (N=10)

	<b>Change Score</b>	<b>Significance (p)</b>
<b>Positive Affect</b>	6.0	0.201
<b>Negative Affect</b>	9.0	0.521
<b>Self-esteem</b>	8.5	0.454

Table 14: Experimental and control group Mann-Whitney U test statistics<sup>b</sup>

<b>N=10</b>	<b>PA change score</b>	<b>NA change score</b>	<b>Rosen change score</b>
<b>Mann-Whitney U</b>	6.000	9.000	8.500
<b>Wilcoxon W</b>	27.000	19.000	29.500
<b>Z</b>	-1.279	-0.642	-0.748
<b>Asymp. Sig. (2-tailed)</b>	0.201	0.521	0.454
<b>Exact Sig. [2*(1-tailed Sig.)]</b>	0.257 <sup>a</sup>	0.610 <sup>a</sup>	0.476 <sup>a</sup>
<b>Exact Sig. (2-tailed)</b>	0.257	0.576	0.514
<b>Exact Sig. (1-tailed)</b>	0.129	0.290	0.252
<b>Point Probability</b>	0.043	0.038	0.029
<b>Effect size (r)</b>	-0.41	-0.20	-0.24

a. Not corrected for ties

b. Group variable: group

In order for a score or variable to show a significant difference between the groups, the one-tailed probability must be smaller than or equal to 0.05. Since the positive affect ( $p = 0.129$ ), negative affect ( $p = 0.29$ ) and self-esteem ( $p = 0.252$ ) exact significance values (one-tailed) do not meet this requirement, none of them showed a significant change (cf. table 13). Effect sizes were calculated according to the formula provided in the previous chapter and can be seen in table 14 above. Effect sizes for the differences in change scores for NA and self-esteem were small while the effect size for PA was medium. This indicates a relative difference between the two groups in terms of central tendency although the difference is not significant. The medium effect size for PA confirms the trend observed in figure 12 while the small effect sizes confirm the expectation indicated in figure 14 and 16.

To summarise the results:

- (a) PA change score for the experimental group ( $Mdn = 20.0$ ) did not differ significantly from that of the control group ( $Mdn = 6.5$ ),  $U = 6$ ,  $z = -1.28$ ,  $p = 0.129$ ,  $r = -0.41$ .
- (b) NA change score for the experimental group ( $Mdn = -28.0$ ) did not differ significantly from that of the control group ( $Mdn = -26.5$ ),  $U = 9$ ,  $z = -0.642$ ,  $p = 0.290$ ,  $r = -0.20$ .
- (c) Self-esteem change score for the experimental group ( $Mdn = 3.0$ ) did not differ significantly from that of the control group ( $Mdn = 0.5$ ),  $U = 8.5$ ,  $z = -0.748$ ,  $p = 0.252$ ,  $r = -0.24$ .

### **Statistical Tests: Wilcoxon signed-rank test**

In order to test the difference between pre-test and post-test scores for NA, PA and self-esteem, the Wilcoxon signed-rank test was used. This test was only used for the self-esteem scores for the experimental group because it was stated that a difference in scores was expected between the pre-test and post-test situation. The scores for the control group were not expected to change much (see figure 16).

Table 15: *Wilcoxon signed-rank test for experimental group*

	<b>PA post – PA pre</b>	<b>NA post – NA pre</b>	<b>Rosen post – Rosen pre</b>
<b>Z</b>	-1.826 <sup>a</sup>	-1.826 <sup>b</sup>	-1.095 <sup>a</sup>
<b>Asymp. Sig. (2-tailed)</b>	0.068	0.068	0.273
<b>Exact Sig. (2-tailed)</b>	0.125	0.125	0.375
<b>Exact Sig. (1-tailed)</b>	0.063	0.063	0.188
<b>Point Probability</b>	0.063	0.063	0.063
<b>Effect size (r)</b>	-0.65	-0.65	-0.39

- a. Based on negative ranks
- b. Based on positive ranks

Table 16: *Wilcoxon signed-rank test for control group*

	<b>PA post – PA pre</b>	<b>NA post – NA pre</b>	<b>Rosen post – Rosen pre</b>
<b>Z</b>	-0.943 <sup>a</sup>	-2.207 <sup>b</sup>	-0.542 <sup>a</sup>
<b>Asymp. Sig. (2-tailed)</b>	0.345	0.027	0.588
<b>Exact Sig. (2-tailed)</b>	0.438	0.031	0.688
<b>Exact Sig. (1-tailed)</b>	0.219	0.016	0.344
<b>Point Probability</b>	0.063	0.016	0.063
<b>Effect size (r)</b>	-0.270	-0.640	-0.160

- a. Based on negative ranks
- b. Based on positive ranks

Tables 15 and 16 report the Wilcoxon signed-rank test, z-values, the exact significance one-tailed and the effect sizes for the experimental and the control groups. However, here the interest lies only in the experimental group's performance on the self-esteem measure. It can be seen that the pre-test median ( $Mdn = 15.0$ ) does not differ significantly from the post-test median ( $Mdn = 18.5$ ),  $z = -1.095$ ,  $p = 0.188$ ,  $r = -0.39$ . Thus, although not significant the effect size is medium and the direction of change is in the correct direction. The control group's pre-test ( $Mdn = 16.5$ ) and post-test ( $Mdn = 17.0$ ) median scores for the self-esteem did not differ significantly as expected,  $z = -0.542$ ,  $p = 0.344$ ,  $r = -0.16$ . The small effect size indicates that the pre-test and post-test scores are virtually identical.

## **Conclusion**

In this chapter the descriptive and inferential statistical results obtained are delineated. In the next chapter these results will be discussed in order to draw inferences and come to conclusions.

## CHAPTER 6

### Discussion

#### Introduction

Based on the results reported in chapter five, the biographical characteristics of the participants will be discussed. This will be followed by a discussion of the implications of the outcomes patterns, the change score results, the effect size interpretations and the nature of the three variables measured in this study, namely positive affect, negative affect and self-esteem.

#### Discussion of Biographical Characteristics

Because of the small sample size and the limitation imposed as a result of not being able to select and distribute the participants randomly between the experimental group and the control group, the differences between the participants will be discussed. With reference to gender, there is an equal distribution of males and females within the sample, with each group having an equal number of male and female participants. Although the control group has a slightly greater median age ( $Mdn = 14.5$ ) than the experimental group ( $Mdn = 13.5$ ), this age difference is statistically non-significant ( $U = 6.5, z = -1.2, p = 0.27$ ). The racial distribution is far from equal as the bulk of the sample was Caucasian; there were no black participants in the experimental group while the only two black participants were in the control group. Race appears to affect the manner in which emotions are experienced and expressed and since emotions, in the form of perceived emotional well-being, are what the study measures, racial differences might have affected the results. Lively and Powell (2006), for example, found that there are racial differences in the manner in which anger and locus of control are expressed and understood.

The majority of the participants met the diagnostic criteria for a mood disorder, either Bipolar I disorder or major depressive disorder. Various studies have reported on the effectiveness of dance and movement therapy in treating mood disorders (Cruz, 2003; Jeong et al., 2005; Wessels-Bloom, 2004) and consequently the dance and movement sessions might

have had a greater effect on individuals with these disorders than on individuals with other disorders. When considering psychological disorders, there is a fairly equal distribution of mood disorders between the groups. Both groups had two participants diagnosed with major depressive disorder and two participants in the experimental group and three participants in the control group were diagnosed with Bipolar I disorder. What does distort the psychological disorder distribution within the sample is that only one participant had a different diagnosis, that of conduct disorder. This could have affected the results. From the demographic information reported on in chapter five, the results, it can be deduced that the major depressive disorder and Bipolar I disorder diagnoses did not significantly affect the results obtained from the positive affect, negative affect and self-esteem measures while the conduct disorder diagnosis did affect the results. The reason for the similar pattern of results in the participants diagnosed with major depressive disorder and Bipolar I disorder could be that both fall under the broader category of mood disorders. Thus it might be that they present at some points during the course of the disorder with similar etiological and/or contributing factors (Sadock & Sadock, 2007).

When looking at the individual scores of the two black participants, some interesting information comes to light. When compared with the Caucasian participants who all displayed an improvement in positive affect, the two black participants displayed a decrease in positive affect. Just as the Caucasian participants displayed a decrease in negative affect, so did both the black participants but in their case the decrease was relatively small compared with the rest of the total sample. One Caucasian male and both the black participants were the only ones to display a slight decrease in self-esteem. There are various possible explanations for these results. As mentioned earlier it might be that racial differences, in the sense of cultural differences, lead individuals to experience, express and understand emotions differently. It might also be due to the severity of their disorders or to the way they experience the ward. Due to cultural experiences, they might be more community oriented, having grown up in a collectivistic environment. Thus being put into a system where the focus is on the individual and where they

have limited contact with family and/or friends, might have caused them to experience more negative feelings.

Because the only black male participant was diagnosed with conduct disorder, the results obtained might have been influenced by the race of the participant rather than by the conduct disorder thus making race the important factor to note rather than the disorder. The participant's gender might also have influenced the results in a way that would not have been the case if the participant with conduct disorder had been a black female. The actual effect of demographic factors on the results obtained from this participant is thus difficult to determine. It will only be possible to determine this effect through further research in which each of these factors will be examined separately; for example, a similar study could be conducted in which race, culture and gender are controlled or at least where the sample is larger and randomly assigned.

### **Implication of Outcome Patterns**

In the results chapter, two outcomes of Cook and Campbell (1979) are referred to. The one refers to the results from the positive affect (PA) and negative affect (NA) measures and the other to the results from the self-esteem measure. According to Cook and Campbell there are various reasons for the outcome patterns reflected in this study's positive affect, negative affect and self-esteem variables. These reasons must be considered in order to determine whether the results obtained are due to the independent variable, which, in this case, is the dance and movement intervention program or to other factors referred to by Cook and Campbell (1979). It must be noted that the improvement pattern of the positive affect variable and the decline pattern of the negative affect variable are just two sides of the same coin and explanations for the one also apply to the other.

When considering possible explanations for the results of the positive affect and negative affect variables, "selection-maturation interaction" must be considered (Cook & Campbell, 1979, p. 106). Selection-maturation refers to the manner in which the participants were selected as well as to possible differences between the participants within each group (i.e. within each

group they may form sub-groups with different “abilities”) or differences between the participants in the combined experimental and control group. Selection-maturation also looks at maturation which occurred during the research period, which might provide an explanation for the results being different from what the researcher might have expected. Because both the experimental and control groups displayed some growth/decline or improvement in the three variables that were measured, it appears that both groups underwent some form of “intervention” that led to the improvement. Thus it might be that the improvements shown were not due to the dance and movement intervention program that the experimental group was exposed to but rather to the other interventions that were offered to the participants in both the experimental and the control groups. These other interventions included individual and group therapy as well as occupational therapy. This might have been why no significant differences were found between the results of the two groups.

Cook and Campbell (1979) also hold that such an outcome (see figures 12 and 14) is much more likely to occur when participants are self-selected, with a great drive to show growth or improvement, that is, they volunteer for the treatment because they are highly motivated to change. This can affect both the experimental group and the control group. Since the participants for this study were pre-selected it might be that the results are due to the intervention rather than to this confounding variable. Another explanation for this outcome might be greater within-group variance; where some of the participants within the experimental group showed greater or poorer improvement than the rest of the participants in that group due to innate abilities or differences such as age or experience (Cook & Campbell, 1979). In such a case the variance on the dependent variables would be larger within a group. This did not seem to be the case. Although in the experimental group there seems to be some variance in the results for the positive affect scale, this variance seems to be due to the scores of a single participant and since the sample is very small this affects the results obtained to a greater degree than would have been the case if the sample had been larger (see figure 11).

There is also some within-group variation in the control group which probably caused the group as a whole to display a poorer performance (see figure 11). Race, and by implication culture, and psychological disorder seem to play the largest roles here. During the discussion of the biographical characteristics of the participants it was mentioned that there were only two black participants, both were in the control group, and one had a clinical disorder that was different from the rest of the group, namely conduct disorder. The effect of race and/or psychological disorder might thus have affected the results. Gender, age and the other two psychological disorders, major depressive disorder and Bipolar I disorder, as mentioned previously, did not have a significant effect on the results.

Between-group differences must also be considered. Here pre-test scores are important and can provide information regarding differential growth rates. Hypothetically if the average pre-test scores of the two groups, the experimental group and the control group, were to differ to some extent, it could indicate a difference in initial “ability”. The members of one group would thus, from the onset of the study, have had greater abilities than the members of the other group. This would have led them to show a greater maturation effect and thus a greater improvement. The improvement would in such a case have had nothing to do with the intervention but would rather have been due to the innate characteristics of some or most of the participants in either of the groups (Cook & Campbell, 1979).

However, this does not seem to be the case in this study for both positive affect and negative affect since both variables for both groups were almost equal on the pre-test. Again the effect of race and psychological disorder of the participants in the control group becomes significant since it seems that due to the scores of the two black participants the median scores on the post-test of the control group were lower than they might have been if these two participants had not been included in the group. Since one participant is black and had a conduct disorder diagnosis, it is difficult to say whether the effect is due to the cultural and/or the psychological disorder of the participant.

Had the sample been larger, the race and conduct disorder diagnosis might not have had such a significant effect. Cook and Campbell (1979) also state that regression to the mean might explain why both the experimental group and control group showed an improvement. Regression to the mean usually occurs when outliers are present on the pre-test scores of a group. However, the scores on the pre-test for the experimental group and the control group were not too extreme, which means that regression to the mean probably did not play a role in the increase on the post-test scores. This applies to both positive affect and negative affect; negative affect is merely the inverse pattern of the positive affect variable.

When looking at the outcome observed with the self-esteem variable ceiling or floor effect and regression to the mean again becomes important (Cook & Campbell, 1979). This is unlikely to have affected the results as the median of the experimental group starts off lower than that of the control group and then exceeds the post-test scores of the control group. Thus, although statistical significance was not found, this pattern is usually a strong indication of a causal effect (Cook & Campbell, 1979). The lack of statistical significance in this case is probably due to the small sample size of the study.

### **Discussion of Change Score Results**

This study had two specific hypotheses. Firstly, it was hypothesised that a dance and movement intervention program would improve the perceived emotional well-being of the participants in the experimental group and that this improvement would be greater than that of the participants in the control group who did not take part in such an intervention. Two variables would express this improvement; positive affect and negative affect. Secondly, it was hypothesised that as the perceived emotional well-being of the participants improved, so too would the self-esteem of the participants as there is a correlation between perceived emotional well-being and self-esteem (Diener & Lucas, 1999; Katz et al., 2002).

Again, it was believed that the control group would also display an improvement in self-esteem but that it would be a less significant improvement than that of the experimental group.

Therefore it was hypothesised that the experimental group would show a more significant improvement in positive affect, negative affect and self-esteem than the control group. In the study both the experimental group and the control group displayed an improvement in these three variables but the improvement in the experimental group was not large enough to be significant. The control group displayed almost no improvement in their results on the self-esteem measure. This study thus did not find statistical support for the hypotheses that dance and movement therapy can improve the perceived emotional well-being and self-esteem of participants who take part in a dance and movement intervention program when compared with participants who do not.

As mentioned in the discussion above, the reason for the non-significant results could be the small sample size of the study. Thus, when comparing the experimental group with the control group, although the results obtained were non-significant, effect size provided some support for the tendencies observed. A discussion of the effect size differences on the three variables follows.

### **Interpretation of Effect Size**

After considering each of the three individual variables, the following information seems important. Effect size is a standardised way in which to represent the magnitude of a difference or relationship, and can be useful irrespective of the significance ( $p$ ) of the effect (Field, 2005). Of course, the effect size, power, significance level and sample size are interrelated and, given the differences that were found, it is possible to calculate the sample size that would have yielded significant results.

Thus, although no significant improvement could be established in terms of the change scores and the pre-test and post-test differences, the effect sizes of the three variables point to probable tendencies or patterns. The effect size for the non-significant change score was small for the self-esteem variable but given the outcome pattern for the median scores this is not too surprising (see figure 16).

The outcome pattern identified by the experimental group's pre-test and post-test scores for self-esteem usually indicates a causal effect by the independent variable. This conclusion is strengthened by the very small effect size for the pre-test and post-test difference, for the control group. This means that the self-esteem scores of the participants in the control group stayed the same. However, the experimental group had a medium effect size for self-esteem indicating improvement. Although the improvement was not significant, the cross-over pattern strengthens the assumption of a treatment effect, that is that it was the dance and movement intervention that caused the improvement rather than any other variable. This conclusion must be considered very carefully because of the small sample, its non-random nature, and the non-significance of the pre-test – post-test score improvement for the experimental group.

The change score effect size for negative affect was also small and in this instance it indicated that there was no difference between the experimental group and the control group on the post-test. The effect size for negative affect pre-test and post-test scores for the experimental and control groups was large, which means that a reasonable (but non-significant) decline in negative affect scores took place in both groups.

The change score for positive affect was medium, implying some difference in improvement (albeit non-significant) between the experimental group and the control group. The improvement of the positive affect variable, as indicated by the effect size for the experimental group, was large. The effect size improvement of the positive affect for the control group was small, indicating a tendency for greater improvement in the experimental group. The concern expressed above that the control group had also improved is thus reduced to some extent. It does not seem as if other factors, such as other therapies and history confounds, had an effect on the control group. Thus, by ruling out regression to the mean, history effects and, to some extent, maturation, one can carefully state that something, which may well have been the dance and movement therapy, influenced the positive affect scores of the experimental group.

However, this must be stated with great caution given the non-significance of the results, the non-random nature of the sample and the small sample size.

The dance and movement intervention program could thus have had some effect on positive affect and self-esteem but not on negative affect. Again, the influence of the scores of the two black participants must be kept in mind in light of possible cultural influences and/or the effect of the type of disorder; the non-random nature of the sample must also be kept in mind.

### **The Nature of the Constructs**

When taking into account the individual emotions that make up the positive affect score of the positive and negative affect scale for children (PANAS-C), probable explanations for the larger effect size of this variable include the fact that the two emotions that the participants were asked to report on were interest and excitement. Ellis (2001) found that as the sessions of her study progressed so too did the interest that the participants displayed. The interest and excitement of the participants could thus have improved and grown as the sessions progressed. Strong, proud, lively and energetic were also emotions given to the participants to reflect on. Lively and energetic feelings could have improved because of the physical dimension of dance and movement. This is because the exercise aspect of dance and movement leads to physiological improvements which in turn foster psychological improvements (Dusso, 2000). The participants might have experienced a greater sense of strength and pride as dance and movement therapy has been found to lead to a greater sense of mastery (Hanna, 1999).

When considering the emotions that constitute the negative affective score, many of them are core symptoms of depression and anxiety, which are often found simultaneously in major depressive disorder (Sadock & Sadock, 2007). These emotions include feeling sad, upset, nervous, scared, afraid, miserable, lonely, gloomy and blue. Since nine of the ten participants met the criteria for major depressive disorder, these emotions might have been focused on extensively during individual therapy, causing the participants to experience a decrease in these emotions. If this is so, the dance and movement intervention might have only minimally

contributed to this decrease. Some authors such as Jeong et al. (2005) and Capello (2008) hold that dance and movement therapy leads to an improvement in self-esteem while other authors such as Ho (2005) and McComb and Clapton (2003) maintain that self-esteem is a relatively stable variable that might require a longer intervention period to cause a significant improvement. Thus it might be that there is a correlation between perceived emotional well-being and self-esteem but that change in self-esteem requires a longer intervention period to show improvement. Since the intervention program of this study was conducted over only two weeks it seems that it would have been too short a period to have resulted in a significant improvement in self-esteem. A six week period which is what was originally intended, may also have been too short. McComb and Clapton (2003) implemented their dance and movement program over an eight week period and even found that to be too short. Ho (2005) mentioned small sample size as being a further limiting factor to the improvement of self-esteem.

This study also points out the problematic nature of a small sample although the argument above based on effect size and the outcome pattern tentatively supports a treatment effect. Thus, although the intervention period was short, it would seem that it did result in some improvement in the self-esteem of the participants in the experimental group.

## **Conclusion**

In summary, based on the information provided regarding the racial differences within the sample, it is possible that the medium effect size of the positive affect and self-esteem variables is due to the unique experiences of the two black participants rather than to the intervention program. Since both these participants were in the control group and made up only a small portion of the total sample, no definite conclusions regarding the effect of race on the outcomes of the study could be drawn. It will only be possible to ascertain the actual effect of racial/cultural differences if a future research study is undertaken in which the sample has a more balanced racial distribution or if the study focuses either on a single racial group or on a comparison of the experiences of different racial groups.

This study did not find the hypothesised improvements that were expected in the perceived emotional well-being and self-esteem of the participants as the difference between the post-test scores of the experimental and the control groups was not large enough to be significant. As has been mentioned above, a medium effect size was found for positive affect and self-esteem which points to a greater improvement in positive affect and self-esteem in the experimental group when compared with the control group.

## Conclusion

Being the first of its kind in South Africa, this study highlighted the potential benefits of dance and movement therapy with adolescents in psychiatric institutions as participants, and identified various pitfalls that might influence future research. Perceived emotional well-being and self-esteem were the two dependent variables the researcher hoped to influence using a two week, twelve session, dance and movement intervention program.

The study had a quantitative research design with a quasi-experimental research strategy. The intervention program is discussed in detail in chapter four; it focused specifically on emotional expression and experience. The reason for this was to foster a greater sensitivity towards various emotions, using dance and movement and allowing the participants to explore these emotions in order to positively affect perceived emotional well-being. It was also believed that dance and movement, because of its effect on perceived emotional well-being, could positively influence the self-esteem of the participants.

Using the positive and negative affect scale for children (PANAS-C) and the Rosenberg self-esteem scale, perceived emotional well-being and self-esteem were measured in a total sample of ten participants. The four participants who made up the experimental group took part in a two week dance and movement intervention program after which they completed the two measures referred to above for a second time. The other six participants in the control group did not take part in the dance and movement intervention program but after a two week interval, also completed the PANAS-C and Rosenberg self-esteem scale for a second time.

The results of the study showed non-significant improvements in the emotional well-being (positive affect (PA) and negative affect (NA)) and self-esteem of the participants in the experimental group. Any one of the confounding variables such as maturation, biographical differences, small sample size and non-random selection and assignment, might have contributed to the non-significant results. If this study had only focused on obtaining significant results, the hypothesis would have been disproved and it would have been concluded

that dance and movement therapy was not effective in improving the perceived emotional well-being and self-esteem of the participants. Further analysis, however, focused on effect size and outcome patterns and provided supporting information. The outcome patterns observed in this study were similar to those discussed by Cook and Campbell (1979). Cook and Campbell (1979) explored various reasons for outcomes patterns such as those found for the positive affect, negative affect and self-esteem variables in this study and through critical evaluation (see chapter six - Discussion) most of these could be rejected. This provided evidence that differences between the results of the experimental group and those of the control group were due to the dance and movement intervention program. The dance and movement intervention program thus led to an improvement in the perceived emotional well-being and self-esteem of the participants in the experimental group. Both positive affect and self-esteem resulted in a medium effect size showing that these two variables were positively affected by the dance and movement intervention program whereas negative affect although also positively affected was affected to a lesser extent.

### **Limitations**

The limitations of this study have been mentioned throughout this dissertation. The most important limitations are:

- The small sample size which probably contributed to the statistically non-significant results.
- The non-random selection of the participants. Although the researcher wanted the participants to be randomly selected, due to factors beyond her control this was not possible and the participants were selected by the staff of Weskoppies Psychiatric Hospital based on availability (see chapter 3 - Methodology).
- After the sample was selected it was not possible to distribute the sample randomly between the experimental and control groups. In particular, this led to an uneven distribution of race and the type of psychological disorder between the two groups. Because of the small sample size these differences affected the results (see chapter 3 – Methodology).

- Had it been possible to implement the intervention for the six week period that the researcher originally planned, the results might have been different and the impact of the intervention might have been more significant. Because it was only implemented over a two week period the results might be acute. Any benefits will therefore probably not have a long-term effect on the participants. The benefits might have been more sustainable had the study been conducted over a longer period.
- Neither the positive and negative affect scale for children (PANAS-C) nor the Rosenberg self-esteem scale have been standardised for a South African sample and although both these scales have been created for the age group of the participants (adolescents), cultural and other biographical differences might have affected the results.
- Other confounding variables such as attention by the hospital staff, other therapies, discharge dates and individual growth (maturation) might have affected the results. These were beyond the control of the researcher.

## **Recommendations**

Based on the limitations discussed above the following are recommendations for future research:

- A larger study sample should be selected as this might lead to more conclusive results.
- The sample should be randomly selected and distributed in order to decrease the effect of demographic and biographical differences on the results.
- The same, or a similar, dance and movement intervention program should be implemented over a longer period of time as this might lead to more conclusive results and might be more effective in the long-term.
- The instruments used to measure perceived emotional well-being and self-esteem should be standardised for a South African sample. This will ensure that biographical difference between populations do not affect the results.

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## Appendix A

### Positive and negative affect scale for children (PANAS-C)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word.

Indicate how much you have felt this way during the past few weeks.

Feeling / emotion	Not Much or not at all	A little	Some	Quite a bit	A lot
Interested	1	2	3	4	5
Sad	1	2	3	4	5
Frightened	1	2	3	4	5
Excited	1	2	3	4	5
Ashamed	1	2	3	4	5
Upset	1	2	3	4	5
Happy	1	2	3	4	5
Strong	1	2	3	4	5
Nervous	1	2	3	4	5
Guilty	1	2	3	4	5
Energetic	1	2	3	4	5
Scared	1	2	3	4	5
Calm	1	2	3	4	5
Miserable	1	2	3	4	5
Jittery	1	2	3	4	5
Cheerful	1	2	3	4	5
Active	1	2	3	4	5
Proud	1	2	3	4	5
Afraid	1	2	3	4	5
Joyful	1	2	3	4	5
Lonely	1	2	3	4	5
Mad	1	2	3	4	5



<b>Feeling / emotion</b>	<b>Not Much or not at all</b>	<b>A little</b>	<b>Some</b>	<b>Quite a bit</b>	<b>A lot</b>
Disgusted	1	2	3	4	5
Delighted	1	2	3	4	5
Blue	1	2	3	4	5
Gloomy	1	2	3	4	5
Lively	1	2	3	4	5

## Appendix B

### Rosenberg Self-Esteem Scale

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.	SA	A	D	SD
6.	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8.	I wish I could have more respect for myself.	SA	A	D	SD
9.	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

## Appendix C

### Participant Information Leaflet

Dear Reader

My name is Sarita van der Merwe, a clinical psychology masters student at the University of Pretoria, and I am currently conducting a research project called: The effect of a dance and movement intervention program on the perceived emotional well-being and self-esteem of a clinical sample of adolescents. This study is being conducted for degree purposes. You are invited to participate in this research study which is aimed at determining if dance and movement can have a beneficial effect on a person's emotional well-being (how you feel) and self-esteem (what you think of yourself). Those who choose to participate will be required to fill in two questionnaires (short questions for which you choose an answer). After that some of the participants will take part in a dance and movement intervention program which will run over two weeks. Those who participate in the dance and movement intervention will be required to attend sessions three times a week, two sessions a day, for forty-five minutes a session. After the two weeks all the participants will complete the same questionnaires again.

During the weekly sessions dance, movement and music will be used to explore various emotional themes. During the first session of each day specific dance and movement activities will be used to assist the participants in expressing and experiencing specific emotions and during the second session the participants will take part in a hip-hop class during which a dance routine will be taught. After the two weeks the participants will have the opportunity to present the dance which they have learnt in a concert to the rest of the ward. There is a possibility for some physical injury but this will be guarded against by doing proper warm-up and cool-down exercises before and after each session. Possible benefits include improved emotional well-being and self-esteem, increased physical fitness and improved social relations.

If you have any further inquiries or concerns please feel free to contact the researcher Sarita van der Merwe at the University of Pretoria Psychology Department (012) 420 2329. If you feel comfortable with participating in such a study please read the assent form below and complete that which is required on it.

Thank you,

Sarita van der Merwe

## Assent Form

In order to participate in this research study, it is necessary that you give your informed assent that you may participate in the study titled: The effect of a dance and movement intervention program on the perceived emotional well-being and self-esteem of a clinical sample of adolescents.

Please consider the following points before signing:

- **I understand that I am participating in psychological research and that the information obtained can be used for future research.**
- **I understand that my participation will be anonymous (that is, my name will not be linked with my particulars) and that all information I provide will remain confidential.**
- **I understand that I have been provided with an explanation of the research in which I shall participate and have been given the name and telephone number of an individual to contact if I have questions about the research.**
- **I understand that participation in research is not required, is voluntary, and that, after any individual research project has begun, I may refuse to participate further without penalty.**

I, \_\_\_\_\_, have understood the above, as explained by my parent / guardian and by the researcher (Ms. S van der Merwe). I agree to be part of this study.

\_\_\_\_\_  
**Signature of Adolescent**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Witness**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Researcher**

\_\_\_\_\_  
**Date**

## Parent / Guardian Information Leaflet

Dear Reader

My name is Sarita van der Merwe, a clinical psychology masters student at the University of Pretoria, and I am currently conducting a research project called: The effect of a dance and movement intervention program on the perceived emotional well-being and self-esteem of a clinical sample of adolescents. This study is being conducted for degree purposes.

Your child or the child under your guardianship is invited to participate in this research study which is aimed at determining if dance and movement can have a beneficial effect on the emotional well-being and self-esteem of teenagers in in-patient programs. If you should give permission for your child to participate he or she will be required to fill in two questionnaires. After that some of the participants will take part in a dance and movement intervention program that will run over two weeks. Participants will be required to attend sessions three times a week, two sessions a day, for forty-five minutes a session. After the two weeks all the participants will complete the same questionnaires again.

During the weekly sessions dance, movement and music will be used to explore various emotional themes. During the first session each day specific dance and movement activities will be used to assist the participants in expressing and experiencing specific emotions and during the second session the participants will take part in a hip-hop class during which a dance routine will be taught. After the two weeks the participants will have the opportunity to present the dance which they have learnt in a concert to the rest of the ward.

There is a possibility for some physical injury but this will be guarded against by doing proper warm-up and cool-down exercises before and after each session. Possible benefits include improved emotional well-being and self-esteem, increased physical fitness and improved social relations.

If you have any further inquiries or concerns please feel free to contact the researcher Sarita van der Merwe at the University of Pretoria Psychology Department (012) 420 2329.

If you feel comfortable with participating or allowing your child to participate in such a study please read the consent form below and complete that which is required on it.

Thank you,

Sarita van der Merwe

## Consent Form

In order to participate in this research study, it is necessary that you as parent/guardian give your informed consent that your child/dependant who is younger than 18 years may participate in the study titled: The effect of a dance and movement intervention program on the perceived emotional well-being and self-esteem of a clinical sample of adolescents.

Please consider the following points before signing:

- **I understand that my child/dependant is participating in psychological research and that the information obtained can be used for future research.**
- **I understand that his/her participation will be anonymous (that is, his/her name will not be linked with his/her particulars) and that all information I, he/she provide will remain confidential.**
- **I understand that I have been provided with an explanation of the research in which my child/dependant will participate and have been given the name and telephone number of an individual to contact if I have questions about the research.**
- **I understand that participation in research is not required, is voluntary, and that, after any individual research project has begun, I may refuse the further participation of my child/dependant without penalty.**

I, parent / guardian of \_\_\_\_\_, have understood the above, as explained by the researcher (Ms. S van der Merwe). I agree that my child / dependant may be part of this study.

\_\_\_\_\_  
**Signature of Parent / Guardian**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Witness**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Researcher**

\_\_\_\_\_  
**Date**