CHAPTER ONE

INTRODUCTION

1.1. Introduction

This chapter introduces the two core components of this research: psychological skills training programs and psychological well-being. It discusses global sport psychology trends, the development of sport psychology in South Africa, group interventions and empowerment. It furthermore provides the motivation, problem statement, aim, hypotheses and modus operandi for the study.

1.2. Psychological skills training programs

The concept "psychological skills" contains two sub concepts which may be briefly unpacked as follows; "Psychology", originating from the Greek word *psyche*, can be described as the study and use of human bio-psycho-social-cultural-spiritual experiences and behaviour. "Skills" refer to learnable and trainable abilities used by different individuals in different situations and in diverse ways on a daily basis (Weinberg & Gould, 2007). Psychological skills training (PST) programs essentially refer to organised interventions, typically in health and sporting contexts, wherein systematic training of various psychological skills takes place.

Early sport PST interventions focused predominantly on the training of single psychological skills (Wann & Church, 1998). Over the last twenty years composite

PST package programs have been developed, implemented and evaluated. These latter programs aimed to improve various psychological skills simultaneously and provide optimal training in this regard (MacDougall, Scott, McFarlane, Leblanc & Cormier, 2001; Wann & Church, 1998). Such broad base PST programs have special value for youth athletes in their inclusion of biological, social and spiritual aspects, which improve general life skills and assists development.

Utilized by overseas sportspeople, in a variety of sport settings (Sanchez & Lesyk, 2001; Wann & Church, 1998), PST programs typically adopt an overlapping theoretical and practical approach to the discussion and teaching of skills. They can be applied to one sport in depth, used at different levels of competition and the same program can be adapted and implemented in a variety of life and sport contexts. However, although extensively utilized, PST programs often lack comprehensive evaluation in various areas. One specific gap noted in this study's needs assessment was the lack of research on the relationship between psychological skills, health and life in general.

Composite PST programs require a greater use of various psychological skills than single psychological skill interventions (Wann & Church, 1998). It is therefore logical to deduce that composite programs will have a greater differential effect on variables associated with health than single psychological skill interventions. In this regard the specific impact of PST programs on psychological well-being has not been formally evaluated and extensive literature and website searches have revealed only one specific reference to the measurement of psychological well-being as such (Kirschenbaum, McCann, Meyers & Williams, 1995). Furthermore, the conceptual

link between psychological skills and psychological well-being has not been formally investigated.

1.3. Psychological well-being

Psychological well-being is one component of health, which like psychological skills falls under the broad category of psychology. Psychological well-being or positive mental health has been extensively researched over the last two decades (Conway & Macleod, 2002; Ryff, 1989b; Wissing & Van Eeden, 1998). Various studies have demonstrated the positive effect of physical activity on psychological well-being and psychological well-being on sporting performance (Edwards, Edwards & Basson, 2004; Edwards, Ngcobo, Edwards, & Palavar, 2005; Hayes & Ross, 1986; Scully, Kremer, Meade, Graham & Dudgeon, 1998; Weinberg & Gould, 2007). Aspects of sports training can however also have a detrimental effect on positive mental health, most notably physical overtraining in the form of addiction can lead to a decrease in psychological well-being. Generally peak or optimum physical training is associated with variable effects on health and optimum performance, with moderate training typically enhancing health above performance and peak training enhancing performance above health. With psychological well-being an essential component of general life, health (World Health Organization, 1946), sport and performance, it is important that variables which could potentially increase or decrease psychological well-being be thoroughly researched and investigated.

1.4. Sport psychology

The First World Congress of Sport Psychology in 1965 in Rome established sport psychology as a modern academic and professional discipline (Morris, Hackfort & Lidor, 2003). The field is concerned with the theory and practice of psychological principles in sport and exercise contexts for the promotion of health and performance. Since 1965, sport psychology has developed considerably in America, Europe, Asia, Australia and parts of Africa. It is offered at many universities as part of a sport science or psychology degree, as a specialized sub-discipline, which compliments other health and performance sub-disciplines such as biokinetics, exercise physiology, sport management, coaching and physiotherapy. Regular international conferences, journals such as the International Journal of Sport and Exercise Psychology and Psychology of Sport and Exercise, as well as specialist registration categories are currently developing the field.

1.5. Sport psychology in South Africa

In South Africa, years of colonial and apartheid oppression, social and economic disparity, resulted in a lack of sport development in rural, historically disadvantaged and economically impoverished areas. Apartheid separate development policies resulted in unequal allocation of resources and the establishment of different sporting clubs and committees based on race. Anti-apartheid activities led to South Africa being banned from the Commonwealth and sanctions placed on national teams. Following the First World Congress of Sport Psychology in 1965, sport psychology in South Africa did not develop as was the case elsewhere in the world.

However since the disbandment of apartheid, there has been relatively more progress and South Africa has been reinstated into the Commonwealth and sanctions have been lifted. Sport has developed at various levels, with different Sports Trusts, Sport Development Programs and quota systems implemented to empower previously disadvantaged sportsmen and women, and develop sport in rural areas (Edwards, 2004). Sport psychology has been used to a certain extent in this process as a community intervention and generally to improve the performance of elite athletes. However despite the contemporary worldwide growth of sport psychology, in South Africa it still remains a largely underdeveloped area (Witton, 2004). There is currently no association for sport psychology in South Africa, no registration category with the Health Professions council of South Africa or other professional organizations, and no ethical code of conduct or practice guidelines. Due to the limited development of the field as an academic and professional sub-discipline, research and practice is generally undertaken on a part time basis. Sport psychology courses are developing and are offered at some universities as an elective, but generally not as a complete course.

In South Africa PST package programs are usually only accessible to some elite professional athletes and rarely available to youth sportspeople. An extensive literature review and searches on websites such as Pubmed, Ebschohost, Psychinfo and Sabinet revealed only one published PST program for local youth athletes (Pieterse & Potgieter, 2006). Overseas sportspeople have more access to sport psychology and PST programs and more financial, institutional development in sport occurs overseas, especially in economically developed countries. It is important that sport in South Africa remains up date with the latest developments in global sport and

exercise training techniques to promote health, and for athletes to continuously develop skills and remain competitive. It is furthermore imperative that South Africa uses its diverse uniqueness when conducting health and sport psychology interventions.

Although PST is often conducted on an individual basis due to the personal and specific nature of the skills being trained and this should continue to happen, the use of group PST interventions should not be underestimated. This is particularly true in South Africa with its mainly communal forms of living. Various community interventions have been implemented and researched in South Africa. While mental health promotion though physical activity, dance and movement has occurred naturally, throughout history (Edwards & Fox, 2005), a considerable increase in the structured utilization of these various forms of physical activity as a means of general public health promotion at the communal level has recently taken place (Fox, 2000b; Roux, Edwards & Hlongwane, 2007). New models including tertiary, secondary and primary prevention, primary, secondary and tertiary intervention, as well as power mapping, are being implemented in community settings for the improvement and maintenance of health (Edwards, 2001; Hagan & Smail, 1997a, 1997b).

1.6. Group interventions and empowerment

The dynamic interaction process, which occurs in groups, needs to be understood for them to be most effectively utilized (Weinberg & Gould, 2007). There is an underlying empowering mechanism that is understood to occur in supportive group environments (Rappaport, 1985). Empowerment is a process of giving and receiving,

as individuals use personal knowledge and resources to support one another (Bhana, 1998; Mthembu, 2001; Patel, 2003; Rappaport, 1985). In a sport setting, this can be observed objectively when a team becomes a cohesive unit. Subjectively, members gain empowerment through experiencing themselves as a team.

PST workshop interventions should be combined with existing community interventions and implemented to promote the development of life skills, sport and performance for South Africans. Furthermore PST package programs have great potential as a community health intervention strategy. As an added motivation it could result in the attainment of a vast amount of diverse knowledge.

1.7. Motivation for the study

While there appears to have been an increase in the research and practice of sport psychology in South Africa over the last decade, further growth is required. The development of sport psychology will improve health, sport and performance in all South Africans. The relationship between psychological skills and psychologically well-being requires investigation for life, health and performance reasons. As an added motivation, psychological well-being interventions are an important part of illness prevention and health promotion in developing countries such as South Africa. Although they are usually not evaluated scientifically, community sport psychology interventions typically use sport and skill empowerment programs to improve aspects of health such as psychological well-being. As a motivating factor PST programs could potentially not only improve sporting ability, but also skills and psychological well-being in community settings. Further evidence based community interventions

need to be developed, implemented and evaluated to ensure the continued promotion of health.

1.8. Problem statement

The rationale for this thesis is as follows. Firstly, there is a need for the refinement and evaluation of PST programs internationally. Secondly, due to the general lack of sport psychology and PST programs available for sportspeople in South Africa and particularly for youth athletes, there is a need to develop, implement and evaluate PST programs for local youth athletes. Thirdly, because the relationship between PST programs and psychological well-being does not appear to have been measured, there is a need to observe the effect of such a program on psychological well-being. Do PST programs enhance psychological skills, athletic performance and psychological well-being? What specific effect does a PST program have on psychological well-being? Are the concepts and components of psychological skills and psychological well-being interrelated? If so, how? Conceptual links can be further clarified using expert knowledge. Community life, sport and skill interventions are continuously required in South Africa to promote well-being. PST programs have great potential as health and performance intervention strategies.

1.9. Aim

The first aim of this research was to implement a PST program for youth athletes, assessing its impact on life and psychological skills, psychological well-being and performance, in an individual and group context. The second was to evaluate its

usefulness as a community workshop. The third aim was to implement the PST program with elite adult participants to assess its effectiveness and externally validate the program. The fourth was to acquire sport psychology experts' views on the relationship between psychological skills and psychological well-being.

1.10. Hypotheses

It was expected that the PST program would improve a school experimental groups' psychological skills, psychological well-being and performance in comparison to a school control group. It was estimated that the PST program would enhance a community workshop intervention groups' psychological skills. It was expected that the PST program would improve adult elite athletes' psychological skills and psychological well-being. It was anticipated that the concepts and components of psychological skills and psychological well-being would be inter-related in various ways.

1.11. Modus operandi

In order to investigate the questions raised above in the problem statement the modus operandi adopted in this research is concerned with a triangulated approach involving quantitative and qualitative methods for the acquirement and evaluation of diverse knowledge. This is further discussed in chapter four.

1.12. Résumé

This chapter introduced the concepts of psychological skills and psychological well-being. It discussed PST programs, global and local sport psychology, group interventions and empowerment, as well as provided the motivation, problem statement, aim, hypotheses and method of the study. The next two chapters are concerned with literature review related to two core components of this research which is psychological skills training programs and psychological well-being, following which the chapter on methodology will return to directly address the design and development of the empirical investigation and intervention.

CHAPTER TWO

LITERATURE REVIEW

PSYCHOLOGICAL SKILLS TRAINING PROGRAMS

2.1. Introduction

This chapter reviews previously implemented composite psychological skills training package programs and the psychological skills currently focused on in sport. It suggests links between PST programs, psychological skills and psychological well-being.

Extensive emphasis in sport has been placed on physical training. With the general development of the academic and professional field of sport psychology over the past thirty years, there has been a corresponding increase in sport psychological skills training and research especially with regard to the effect on sporting performance (Harmison, 2006; Wann & Church, 1998; Weinberg & Gould, 2007). PST interventions have been utilized with golfers (Beauchamp & Halliwell, 2003; Cohen, Tenenbaum & English, 2006; Thomas & Fogarty, 1997), soccer players (Thelwell, Greenless & Weston, 2006), javelin throwers and sprinters (Hanin, Korjus, Jouste & Baxter, 2002), distance runners (Patrick & Hrycaiko, 1998), badminton players (Bebetsos & Antoniou, 2003), as well as swimmers (Thiese & Huddleston, 1999). Psychological skill assessments have been conducted with rugby union and league players (Golby & Sheard, 2004; Jackson & Baker, 2001), rodeo athletes (Meyers &

LeUnes, 1996), American football players (Cox & Yoo, 1995) and equestrian riders (Meyers, Bourgeois, LeUnes & Murray, 1999). Studies have also demonstrated the value of PST during injury recovery (Milne, Hall & Forwell, 2003; Russel, 2000; Scherzer, Brewer, Cornelius, Van Raalte, Petitpas, Sklar et al., 2001).

2.2. Psychological skills training programs

Contemporary PST programs typically train two or more psychological skills simultaneously using a number of different techniques. Although a variety of programs exist, they generally have the same basic core objective, which is to provide holistic training. Variations are dependent on factors such as an athlete's age, level of competition, whether he/she competes in an individual or team sport, his/her past PST, what he/she seeks to achieve out of the sporting experience. Athletes conduct their own PST and/or can receive psychological training from professionally registered psychologists as well as other sports coaches, biokineticists or physical education teachers, who have the necessary qualifications and experience in PST (Gould, Damarjian & Medbery, 2004; Leslie-Toogood & Martin, 2003; Voight, 2005; Weinberg & Gould, 2007). PST generally occurs during the "off season" and practice sessions, and is utilized before, during and/or after competition. PST requires periodic follow-up reviewing sessions (Wann & Church, 1998), as it is a continuous experiential learning process, with sportsmen and women practicing PST techniques throughout their sporting season and career.

PST programs have been developed, implemented and evaluated at youth and adult,

individual, group and community, elite and non-elite levels (Mamassis & Doganis, 2001; Wann & Church, 1998; Weinberg & Gould, 2007).

2.2.1. Youth PST programs

PST package programs have been utilized with youth gymnasts (Fournier, Calmels, Durand-Bush & Salmela, 2005), tennis players (Mamassis & Doganis, 2001), hockey players (Wild, 2002), athletes (Hughes, 1990) and swimmers (De Souza, Marcello & Garcia, 2005).

As mentioned in chapter one, research has focused particularly on the beneficial impact of youth PST programs on overall development. One example is a recent PST implemented for youth soccer players to reduce health affecting behaviours and improve health enhancing behaviours (Barclay, Hodge & Potrac, 2005). Another is a program with gymnasts which demonstrated the transferability of psychological skills into life skills applicable in everyday contexts (Ng & Wang, 2005).

Youth PST programs are generally conducted using a presentation level appropriate for younger learners, with diagrams and analogies used to explain the conceptual framework and theoretical underpinnings of the psychological skills. More PST interventions are implemented and evaluated with adult sportspeople, and as a result yield a greater number of research articles. This is especially true in South Africa with only one recently published youth PST program found during the literature search (Pieterse & Potgieter, 2006).

2.2.2. Adult PST programs

A more in-depth conceptual and theoretical approach is generally used with adults. Programs have been implemented with adult college and elite tennis players (Landin & Macdonald, 1990; Mamassis & Doganis, 2001; Rolo, Paula, Brito & Colaco, 2001), figure skaters (Martin & Toogood, 1997), university basketball players (MacDougall et al., 2001) and intellectually challenged basketball players (Gorely, Jobling, Lewis & Bruce, 2002).

PST programs have trained various combinations of skills, such as arousal, attention and goal setting with ballet dancers (Sharp, 2005), arousal, attention, self-confidence and goal setting for college rodeo athletes (Harrison, 2005) and arousal, imagery and attention used with elite kayaking competitors (Blumenstein & Lidor, 2005). Quantitative PST research has revealed that a combination of imagery and physical practice can improve arousal regulation and self-confidence in adult archers (Ramachandran, 2005). Case study interventions have provided rich data on the value of PST programs, with one example being a quantitative and qualitatively evaluated PST program involving arousal, imagery and goal setting, which showed improvement in performance and psychological skills of an adult elite golfer (Kim, Lee & Lee, 2005).

PST programs have been formulated and implemented in various life settings, for a variety of benefits. A three-step business approach which included awareness of ideal psychological state, self-monitoring and self-regulation has been developed (Murphy, 2005). Research suggests PST training is useful stress coping mechanism, which can

enhance quality of life (Sugiyama, Lee & Yamazaki, 2005). Programs have also been used with referees. A PST program, involving arousal, imagery and attention was provided to adult soccer referees and this resulted in reported enhanced referring performance (Tachiya, Sugo & Murakami, 2005).

For teaching and training purposes, lectures on the application of PST programs are now available. One international illustration was the PST workshop for ballroom dancers (outlining arousal, mental imagery and goal setting training) offered at the recent International Conference for Sport Psychologist in Sydney, Australia (Ballinger & Tremayne, 2005). While a variety of PST programs exist for youth and adult sportspeople, few are as highly structured and focused as Wann and Church's (1998) program for college track athletes.

2.2.3. Wann and Church's PST program

Wann and Church's (1998) program consisted of five, thirty to sixty minute sessions, which included arousal management in the form of anxiety control in session one and two (through the use of breathing techniques, progressive relaxation and positive self-talk), imagery skill enhancement in session three (by enhancing internal and external positive mental imagery), self-confidence improvement as well as building and coping with adversity in session four (though the use of positive imagery, self-talk and development of active coping strategies) and attention training in session five (through the utilization of attentional cue words). The program also included a follow-up review session with the participants.

Wann and Church's (1998) program incorporated most of currently utilized sport psychological skills and popular training techniques. In addition it was comprehensively quantitatively assessed using the 68-item Ways of Coping Checklist (Crocker, 1992; Crocker & Graham, 1995), 28-item Athletic Coping Skills Inventory (Smith et al., 1995), 13-item Trait Sport Confidence Inventory (Vealey, 1986), 15-item Sport Competition Anxiety Test (Martens et al., 1990) and qualitatively evaluated using individual interviews. It provided effective theoretical and technical training, transferring knowledge into practical use.

2.3. Psychological skills

In themselves, psychological skills are all interrelated with each other and form a unique, composite, inseparable whole (Weinberg & Gould, 2007). Their separation into arbitrary categories is for research, training and teaching purposes as applied in a variety of settings such as sport. Psychological skills currently most focused on in sport include arousal, mental imagery, attention, concentration, self-confidence, goal setting and motivation (Wann & Church, 1998; Weinberg & Gould, 2007). While some PST programs train only some of these skills, they will all be examined in order to provide a comprehensive review, as well as an understanding of the PST program implemented during this study. Each psychological skill will be discussed conceptually, theoretically and practically in relation to life and sporting contexts.

2.3.1. Arousal

Arousal is both a physiological and cognitive experience (Wann & Church, 1998). It

utilizes the natural energy existing in all human beings. It is experienced along a continuum from low to high arousal. In a general context high arousal may occur before a public address. In a sport situation low arousal may be experienced after losing an event. While physiological and cognitive arousal are described separately below for definition, clarification and training purposes, in reality they are experienced simultaneously and have overlapping conceptual and theoretical bases, with some theories more applicable for physiological arousal explanation and others for cognitive arousal.

2.3.1.1. Physiological arousal

2.3.1.1.1. Conceptual understanding

Physiological arousal utilizes the current level of natural physical energy essential for sporting movement and performance (Martens et al., 1990). Without it athletes would feel lethargic. While occurring in most of the senses, physiological arousal is most vividly experienced in the “bodily felt” sense, mainly when one’s breathing or heart rate increases or decreases (Miller, 1997). The theoretical basis for the concept of physiological arousal is as follows.

2.3.1.1.2. Theoretical underpinnings

There are various explanations for arousal and performance. From a balanced PST package training perspective, the inverted U hypothesis and zone of optimal functioning theories provide most clarity.

The Yerkes-Dodson Law (Yerkes & Dodson, 1908) or inverted U hypothesis suggests moderate arousal has the greatest positive effect on performance, with low or high arousal resulting in a deficit or loss of energy and a hindering of athletic ability (Miller, 1997; Wann & Church, 1998). This can be diagrammatically explained using an inverted U curve. Although this theory is most notably used to describe energy creation, maintenance and flow, it also applies to other psychological components such as self-confidence, which is later discussed. While the inverted U hypothesis links moderate arousal to optimal sporting outcomes, this middle level is more personally defined and explained by the zone of optimal functioning theory (Hanin, 1980, 1986, 1997).

Hanin's (1980, 1986, 1997) theory suggests individuals have different specific optimum arousal levels with optimum arousal occurring in an athlete's zone of optimal functioning. When in the "zone" athletes describe their movement as completely harmonious and effortless, with optimal performance achieved. Individual zones of optimal functioning are established through experience, practice, utilization of life and sporting memories as well as current and past physiological experiences. Once the "zone" is achieved, athletes should link this felt sense to some meaningful experiential anchor. This increases the accessibility of the "zone" during difficult sporting situations.

2.3.1.1.3. Physiological arousal experience

Depending on factors like expectancy, thoughts, attitude, motivation and memory, arousal may be linked to either positive or negative emotions. Low arousal is

generally associated with positive experiences such as relaxation or negative feelings like apathy (Weinberg & Gould, 2007). High arousal may be related to positive feelings such as euphoria or negative anxiety experiences. A personal understanding of high and low, positive and negative emotions should be acquired by every athlete, as individuals respond differently to various experiences and use arousal in diverse ways.

2.3.1.1.4. Physiological arousal use

The constructive use of physiological arousal can be compared to positive stress or *eustress* in that it can be used to improve sporting performance. Through experience and training, athletes learn to use arousal to reduce anxiety and produce optimal sporting outcomes. Described interchangeably with arousal, anxiety is an overwhelming negative arousal experience. It is a destructive emotion that can be compared with negative stress or *distress*. Anxiety can have a detrimental effect on sporting performance (Potgieter, 1997) due to heightened arousal states and a breakdown of energy flow. Sportsmen and women use various methods to control their arousal levels.

2.3.1.1.5. Training techniques

The goal for athletes is to understand and regulate their arousal levels, in order to enter their zone of optimal functioning and perform to the best of their abilities. Arousal can be optimized through effective techniques such as breathing and progressive relaxation (Miller, 1997; Wann & Church, 1998).

2.3.1.1.5.1. Breathing techniques

Breathing techniques have been a method of health promotion and skill training for centuries in eastern culture. Breath is an essential feature of life and may be regarded as a science of its own (Loehr & Migdow, 1999; Reid, 1989). The understanding and application of breathing techniques is critical to sport. Smooth, deep, full breathing creates optimum arousal and sporting performance. To create an experience of centeredness, athletes should focus on breathing with their belly rather than their chest. Breathing methods regulate emotional states associated with arousal (Weinberg & Gould, 2007). As described, these may be either positive or negative. In order to heighten arousal the in-breath should be longer than the out-breath. In order to lower arousal the out-breath should be longer than the in-breath. Breathing exercises should be done daily for twenty to thirty minutes.

Breathing rate is approximately one quarter of a heartbeat per minute. Athletes can measure the length of their in- and out-breath with a watch or heartbeat. For example, if negative heightened arousal in the form of bodily anxiety is experienced, one may overcome this by breathing in to the count of three heartbeats or seconds and out to the count of six heartbeats or seconds until moderate arousal is experienced. If low arousal in the form of apathy is experienced, athletes may overcome this by breathing in to the count of six heartbeats or seconds and out to the count of three heartbeats or seconds. Experiential practice may result in athletes breathing in for five and out for ten, or in for ten and out for five, depending on personal preference and effectiveness.

2.3.1.1.5.2. Progressive relaxation

Relaxation exercises help reduce heightened arousal in the form of anxiety. They become particularly powerful when combined with techniques such as imagery and slow breathing. Progressive relaxation developed by Jacobson (1929, 1976) involves tensing then relaxing specific muscle groups, until all major areas used for athletic movement and performance are relaxed. Through progressive relaxation athletes learn to relax muscle groupings, differentiate between tension and relaxation, which cannot occur simultaneously, as well as anchor and remember the relaxation experience (Wann & Church, 1998; Weinberg & Gould, 2007). It results in fewer injuries, athletes "listening to their bodies", awareness of personal limits, improved performance and assists cognitive arousal control. Once learnt, progressive relaxation should be done twice daily in order to maximise its benefits.

2.3.1.2. Cognitive arousal

2.3.1.2.1. Conceptual framework

Cognitive arousal is utilization of the current level of natural cognitive energy. As an example, low levels of cognitive arousal can occur during deep depression. High levels of cognitive arousal may occur before a major life or sporting event. As described using the arousal continuum, thought patterns range from being under to over stimulated, depending on the level of cognitive arousal. In sport, various levels of cognitive arousal can occur before, during or after competition (Lane, Harwood & Nevill, 2001; Wann & Church, 1998; Weinberg & Gould, 2007), and should be

understood by athletes so that they can utilize training techniques in order to control cognitive arousal for health and sporting success.

2.3.1.2.2. Theoretical basis

When thought patterns are positive and not under or over stimulated, athletes are able to "think quickly on their feet" and adapt to situational change. Energy flow is smooth and cognitions are not distorted. This harmonious energy balance can however be negatively affected by faulty cognitions about life or sporting situations. Psychotherapeutic cognitive behavioural theories provide most clarity on the aetiological understanding of this disparity. Ellis's (1962) A-B-C model of event reaction suggests it is not the event itself which causes the emotional reaction, but the individual's perception of the event (Corey, 2001; Gilliland, James & Bowman, 1994). This understanding of cognition, action and reaction is a key element for ensuring athletes do not "defeat themselves" through negative cognitive arousal energy and emotions, in the form of self-doubt and anxiety.

2.3.1.2.3. Self-doubt and anxiety

Faulty perceptions can cause incorrect, negative thought patterns to be established, or re-established if experienced before. Negative thought patterns can heighten arousal levels, create cognitive anxiety and self-doubt. These negative emotions and cognitions can increase or decrease an athlete's focus and have a direct negative effect on sporting performance (Potgieter, 1997), both in preparation for and during an event. An example is that some athletes do not overcome pre-competitive anxiety and

transfer this unresolved negative emotional experience from youth to adult sporting careers (Hanton, Wadye & Connaughton, 2005). While these athletes continue performing, optimal outcomes may never be achieved. When anxious energy flow is not harmonious and an athlete's movement can change from being effortless to being jerky, uncoordinated and erratic.

2.3.1.2.4. Cognitive arousal and performance

For optimal performance to occur, athletes should experience moderate levels of cognitive arousal prior to an event (Weinberg & Gould, 2007). This creates a harmonious, balanced approach. When thought patterns are not under or over stimulated the natural cognitive energy flow is smooth. Practiced physical movements are performed effortlessly with the sportsperson experiencing being "completely in the sporting moment". Athletes describe this feeling as one of functioning in their zone of optimal functioning.

During an event, athletes' minds should be clear of unwanted thoughts and in a state of "no mind" (Jennings, 1993). They should be in their zone of optimum functioning and focused on the task at hand. Movement should be performed as practiced and imagined during training sessions.

2.3.1.2.5. Cognitive arousal training

Cognitive training theories developed by Beck (1976), confirm the importance of maintaining positive thoughts, as well as identifying and changing negative faulty

thought patterns (Feltham, 1999). This is a western cognitive psychotherapeutic technique taken from cognitive behavioural therapy (CBT) applied to sport settings. CBT methods, including correcting faulty thought patterns, which can be combined with eastern based techniques such as meditation.

2.3.1.2.5.1. Correcting faulty thought patterns

The experience of negative thoughts in life, sporting practice or performance, generally begins with a single negative thought, which turns into a downward spiral of negative thinking. For explanation purposes, this pattern of negative thinking can be displayed diagrammatically, by means of downward spirals. It is a phenomenon experienced by many individuals and athletes on a regular basis. The following technique can be used to alter the cycle of negative thinking. When the first negative thought is experienced athletes should identify that thought. They should say a key word such as “stop” or “no”. This first step is called thought stopping (Meichenbaum, 1985). The second step is to change the pattern of thinking from negative to positive creating an upward spiral of constructive thinking. This can be enhanced by reading or saying a list of positive statements in a form of positive self-talk (Wann & Church, 1998). Once established, athletes should ensure this positive thought pattern is maintained. Thought stopping and positive self-talk techniques should be practiced until they become an automatic process. Alternatively learning and therapeutic change may be achieved when the negative thought is recognized as having more meaning and value for improved performance and health.

2.3.1.2.5.2. Meditation

Meditation is based on eastern religion, philosophy, culture and experience. It relaxes the body, clears negative unwanted thoughts and focuses the mind (Reid, 1989; Weinberg & Gould, 2007). Before meditation athletes should find a quiet place, sit or stand in a comfortable position, close their eyes and synchronize their breathing. They should practice first clearing their mind of unwanted thoughts and then focusing their mind on a single positive point or thought. Meditation improves mind/body harmony, reduces stress, anxiety and improves positive thinking, self-confidence and belief. It is a spiritual experience, which together with slow breathing, calms athletes who can reflect on life and sporting experiences. In order to optimize their benefits, meditation and other cognitive arousal training techniques can be combined with progressive relaxation and mental imagery.

2.3.2. Mental imagery

2.3.2.1. Conceptual basis

Mental imagery is the cognitive recreation and rehearsal of a sporting action or experience (Gill, 2000). Utilized during many daily activities, it can be applied to sport settings in order to enhance performance. The imagery process utilizes small muscle movements and through its vividness employs all human senses. Theoretical underpinnings provide explanations for its effectiveness.

2.3.2.2. Theoretical understanding

Various theoretical viewpoints can be used to describe the mental imagery process. From a holistic experiential perspective, the bioinformational and psychoneuromuscular theories provide the clearest mind/body dualistic explanation.

Lang's (1977, 1979) bioinformational theory suggests imagery is most successful when both the stimulus preposition; i.e. thinking about the athletic stadium, the track, the crowd, other athletes, as well as the response preposition; i.e. actually standing in the stadium, on the athletic track, are experienced by the athlete. The physiological experience of the athletic setting is an important contextual learning factor, which should not be negated or neglected. Through imagery athletes can prepare for practice or competition at various venues, in front of different crowds, in diverse settings. This can diminish the potential negative effect of distractible factors thereby improving sporting performance.

As alluded to, imagery has a direct physiological effect on movement. Carpenter's (1894) psychoneuromuscular theory states that during the imagery process small amounts of neuromuscular activity, similar to but on a smaller scale than actual performance, are felt by the athlete. When focused on, this physiological experience improves an athlete's understanding of the link between imagery and motion. This cognitive, physical experience can be empirically evaluated where experimental groups receive only mental imagery training and control groups only physical training, with the same outcome results achieved when re-assessed. When unpacked there are two main imagery perspectives, internal and external.

2.3.2.3. Internal and external imagery viewpoint

When practicing internal imagery athletes' view their performance from their own vantage point (Potgieter, 1997). This is a relatively subjective process, which incorporates experiences, emotions, thoughts and feelings around past movements and performances. Internal imagery training can improve self-confidence and belief through the creation of personal positive imagery experiences.

During the practice of external imagery athletes perceive their performance using an external, more objective viewpoint. External imagery training can enhance emotional control and objectivity when addressing technical mistakes. It can remove personal bias and emotions, which can "cloud" an athlete's understanding of motion and performance. Both internal and external imagery are valuable and should be rehearsed attentively in order to understand and experience imagery holistically (Wann & Church, 1998). Furthermore, using both internal and external imagery improves an athlete's decision making capacity and "vision" ability.

2.3.2.4. Effectiveness of imagery

Imagery practice enhances other psychological skills such as arousal and attention. Through movement clarification imagery improves sporting capacity (Potgieter, 1997; Weinberg & Gould, 2007). Imagery is an extremely beneficial tool for athletes who are recovering from injury. It allows them to practice cognitive skills when they are unable to practice physical skills (Weinberg & Gould, 2007). Imagery has become one of the most popular widely used psychological skills, and there are a variety of

mental imagery training techniques that can be used to ensure comprehensive training and imagery skill enhancement.

2.3.2.5. Training techniques

Mental imagery ability can be improved by having a structured approach to visualizing an event (Nideffer, 1985). It is essential for athletes to construct the image as vividly as possible using all senses, and to control emotion and sporting performance associated with the image. Both internal and external imagery should be practiced in order to rehearse various imagery vantage points.

The creation of meaning associated with imagery is an essential part of the imagery process (Wann & Church, 1998; Weinberg & Gould, 2007). Meaningful imagery scenarios enhance self-confidence. They assist athletes in overcoming difficult sporting situations where they are required to rely on past positive life and sporting experiences.

For best results, imagery should be experienced both physiologically and psychologically (Sacket, 1934). Athletes should practice mental imagery on their sports field in order to visualize their event and feel grounded. This improves the imagery process through enhancement of the experience.

Imagery should be performed in conjunction with breathing, progressive relaxation and positive self-talk. The use of memory aids such as music and video recording can also enhance mental imagery ability (Nideffer, 1985). Athletes should always

remember to utilize techniques, which best suit their persona. The practice of imagery and motion can be done in stages i.e. purely cognitively, then performing the movement. As an added benefit, imagery practice generally enhances focus and concentration ability.

2.3.3. Attention and concentration

2.3.3.1. Conceptual understanding

Attention and concentration are separate psychological skills combined below due to their overlapping conception. Attention involves focusing mental ability on a current task. Concentration entails sustaining attention over a period of time, while being aware of environmental and situational factors (Harris & Harris, 1984; Weinberg & Gould, 2007). It is particularly important during lengthy sporting competitions. The maintenance of directional energy flow for attention and concentration can be clarified through the following theoretical conceptions.

2.3.3.2. Theoretical underpinnings

Attention and concentration ability is maintained through various perspectives and forms of focused directional energy, which incorporates visual, sensory and cognitive control. Nideffer (1985) views attention along a two dimensional matrix, comprised of width and direction. He describes four types of attentional focus: broad, narrow, internal and external. An example of broad internal focus is a track athlete planning his/her race strategy. An illustration of broad external focus is a sportsperson viewing

the athletic stadium. An example of narrow internal focus is an athlete controlling arousal through breathing. An illustration of narrow external focus is a track athlete focusing on his/her race lane (Potgieter, 1997).

2.3.3.3. Use of attention and concentration

When attention and concentration are maintained and athletes are not preoccupied with internal and/or external distractions, they are optimally focused and generally exude the right level of self-confidence. They complete activities as practiced and imagined, flow of energy is smooth and moderate arousal is typically experienced. Unfortunately this focus can be easily broken down in some athletes, when their attention and concentration are negatively affected by distractible factors.

2.3.3.4. Distractible factors

Attention and concentration can be disrupted by inappropriate negative thought patterns, faulty cognitions about previous events, misinterpretations or inability to control arousal as well as by anxiety, exhaustion, visual and auditory distractions (Wann & Church, 1998; Weinberg & Gould, 2007). Unfit or tired athletes can lose attention and concentration, and as a result focus on internal and/or external aspects rather than performance. The acquisition of training techniques in order to nullify distractible factors is one important aspect of focus enhancement (Weinberg & Gould, 2007). Training techniques improve attention, concentration ability and “sharpness”.

2.3.3.5. Focusing techniques

As a skill, attention and concentration can be enhanced through cue words, routines, simulation training, eye control, enhancement of other psychological skills and having a race/competition strategy (Moran, 2004; Weinberg & Gould, 2007).

Broad and narrow, internal and external attentional focus should be continually rehearsed in a variety of settings. Similar to the way in which thought patterns can become disrupted, athletes can become distracted and loose visual focus on a particular stimulus. Eye control can be enhanced though techniques such as focusing on a specific object of choice for a period of time, then tracking objects while maintaining attention and concentration. Cue words like “stay focused” or “keep concentrating” are used to focus and refocus an athlete when concentration ability has decreased or relapsed. As a practical task, athletes can focus on a point or object while a partner/coach attempts to distract him/her by reading out negative statements. This particular method rehearses possible sporting scenarios in front of distracting crowds. Thought stopping and positive self-talk in conjunction with the above techniques is often used to optimise attention and concentration ability (Wann & Church, 1998; Weinberg & Gould, 2007). When focus is maintained and athletes are not distracted, optimum self-confidence is often achieved.

2.3.4. Self-confidence

2.3.4.1. Conceptual framework

In a sporting context, self-confidence is the belief that one has the ability to successfully complete an athletic event (Weinberg & Gould, 2007). Like arousal, it is experienced along a continuum. Confidence is essential for choosing a direction in life and tactical decision making in sport and in life. It can be the difference between seizing the sporting opportunity or allowing the moment to pass by.

2.3.4.2. Theoretical understandings

Low levels of self-confidence can be caused by lack of practice, poor self-belief or faulty thought patterns. It can result in a self-fulfilling prophecy, where failure expectancy results in failure (Goldstein, 1994). On the other end of the continuum, overconfidence can cause athletes to become complaisant about their ability and result in them not wanting to practice, not listening to their coaches and not wanting to improve their skills. They may believe they know all there is to know about their sport and do not require further training.

2.3.4.3. Use of self-confidence

Optimal self-confidence, typically associated with moderate to high level self-confidence scores on standardised measures, usually produces desired sporting results and attainment of goals (Wann & Church, 1998; Weinberg & Gould, 2007). However

maintaining moderate to high self-confidence can be challenging as confidence can naturally increase when an athlete has a good performance or decrease after a run of poor performances. Self-confidence training techniques can help to maintain a consistent level of optimal self-confidence.

2.3.4.4. Training techniques

It is essential for athletes to understand how an optimal level of self-confidence produces peak performance. Once this optimal level is attained, belief in one's ability and realization of one's talent can be synchronized. Humble but confident athletes are constantly striving. They realize they can always learn new techniques and improve their skills. They comprehend the importance of having an open mind and utilizing not only traditional techniques, but also a variety of methods from different sports and cultures. They value the importance of spirituality and the need to develop the mind and themselves as human beings (Watson & Nesti, 2005). They strive to become "balanced" athletes, who can adapt and switch their skills on and off when required.

Optimum self-confidence can be regulated through self-talk, as an athlete elevates and grounds him/herself when necessary. It can be improved through imagery, regulation of arousal, being physically conditioned, acting confidently and remembering past sporting achievements (Weinberg & Gould, 2007). Self-confidence can also be enhanced through praise and encouragement from parents, team mates and friends.

Optimum self-confidence helps athletes to control and overcome their fears when striving to reach their desired performance. It assists athletes to achieve their goals

especially when “the odds are stacked against them”. Coaches are vitally important in building and maintaining self-confidence as well as motivation (Potgieter, 1997; Weinberg & Gould, 2007). In addition, clearly set goals build self-confidence at a subconscious level.

2.3.5. Goal setting and motivation

2.3.5.1. Conceptual basis

Owing to their interrelated conceptual and theoretical understandings, as in the case of other skills previously grouped together, goal setting and motivation will be discussed concurrently. Goal setting is the establishment of desired objectives, with the achievement of these goals dependent upon factors such as motivation (Moran, 2004). Motivation is the force and focus of an athlete’s energy (Weinberg & Gould, 2007).

2.3.5.2. Theoretical framework

Goals provide athletes with the intentionality to improve their motivation to train harder and push themselves further. They motivate and provide sportspeople with energy to complete seemingly impossible tasks (Weinberg & Gould, 2007). Goal setting provides athletes with direction, while indirectly building confidence and motivation (Potgieter, 1997).

Motivation can be interpreted in terms of an entity theory or an incremental learning perspective (Dweck, 1999, 2005). It is primarily concerned with an athlete’s appraisal

of their sporting talent (Sheldon & Eccles, 2005). While the entity theory suggests ability is fixed, the incremental theory suggests that skills develop over time. It is important for athletes to understand they have core abilities, but that training and learning new skills can improve sporting performance.

Motivation is influenced by personality traits and situational factors (Weinberg & Gould, 2007). Locus of control refers to the subjective belief that life is controlled by internal or external factors. An athlete, who has an internal locus of control, attributes success or failure to his/her own characteristics. A sportsperson, who has an external locus of control, attributes success or failure to environmental factors, rather than individual traits. Maintaining a balance between the two creates optimal understanding of personal and environmental control.

2.3.5.3. Motivation for training

Unrealistic goals can cause despondency (Potgieter, 1997; Weinberg & Gould, 2007). While a lack of short-term goals may result in athletes being unsure of current objectives, a lack of long-term goals may result in over impulsiveness and athletes over striving for immediate goals. An over emphasis on external or internal locus of control can also cause dejection. Situational factors such as level of competition, venue and coach can influence an athlete's motivational level, and effective goal setting and motivational training is an integral part of performance evaluation and achievement. Both goal setting and motivation should be trained and utilized holistically.

2.3.5.4. Training techniques

Goal setting ability can be enhanced by appropriate motivation related to specific, measurable, action-related, realistic and timetabled goals (Bull, Albinson & Shambrook, 1996; Moran, 2004). An athlete should maintain a positive mindset and remain consistently focused on his/her life and sporting goals. Coaches should encourage athletes and provide constant constructive feedback as motivation levels increase when goals are achieved, when sportsmen and women feel confident, and when they receive encouragement from significant others. In addition, goals that are motivational in orientation are an important part of general life and sport psychological skill development (Harwood, Cumming & Fletcher, 2004).

An athlete, in consultation with his/her coach/sport psychologist, should establish practice and competition short- and long-term goals. These goals should be specific, measurable and realistic (Bull et al., 1996; Moran, 2004). They should be process (e.g. movement during the event), performance (e.g. improving on previous performance) and outcome orientated (e.g. playing to full potential/coming first in the event) (Miller, 1997; Weinberg & Gould, 2007). Goals should be written down and rewarded when achieved. They should however remain somewhat flexible, as life and sporting goals often change over time (Potgieter, 1997).

2.4. PST programs, psychological skills and psychological well-being

With PST programs training a greater level of psychological skills than single PST interventions, it is logical to deduce that these programs will impact differently on

aspects of health. While research has investigated the relationship between psychological skills and some components of mental health such as mood (Meyers & Sterling, 2003) the impact of PST programs on psychological well-being has not been measured. This is discussed in part by Kirschenbaum et al. (1995) and confirmed by a widespread literature search on websites such as Pubmed, Ebschohost, Psychinfo and Sabinet. One fundamental link is that both psychological skills and psychological well-being are trainable psychological concepts, essential for health and performance in general life and in sport contexts.

2.5. Résumé

This chapter provided a review of the literature on psychological skills training programs and psychological skills, and outlined links between PST package programs, psychological skills and psychological well-being. The next chapter will examine psychological well-being, as well as provide further associations between psychological skills and positive mental health.