

CHAPTER 5

MOTIVATIONAL STRATEGIES

***“If you want something to happen with all your heart, you will find ways to make it happen: If you do not really want it with all your heart, you will find an excuse to explain why it didn’t happen!” – Steve Waugh,
Australian cricketer***

5.1 INTRODUCTION

Motivation refers to the *why* athletes participate in a particular sport and their performance. According to Potgieter (2003) all forms of sport participation can be explained in terms of individual motivational levels. Motivation for participation in endurance sport is a key concept in this study also.

In part this study aims to determine what motivational strategies and techniques do endurance athletes use to ensure that they perform well. In this chapter, the term motivation is defined. Furthermore, the theoretical approaches of motivation that describe motivation of endurance athletes will be discussed briefly. Lastly, the motivational strategies and techniques used in sport will be briefly discussed.

5.2 MOTIVATION DEFINED

According to Potgieter (2003), motivation is a term that is widely and often used but seldom understood and then only vaguely. According to Smith (1992) it is obvious that there is no consensus about the nature of motivation. This dilemma exists due to the fact that motivation is such a multi faced and complex phenomenon (Smith, 1992). Therefore, there are several definitions and theories to explain this phenomenon.

Helms (1987) explain motivation in terms of the following characteristics:

- o It is an activation drive that forces people to behave in certain ways;
- o It is a purpose driven process that forces behaviour into a specific direction;

- o It is a feedback process that relieves inner tension when the direction of behaviour is successful. When the behaviour does not relieve inner tension, this process changes behaviour in a different direction.

Motivation is therefore neither behaviour nor performance (Helms, 1987). Motivation is the internal and external forces that influence people's choices as well as the intensity and direction of behaviour.

Potgieter (2003) also identified the following three aspects of motivational behaviour:

- o **Direction** or choice of behaviour;
- o **Intensity** or the level of effort that is displayed in a specific action;
- o **Persistence** or the duration of time that an individual would spend on a specific activity.

Motivation is therefore a function of drive and energy (Potgieter, 2003; Weinberg & Gould, 2003).

Reber (1995) defines motivation as an internal state of an organism that impels or drives it to action. In this sense it is an energizer of action. Reber (1995) makes a distinction between a generalized state of motivation (*generalized energizer or generalized drive*) and motivational states that are specific to particular needs and drives. Generalized motivation state is one of general arousal without a specific goal or direction. The behaviour that occurs is then the learned behaviour that is dominant or most applicable in that situation.

Specific motivational states refer to the motivational states that must be analysed in terms of individual needs and drives. In other words, the specific need or drive that would motivate the individual into action. Weiss and Ferrer-Caja (Horn, 2002) call these needs or drive the source of motivation. The source of motivation would be different between individuals, as each has different needs although similarities would exist within specific groups such as endurance athletes.

Reber (1995) further states that motivation should not be seen as a singular explanation of behaviour, but rather that motivational states stem from the multitude

of interactions of a large variety of variables, such as the need or drive level, the incentive value of the goal, the expectations of the individual, the availability of appropriate responses, the possible presence of conflicting motives and unconscious factors.

The aforementioned leads to the following deduction: *Motivation is the (conscious or unconscious) internal tension due to several factors (such as drives, needs and learned behaviour) that impels the individual into action and determines the intensity and duration of this action to relieve this tension.* This definition will be used as the operational definition of motivation for this study.

According to Weiss and Ferrer-Caja (Horn, 2002), the topic of motivation in sport has been studied from two perspectives. Motivation as an individual difference focuses on how individuals vary in certain motivational characteristics and how these variations would influence psychological outcomes (such as self-efficacy and affect) and physical behaviour (such as participation or intensity of training). The second perspective in the study of motivation in sport focuses on the role of motivation as an outcome variable. When studied from this perspective the sources of motivation become the primary focus area. For example, what social-environmental and individual factors influence motivation directly or indirectly through some mediating variable? In this study, an example of this would be how individual attitude towards challenges would influence the motivational strategies that are used to overcome environmental challenges. To fully understand motivation in sport, it is almost impossible to focus solely on motivation as an individual difference (Horn, 2002), but it should be seen as an outcome variable where the links between motivational states, social-environmental factors, self-perceptions and motivated behaviour are the focus of study. Therefore, this study will focus on the role of motivation as an outcome variable and how motivational strategies are used to influence performance of athletes in endurance events. As an outcome variable, it is important to understand that motivation will determine why the athlete participates in endurance sport. This will be the sources of motivation (Horn, 2002). Secondly, the nature of sport is competitive and the achievement of goals is important (Gill, 2000). The reason or motivation for the individual to achieve goals would be an important focus area.

The primary aim of this study is not to determine the sources of motivation to participate in endurance sport; rather it is to determine the motivational strategies of

athletes when they are participating in endurance events. It would therefore be important to determine the sources of motivation of these athletes to achieve their goals, while they are participating in endurance events. Therefore, the theoretical approaches to achievement motivation in sport will be discussed.

Before the theoretical approaches to motivation can be discussed, it is important to clarify three terms often used in Sport Psychology: intrinsic motivation, extrinsic motivation and psychological hedonism. These terms are used not only in sport psychology but also in most studies that involve motivation.

5.3 INTRINSIC AND EXTRINSIC MOTIVATION

According to McClelland (1987), Cox (2002), Potgieter (2003) and Weinberg and Gould (2003), some people are motivated by internal or intrinsic factors, while external or extrinsic factors and some by a combination of both motivate some people. Internal and external motivators refer to those factors or rewards that motivate the individual to participate and perform in sport. According to the literature (Bakker, Whiting & Van der Brug, 1990; Horn, 1992; Potgieter, 2003), intrinsic motivation refers to behaviour that is the result of interest or enjoyment. In other words, the individual derives pleasure or enjoyment from the action itself and this enjoyment is enough reward for the individual to repeat the behaviour. In the sport setting intrinsic motivation would be the result of interest or enjoyment derived from participation in the sport itself.

Extrinsic motivation refers to behaviour that is motivated by the external rewards associated with that activity (Bakker *et al.*, 1990; Horn, 1992; Cox, 2002; Potgieter, 2003; Weinberg & Gould; 2003). Therefore, the individual motivated by external factors does not behave in a certain way due to enjoyment or interest in the activity *per se*, but rather for the external rewards

Extrinsic rewards in sport include prestige, honours and prizes, prize money, medals and approval by significant others (Horn, 1992; Cox, 2002; Potgieter, 2003; Weinberg & Gould, 2003). Intrinsic rewards or motivators would include factors such as winning, feelings of success (not necessarily winning), feelings of achievement and mastery of skills, self-knowledge, self-actualisation, self-control/discipline.

Another concept that is closely related to intrinsic motivation is psychological hedonism (Anthony, 1996; Cox, 2002; Potgieter, 2003; Weinberg & Gould, 2003). Psychological hedonism refers to the tendency of people to do what they intrinsically find pleasurable and to avoid unpleasant or painful experiences. This pleasure-pain principle served as the basis for several theories of motivation (Anthony, 1996). According to this principle, people would repeat behaviour that they derive pleasure and reward from. Furthermore, behaviour that is not rewarded, incurs punishment or pain is likely not to be repeated.

Psychological hedonism does not sufficiently explain the fact that many endurance athletes have to endure hours and even days of pain, discomfort and even injury and in some cases death, to participate in their events. This excludes the months and years of training that precludes the actual event. Many of these endurance athletes never receive external rewards such as prizes or prize money. (most do receive finisher medals – but then everyone receives them!). The answer to this complex problem must lie somewhere in between the theories of intrinsic motivation, extrinsic motivation and psychological hedonism. Some athletes are motivated by external rewards (initially and to some extent over the long term). However, the intrinsic rewards of completing a difficult endurance race such as feelings of success (not necessarily winning), feelings of achievement and mastery of skills, self-knowledge, self-actualisation and self-control/discipline overshadow the pain and discomfort experienced during the event (Stroud, 1998; Mann & Schaad, 2001; Senk, 2001; Rawling, 2003; Williamson, 2003).

Endurance sport is essentially about self-discovery. The amount of discomfort and pain that the endurance athlete has to undergo, continuously test levels of endurance.

“Perhaps one of the most profound aspects of an adventure race is the discomfort it breeds. When you are out on a course, particularly for more than one night, your level of discomfort escalates as the hours trickle by. The dirt and sweat you accumulate magnify the cold hard fact that you are living outdoors. Furthermore, your usual eight hours of sleep are often reduced to three or less in each 24-hour period. How much discomfort can you tolerate? To succeed, you must be able to endure tremendous distress” (Mann & Schaad, 2001: 11).

According to Williamson (2003: 203 - 204), every runner experiences this mental battle between completing the challenge and the pain involved in doing so:

“Every ambitious Comrades runner wanting to achieve his potential, experiences a point in the race where pain dogs every footfall. There is no injury; it is simply the muscle damage of the previous kilometres. It is unchanging in intensity, and to continue, the mind must accept this ‘sentence’ of pain until the finish line is crossed. Ultimately, your ability to meet this pain ‘head to head’ will determine your performance in the race. If it becomes the focus of your existence at that time, if you permit it to erode the importance of the task at hand, you will compromise your goal or finish time. In many respects, it is the desire to test ourselves against this mental battle that entices us to enter races”.

“In a nutshell, the racers who possess a high tolerance for pain and discomfort and are still able to perform at a high intensity become the victors” (Mann & Schaad, 2001: 12).

Bicycling Magazine (March/April 2003: 87) on the Pick ‘n Pay Cape Argus Cycling Classic:

“Expect the most wonderful feeling of achievement when you crest the summit (of Ou Kaapse Weg)” and “Do savour the feeling of accomplishment as you cross the finish line. Remember, the pleasure lasts much longer than the pain”.

It would seem that endurance athletes are motivated by a combination of extrinsic and intrinsic rewards. The more elite an athlete becomes, the greater is the probability of receiving cash prizes, winning or gold medals. However, for most endurance athletes participating in races such as the *Comrades*, *Two Oceans*, *Eco-Challenge*, *Cape Argus* (to mention but a few), there are very little external rewards. These athletes seem to be primarily motivated by intrinsic factors such as overcoming challenges, self-discovery and the intrinsic enjoyment of these events. Based on this assumption, certain theoretical approaches that describe motivation seem more applicable to endurance athletes than others and will therefore be briefly discussed in the next section.

5.4 THEORETICAL PERSPECTIVES OF MOTIVATION

From the literature (Smith, 1992; Gill, 2000; Horn, 2002; Potgieter, 2003) it seems as if there is a lack of consensus about the term motivation. When studying the definitions and theories of motivation, it seems as though the confusion does not revolve around what motivation is, but rather the sources of motivation.

Motivation theories lie on a continuum from mechanistic or needs approaches to cognitive or organismic approaches as identified by several authors (Maslow, 1954; Lindzey, 1958; Madsen, 1959; Fraisse & Piaget, 1963; Russell, 1970; Korman, 1974; Ferguson, 1976; Anthony, 1996; O'Neil, 1999; Roberts, 2001; Potgieter, 2003). Mechanistic approaches include theories such as the mechanistic behaviourism of Watson and neo-behaviourism of Hull, Berlyn and Spence. This approach focuses on the stimuli-response (S-R) of mechanisms. According to this approach all behaviour are the result of mechanistic learned behaviour where specific stimuli would trigger specific behaviour or responses.

Cognitive approaches include the cognitive social learning theory of Rotter and Bandura (O'Neil, 1999). Cognitive theories of motivation imply that some source of information, not stimulation, inspires behaviour. External and internal information is cognitively processed into a belief or idea such as "I am tired" or "It is hot". This idea or belief then motivates action or behaviour. Higher mental processes intervene between inputs or stimuli and behavioural outputs or consequences. Therefore, the structure of thought processes determines action.

Needs approaches include, among others, the psychoanalytical theory of Freud, the hierarchy of needs theory of Maslow, the achievement need theory of McClelland, Atkinson's theory of achievement motivation and the need theory of Murray. Motivation, according to the needs approach can be traced to the conscious and unconscious desires or needs that people have. These needs range from basic physiological needs such as nutrition and survival to complex psychological needs such as self-actualisation. Some of these needs are genetically part of the individual whereas others are learned.

In Sport Psychology, the most prevalent theoretical approaches are the cognitive and needs approaches (Carron, 1980; Horn, 1992; Gill, 2000; Cox, 2002; Horn, 2002; Potgieter, 2003; Weinberg & Gould, 2003). Some of the theories that have been

used extensively in Sport Psychology include the instinct theory, drive theory, psychoanalytical theories, Maslow's hierarchy of needs, achievement needs theory, attribution theory, goal orientation theory, self-efficacy theory and competence motivation theory. All of these theories were (and are still) used with varying degrees of success to explain motivational aspects of sport. Some of these theories focus on one specific area of motivation, while others are more comprehensive.

Motivation determines why the individual participates in a specific sport, it determines the intensity with which the individual participates in the sport as well as the duration of participation and intensity of participation. In keeping with the aim of the study, which focuses on motivation in sport, three theoretical perspectives are emphasized: achievement needs approach, the cognitive approach (social-learning theory) and the person-orientated/humanistic approach. A fourth theory that is part of the cognitive approach namely the self-efficacy theory is also used to explain motivation and coping. The latter mentioned theory has been discussed in chapter 4 (Section 4.3.4).

5.4.1 ACHIEVEMENT NEEDS APPROACH

According to Williams and Gill (Gill, 2000) achievement behaviour is central to sport and the understanding of individual differences in motivational orientation is vital in understanding achievement. The basic assumption of all achievement theories is that individuals are intentional, goal-directed organisms that operate in a rational manner. Achievement goals are determined by the individual's achievement beliefs and these beliefs will guide subsequent decision-making and achievement behaviour. A theory that illustrates this approach is that of Atkinson.

5.4.1.1 ATKINSON'S THEORY OF ACHIEVEMENT MOTIVATION

According to Atkinson achievement motivation is the result of interaction between personality and situational factors (Gill, 2002).

A. PERSONALITY FACTORS

Achievement motivation is a personality factor first identified by Murray in 1938 and subsequently extended by Atkinson (Gill, 2000; LeUnes & Nation, 2002). According

to Murray (Gill, 2000; LeUnes & Nation, 2002) achievement motivation is the need to accomplish something difficult. To master, manipulate or organise objects, human beings or ideas and to do this as quickly and as independently as possible. Furthermore, it is the need to overcome obstacles and attain a high standard. It entails excelling own previous standards or achievements and to rival or surpass others by the successful exercise of talent. The consequence of this would be an increase in self-regard. According to Atkinson (Gill, 2000; Potgieter, 2003) achievement motivation is the result of two personality constructs: the motive to approach success and the motive to avoid failure.

The motives to approach success and to avoid failure are present in all individuals existing independently of each other. The one cannot be predicted on the basis of the other and should be seen as separate achievement-related dimensions or characteristics. However, poor competitors usually have a strong need to avoid failure and achievement situations in sport, while strong competitors have a strong motive to strive for success and a weak motive to avoid failure. According to Potgieter (2003), achievement orientated athletes are enthusiastic competitors who have a desire to excel where they enjoy challenges, thrive on competition and derive great satisfaction from success. This satisfaction is not necessarily derived from proving their superiority over others, but rather from successfully achieving the goals that they set for themselves.

Individuals whose need to avoid failure is dominant often have high levels of anxiety and they try to avoid competitive situations such as competitive sport. Their fear is not necessarily failure but rather that their failure would be seen as incompetence. In other words, they fear the negative evaluation that they perceive is associated with failure. Both groupings want to be positively evaluated. However their focus differ; those with a motive to approach success focus on the pride of achieving success, whereas those with a need to avoid failure focus on avoiding the shame and humiliation associated with failure.

B. SITUATIONAL FACTORS

The main situational factor is the probability of success or task difficulty that can range from impossible to certain success (Gill, 2000; Potgieter, 2003). The second factor is the incentive value of success or failure. The incentive value of success is determined by the significance of the task for the individual as well as the difficulty of the task. If the probability of success is high (easy task) the reward (or incentive

value) of the task decreases. According to Gill (2000) and Potgieter (2003) athletes with a motive to approach success are not strongly attracted to extremely easy or extremely difficult tasks as too easy a task will lead to a loss of interest whereas a person with a strong motive to avoid failure would be motivated by easy initial success.

Sport participation can be seen as one of the ways in which an individual can strive to achieve. Individuals who, despite difficulty, continuously attempt to improve their performance (although not necessarily to win) can be seen as striving to reach their potential and who have a motive to approach success. This motive to approach success is further reinforced by the situational factors of incentive value of success and the probability of success. They set their own goals and their perception of own performance and potential will determine their feelings of achievement.

This is especially true of endurance athletes. These athletes have to overcome enormous pain, discomfort and other challenges in their preparation for a single event. During this event the athlete has to overcome even more pain and discomfort, environmental challenges and internal conflict just to complete the event. These athletes do so willingly (in their striving to reach and transcend their potential) and continue to do so. Once a goal has been achieved, many endurance athletes are not only happy to stay at that level, but seek out more difficult challenges. Why specific goals and ways of achieving these goals are chosen is not fully explained by Atkinson's theory. A possible explanation for this might be found in the cognitive and humanistic approaches of motivation.

5.4.2 COGNITIVE APPROACH/SOCIAL LEARNING

THEORIES

5.4.2.1 SOCIAL LEARNING THEORY

According to Meyer *et al.*, (1997) and Roberts (2001) the social cognitive learning theories share the behaviourists' view that all behaviour is learned and the importance of studying observable behaviour. In contrast with extreme behaviourists such as Skinner they not only acknowledge but also use non-observable factors such as thoughts, symbolic processes, expectations and beliefs extensively to explain human behaviour. Although these theorists hold a positivistic view of behaviour, i.e.

people have a large amount of control over their behaviour and goals; they also emphasize the role of environmental factors (social and physical) (Meyer *et al.*, 1997; Roberts, 2001).

Although these theorists stress the importance of the environment, it is not environmental determinism as human freedom of choice plays an equally important role. Humans, as well as the environment, are seen as equally important determinants of behaviour. Humans are therefore capable of self-regulation, but always in interaction with the situation. The basic assumption of these theorists is that of reciprocal determinism (Meyer *et al.*, 1997; Roberts, 2001). According to this approach, behaviour is determined by the interaction between the individual, the situation and the behaviour that result from the situation. In other words, behaviour is both the result of and part of the continuous process wherein the individual, the situation and the individual's behaviour influence each other. An example of this might be the elite cyclist who is confident in his own ability to win races. The other competitors and the physical environment are perceived by the athlete to be a challenge but one that he confidently expects to be able to handle if he does his best. His behaviour in this situation is to perform as best as he can. As he sees himself beating both the other competitors and the physical environment (heat, wind and terrain), his confidence and expectations of winning increase and consequently his performance increases as well.

As seen in this example, the individual has the ability to evaluate the environment as well as his own capabilities and expectations and to change these according to the evaluation. This is in sharp contrast to extreme behaviourists that see humans as passively reacting to internal needs or environmental factors. According to the social cognitive learning theory (Meyer *et al.*, 1997; Roberts, 2001), humans are active participants that observe and evaluate external and internal stimuli, strive towards goals and develop plans to reach these goals. Furthermore, they can proactively foresee and plan for difficulties and evaluate the effectiveness of their behaviour and accordingly change their behaviour.

According to these theorists, humans will react differently in situations and even differently in similar situations. The behaviour of an individual would depend on the interaction between the following factors:

- The precise nature of the situation;

- The individual's previous experiences;
- The individual's future expectations and goals;
- The behaviour produced in the situation.

According to Meyer *et al.*, (1997) the social cognitive learning theorists see human motivation as more than only the gratification of needs. Humans have the ability to determine their own goals, lives and development within certain bounds. They can therefore determine what they see as meaningful and important. According to Maddi (in Meyer *et al.* 1997), the social cognitive learning theorists implicitly accept that the basic motive of humans is to search for meaning in life and in their own actions. Motivation is the result of two processes – interaction and learning. People are not only motivated by internal needs or by external stimuli, but rather by the interaction between the individual and the situation. People are motivated by the possible consequences of their behaviour or in other words their expectations of consequences. People behave in a specific way because they expect their behaviour to have positive, neutral or negative consequences. These expectations are developed through a process of learning. Learning from own experiences or from observing the consequences of other people's actions. People play an active role in this learning process through their perception and evaluation of their own behaviour. Although people are influenced by their expectations of the external consequences of their actions, they are strongly influenced by their own self-evaluation.

People have the ability to determine internal standards according to which they evaluate their own behaviour and performance. The consequence of this is that their behaviour is not only determined by external conditions or expected external conditions. In this people show remarkable consistency in their behaviour. Individuals would behave in manners that result in discomfort and even physical pain and death to achieve their expected internal standards. It can be deduced that people are motivated to behave in a manner that leads to self-gratification (feelings of accomplishment) and in the process endure physical and mental pain and discomfort to avoid self-punishment (feelings of shame and failure).

Mischel (in Meyer *et al.* 1997: 347) describes this phenomenon:

“The human ability to self-regulate and purposefully self-control is reflected in such diverse concepts as willpower, mastery, and competence, and in their psychological opposites, such as helplessness and hopelessness. All of these concepts involve

the idea of volition (will) and deal with the ability of individuals to self-regulate to increase mastery in the light of particular goals”.

As such human motivation is the result of the interaction between humans and the situation where humans have the ability to determine their own motivation. This is learned through the individual's lifetime of own experiences and the observation of other people's behaviour. The individual would throughout his life learn that certain behaviour lead to certain consequences that may be positive, neutral or negative. By behaving or avoiding certain behaviours or situations the individual is able to satisfy not only social expectations but also (and usually more importantly) internal standards. Fulfilling these internal expectations leads the individual to self-gratification and the avoidance of self-punishment.

Athletes who participate in endurance sport probably do so due to internal needs or values of self-control, the need to achieve in physically demanding situations, endurance and competence. These athletes do not necessarily have to come from families or environments where, as a child or adolescent, they were exposed to endurance sports. However, they probably grew up in families or environments where these needs or values were very prevalent. Therefore, they learnt these needs or values and they became part of their internal value and standard system. When deciding to participate in a sport, they probably chose the sport that had the best chance of gratifying these learned needs and gave them the biggest chance of exhibiting corresponding behaviour – behaviour in which they can expect positive outcomes (Bandura's self-efficacy theory is described in chapter 4).

5.4.3 PERSON-ORIENTATED / HUMANISTIC APPROACHES

According to Meyer *et al.*, (1997), the humanistic approach does not consist of one perspective but rather a grouping of perspectives that share broad assumptions that differ radically from the psychoanalytical and behavioural schools. In fact, the person-orientated school developed as a “third force” or school in reaction to the reductionist and mechanistic views of humans by the psychoanalytical and behavioural schools. According to theorists from this approach the view of a human as a passive, segmented puppet that is regulated by environmental factors and genetically programmed biological functions is totally unacceptable. According to this approach

humans differ from any other organism (even animals) in the sense that humans have unique qualities that enable them to function at higher levels than any other organism. Humans have the ability to act and think at conscious levels, even proactively – in contrast to other organisms that function at instinctive levels. They have the ability to actively determine their own actions, behaviour, goals and future. Although this school does not disregard unconscious needs or processes, it postulate that humans have control over their actions and behaviour.

Theorists from this school emphasize the active role and responsibility that humans have in the determination of their lives and development (Maslow, 1954; Lindzey, 1958; Madsen, 1959; Fraisse & Piaget, 1963; Russell, 1970; Korman, 1974; Ferguson, 1976; Meyer *et al.*, 1997). Maslow (1954: 92) best describes this in his description of his higher order need self-actualization:

“It refers to man’s desire for self-fulfillment, namely, to the tendency for him to become actualised in what he is potentially. This tendency might be phrased as the desire to become more and more what one is, to become everything that one is capable of becoming”.

For theorists from this approach, human motivation is based on the striving to attain full potential. Although lower order needs such as hunger, procreation, security, love and even esteem are needs that should be gratified from time to time (at least partially), all behaviour is a striving to attain their full potential. Rogers (Russell, 1970: 372 - 373), illustrates this actualising tendency with a personal experience during a holiday on the coast of Northern California;

“As I watched the waves breaking over these large rocks in the distance, I noticed with surprise what appeared to be tiny palm trees on the rocks, no more than two or three feet high, taking the pounding of the breakers. Through my binoculars I saw that these were some type of seaweed, with a slender ‘trunk’ topped of with a head of leaves. As one examined a specimen in the intervals between the waves it seemed clear that this fragile, erect, top-heavy plant would be utterly crushed and broken by the next breaker. When the wave crashed down upon it, the trunk bent almost flat, the leaves were whipped into a straight line by the torrent of water, yet the moment that the wave had passed, here was the plant again, erect, tough, resilient.

It seemed incredible that it was able to take this incessant pounding hour after hour, day and night, week after week, perhaps, for all I know, year after year, and all the time nourishing itself, extending its domain, reproducing itself; in short, maintaining and enhancing itself in this process which, in our shorthand, we call growth.

Here in this palm-like seaweed was the tenacity of life, the forward thrust of life, the ability to push into incredibly hostile environment and not only to hold its own, but to adapt, develop, become itself”.

Maslow also holds this opinion that some people that attain higher levels of need-fulfillment do so through difficulty and suffering. Maslow (in Meyer *et al.* 1997: 59) states that: “... *higher needs may occasionally emerge, not after gratification, but rather after forced or voluntary deprivation.*” This explains why people would be motivated to deliberately place themselves in situations where they have to endure pain, discomfort, deprivation of lower needs and even injury. Through this process the individual is striving to attain his full potential. The assumption that can be made from the humanistic approach is that people not only have the ability to endure and even thrive in adverse conditions, but that they frequently and consciously choose to place themselves in adverse or difficult situations. Their motivation for doing this, according to the humanistic approach, would be to grow and to reach their full potential or self-actualisation. Therefore, an individual is probably motivated to participate in endurance sport by the perceived potential for individual self-actualisation. As seen previously, endurance sport has the intrinsic incentives of self-discovery, overcoming challenges and the feeling of achievement that comes with the enduring of and overcoming of adverse conditions or in other words self-actualisation. Therefore, the individual continues with endurance sport as each time a personal goal is achieved the individual realises that he/she has not yet reached his/her full potential and can only do so by challenging him/herself to greater heights.

Although the three theoretical approaches, needs, cognitive and humanistic (and specifically the approaches of the theorists described in this study) differ widely in their basic assumptions, they have one common denominator when describing human motivation: The individual is much more than just a passive “reactor” to either unconscious needs or external stimuli. The individual has a certain amount of control over what he/she do, what he/she thinks, how he/she will behave in situations as well as the situations he/she choose to be in.

People are not only passive in their reaction to unconscious needs or external environment but can proactively change the outcome of possible situations. They might even choose to place themselves in adverse or challenging situations and when they find themselves in these situations not only overcome the adverse conditions and challenges but also thrive. Even when persons find themselves in situations not off their own choice, they still have the ability to actively choose their own behaviour and change the outcome in their favour. The achievement needs approach of Atkinson (Gill, 2000) saw all behaviour stemming from the motivation of the individual to not only achieve their potential but also to transcend this potential.

This approach to motivation is similar to those of humanistic theorists such as Maslow and Rogers that have the opinion that the ultimate goal and motivation of all humans is to achieve their full potential or what they called self-actualisation. These humanistic theorists believe that this state of self-actualisation is not necessarily achieved under ideal conditions but rather because of adverse conditions. According to the social learning approach human motivation is the result of the interaction between humans and the situation where humans have the ability to determine their own behaviour. This is learned through the individual's lifetime of own experiences and the observation of other people's behaviour.

The individual would throughout his life learn that certain behaviour leads to certain consequences that may be positive, neutral or negative. By exhibiting or avoiding certain behaviours or situations, the individual is able to satisfy social expectations as well as and more importantly internal standards. Fulfilling these internal expectations leads the individual to self-gratification and the avoidance of self-punishment.

The questions of why an individual would choose to participate in endurance sport, and more importantly, why the individual would continue with endurance sport in general and specifically during an event under difficult conditions can satisfactorily be answered by using the four theoretical approaches described in this study. Individuals choose to participate in endurance sport for various reasons. For example, some would participate to achieve or maintain physical fitness while others would like to lose weight or to be in the outdoors. However, at a certain psychological level of consciousness people choose to participate in endurance sport for three basic reasons; Firstly, endurance sport helps to facilitate the achievement or fulfillment of certain values or self-image learned during a person's life. Secondly, participation in endurance sport facilitates the achievement and transcendence of the

individual's full potential. Thirdly, successful experiences in similar sport events would build up the individual's self-perception of his/her own ability. If the individual is reasonably successful initially or finds the sport enjoyable he/she would be motivated to take up the sport seriously.

Once the individual starts with one or more types of endurance sports, the individual's success or progressive completion of more challenging events would probably increase the internal incentives of self-fulfilment, self-actualisation, sense of achievement, self-knowledge, self-confidence and self-efficacy as well as the continued achievement and reinforcement of learned values and self-image. These are the sources of motivation as identified by Weiss and Ferrer-Caja (Horn, 2002) or the incentives of success as identified by Atkinson (Gill; 2000; Potgieter; 2003). These sources of motivation can be intrinsic or extrinsic or a combination of both. However, it would seem as if endurance athletes are mostly motivated by intrinsic sources. As the endurance athlete continues to overcome more challenging physical and mental obstacles, he would probably develop the need to continue to do so to reinforce learned (since starting with endurance sport) values, attitudes and self-images thereby ensuring continued participation.

Apart from the enjoyment and other internal incentives for continued participation in endurance sport, the individual also develops internal standards of excellence. This can be positive in the sense that it would motivate the athlete to continue with the sport (Beaudoin, Dowd, Gill, Martin, & Williams, 1996). Should the athlete stop during an event or discontinue with the sport for any length of time it might lead to internal punishment. In order to avoid this punishment, the athlete would continue during a race despite physical and mental challenges and in the longer term with endurance sport. This is similar to the motive to approach success and to avoid failure as identified by Atkinson (Gill; 2000; Potgieter; 2003). The focus of the one (motive to approach success) would be on the positive outcomes of success whereas the focus of the other (motive to avoid failure) would be to avoid the negative consequences of failure. Therefore, both these focus areas would motivate athletes to perform but their focus of motivation would differ. By combining the focus areas with the sources of motivation, the result is motivational strategies or motivational styles.

5.5 MOTIVATIONAL STRATEGIES

Motivational strategies are those methods and techniques that athletes use before and during endurance races to motivate them to achieve their own objectives. Based on the theoretical approaches to motivation as discussed in section 5.3 as well various other authors (Singer, 1986; Horn, 1992; Potgieter, 2003; Williamson, 2003), these motivational strategies or motivational styles can be divided into four types of strategies: positive-internal, positive-external, negative-internal and negative-external. These four strategies are the result of two factors namely focus and source of gratification. Focus refers to the focus of the motivation. It can be on the successful achievement of goals and objectives set by the athlete or other relevant people and the consequent positive results. It may also be on the failure to achieve the goals and objectives set by the athlete or relevant others. In the latter mentioned, the focus of motivation is on the feelings of failure or loss of self-esteem that results from failure to achieve goals. Thus, the focus is on negative outcomes or results. To avoid these negative or unpleasant emotions, the athlete is motivated to achieve his/her goals and objectives.

Positive and negative refer to the focus of the strategies. When individuals focus on the positive outcomes of the sport, either internal or external, or use positive thoughts and self-talk to motivate themselves they are using positive strategies. When individuals focus on the negative outcomes or consequences, internal or external, or use visualisation and self-talk that reminds them of the negative consequences of quitting during or before endurance events to motivate themselves, they are using negative motivational strategies.

The source of gratification refers to the origin of the athlete's reward for the successful achievement of goals and objectives in endurance events. In other words, what type of incentives, internal or external or the combination of the two makes the effort of overcoming physical and mental challenges worthwhile? Internal and external refer to the source or origin of the incentives that motivate athletes to achieve their goals and objectives. External rewards such as money, titles, approval, status, medals or other people's perceived image of the athlete are incentives that can and do motivate endurance athletes. Internal rewards refer to those incentives that motivate endurance athletes to overcome physical and mental challenges to achieve their goals. Examples of internal rewards include self-image, internal standards of achievement, values or sense of achievement and attitudes.

The combination of these two factors, focus and source, leads to the identification of the four types of motivational strategies: positive-internal, positive-external, negative-internal and negative-external. Each strategy would have different techniques that can be more or less successfully applied depending on the athlete's previous experience and mastery of the technique.

Positive-internal strategies are those strategies through which the athlete motivates himself by focusing on the positive outcome or consequences of successfully completing an endurance event. The positive outcome of successfully achieving his goals would be internal rewards such as feelings of achievement, enjoyment or a reinforcement of a positive self-perception. By focusing on the positive-internal rewards of achieving his own goals (using various techniques), the athlete motivates himself to overcome challenges and obstacles to reach his goals. Examples of positive-internal techniques are positive self-talk, positive visualisation and goal-setting.

Positive-external strategies are where the athlete motivates himself by focusing on the positive outcome or consequences of successfully completing an endurance event. The positive outcome of successfully achieving his goals would be external rewards such as prizes, medals, approval and titles. Therefore, by focusing on the positive external rewards of achieving his own goals (using various techniques) the athlete motivates himself to overcome challenges and obstacles to reach his goals (Puca & Schmalt, 1999). Examples of positive-external techniques are positive self-talk, positive visualisation and goal-setting.

Negative-internal strategies are where the athlete motivates himself by focusing on the negative outcome or consequences of failing to achieve his/her goals and objectives. The outcome of failing to achieve his goals would be internal "punishment" such as feelings of failure, disappointment, regret or self-blame. The athlete motivates himself to avoid these negative outcomes by overcoming challenges and obstacles to reach his goals. Examples of negative-internal techniques are negative self-talk, visualising failure and goal-setting.

Negative-external strategies are where the athlete motivates himself by focusing on the negative outcome or consequences of failing to achieve his/her goals and objectives. The outcome of failing to achieve his goals would be external

“punishment” such as where the athlete perceives that “important others” such as family, friends or coaches would have feelings of failure, disappointment, regret and disapproval about the athlete. Some of the techniques that can be used are negative self-talk, visualising failure and goal-setting.

Although a distinction is being made here between the strategies to enable clear understanding, it must be remembered that athletes may use more than one strategy or a combination at different times during an endurance event and training. The techniques or combination of techniques will depend on the athlete’s previous experience and mastery of the technique.

5.6 RELATIONSHIP BETWEEN MOTIVATIONAL AND COPING STRATEGIES

The relationship between coping strategies and motivational strategies are complex and at times related and interlinked. Motivation refers to the manner in which an individual would exhibit certain behaviour or find themselves in certain situations. Coping and coping strategies refer to the manner in which a person is able to handle or manage challenges or the stressors of specific situations. This seems a clear enough distinction and when looking at many of the theories of coping and motivation, the answer would seem straightforward. People are motivated to be in a state of balance or equilibrium and are motivated to avoid pain and seek pleasure. They should be motivated to seek out situations with the least amount of stressors where the need for coping and coping strategies are minimal.

Although this seems like a reasonable explanation, it is too simplistic and does not apply to endurance athletes. As seen from chapter 5, people have a need for and strive to attain and even transcend their own potential. From the comments made by endurance athletes, it would seem that intrinsic needs and rewards such as accomplishment, pride, mastery, self-control and self-discovery are more important motivators of behaviour than external rewards such as medals or prizes. This is something that was probably learned and developed throughout their life, through experiences in many different situations.

These values became needs that individuals has to gratify by placing themselves in situations where they have to overcome challenges, stressors and difficulties. As

seen in chapter 4, for the individual to gratify these needs, it is necessary for him to do so virtually alone as this will reinforce his perception about his own abilities. Adversity and challenges are not seen as something negative, but rather as opportunities to test their abilities and to develop their own potential. Therefore, it would seem that endurance athletes are motivated to deliberately place themselves in situations where they have to cope with pain, discomfort, the environment and themselves as well as other competitors. The reasons for doing so is that they see this as opportunities for growth, development and self-actualisation and secondly, as opportunities to test their abilities (physical and mental) to cope with challenges, stressors and adversity. Accordingly they re-affirm their own belief in themselves and in Adlerian terms their ability to overcome their own weakness.

It is difficult to give a clear-cut cause-and-effect relationship between coping and motivation. Endurance athletes might be motivated to place themselves in difficult and challenging sport situations, because they expect that they will be able to cope well in these situations. Or because they are motivated to overcome difficulties, challenges and adversity to achieve self-actualisation, they also cope and perform well.

The exact relationship or interrelationship between coping and motivation is not important for this study. What is important is that it seems that endurance athletes are motivated to place themselves in challenging sport situations and that they are able to use coping strategies to overcome the stressors of endurance events.

CHAPTER 6

METHODOLOGY

“The heat, the view and my own suffering while dragging myself up that hill all contributed to the thrill.” – Adriaan Viljoen, South African International Cyclist on the Tour de France

6.1 INTRODUCTION

In this chapter, the research methodology used for this study is described and explained.

6.2 RESEARCH APPROACH

This study aims to explore and describe certain facets of athletes' experiences during endurance events. The facets under study include the environmental stressors, motivation to participate, motivational and coping strategies used by athletes during endurance events. The focus is therefore on individual experiences as well as the identification of themes and patterns of behaviour. Therefore, this study aims to gain insight and comprehension rather than to explain the phenomenon following an empirical approach (Rosnow & Rosenthal, 1996; Babbi & Mouton, 2003; Remenyi, Williams, Money & Swartz, 2005).

To achieve this aim a qualitative research approach was followed. Neuman (1997) and Hesse-Biber and Leavy (2004) state that qualitative methods focus on themes, motifs and patterns of behaviour. A qualitative approach focuses on the processes and meanings that emerge from the data, rather than the quantitative measurement of amount, intensity and frequency (Bolton, 2002). According to Neuman (1997), qualitative and quantitative research styles differ in several ways, but in many they are complementary. All social researchers systematically collect and analyse empirical evidence to understand and explain social life. When data is in the form of words, sentences, and paragraphs rather than numbers, researchers would use different research strategies and data collection techniques.

Neuman (1997: 328) states that a qualitative research style involves more than looking at qualitative data:

“Positivists often try to convert the data into a quantitative form or analyse it using quantitative techniques. For positivists, qualitative data are mental states or conditions that cause measurable behaviour. The issue is how to capture it with precise, reliable quantitative measurement. By contrast, qualitative researchers view qualitative data as intrinsically meaningful, not as deficient”.

Neuman (1997) states that the central issue in qualitative research is the accessibility to other (sub) cultures, the relativity of people's accounts of their social worlds and the meaning that people give to social situations and actions. In other words, qualitative researchers might focus on generating new concepts whereas quantitative methods are more suited to testing and verifying existing concepts. Qualitative results are useful in that they provide a deeper understanding of individual participants' mental processes, and individual areas of strength and weakness can be identified. Answers to 'when', 'what', and 'why' questions can be answered and the consequences of thoughts, emotions and behaviours determined. Results are situation-specific and consideration of external influences can be determined. The only problem is that qualitative research methods are time-consuming and therefore often impractical (Slogrove, 1998; Hesse-Biber & Leavy, 2004; Marschan-Piekkari & Welch, 2004).

Despite this shortcoming, a qualitative research approach seems to best fit the objective of describing the phenomena under discussion in this study. As an explorative study with the focus on determining individual reactions to stressors in endurance events as well as the individual mental processes to cope with these stressors makes this extremely suitable for qualitative research. Individual responses need to be studied to determine any similarities and differences. These patterns of behaviour and mental processes will enable the researcher to identify concepts and themes of behaviour. The basic approach of this study is not to verify or test known concepts, but rather to explore relatively unknown areas. To achieve this, a qualitative research approach is most suitable.

6.3 DATA COLLECTION

The most logical approach to identify typical behaviour would appear to be direct observation thereof in real life situations. This would allow for the most accurate and “typical” observations (Maloney & Ward, 1976; Graziano & Raulin, 1993; Babbi, 1995; Greenbaum, 1998). However, it is not practically feasible to observe people all

the time. Secondly, direct observation of behaviour does not give direct insights into the thought processes of the people being observed. Therefore, the next logical method would be to ask the individual directly about his/her typical behaviour. Two methods of doing this would be to use either questionnaires or interviews or a combination of both. As in all qualitative research, the question of what data gathering to use is closely linked to the state of theoretical development (Neuman, 1997; Terreblanche & Durrheim, 1999). For explorative research into relatively unknown phenomena such as this study, one can expect to have many cases or respondents to ensure that enough data that will generate sufficient information to cover the field of study. However, it is important to remember that the quantity of information (or respondents) is not as important as the quality of information gathered.

In order to make a choice on what data collection method to use, the researcher kept in mind that he was doing explorative research in a relatively unknown field of study and therefore, needed to have several participants, but also that the quality of the data should be of such a nature that it would satisfy the aims of the study. An interview would certainly have provided the quality and richness of information needed but would be time consuming and not practical for the number of participants needed (Babbi & Mouton, 2003; Terreblanche & Durrheim, 1999; Henning, Van Rensburg & Smit, 2004; De Vos, Strydom, Fouche & Delport, 2005). The use of a well-developed questionnaire would have enabled the researcher to reach the required quantity of respondents as well as delivered the required quality of information. Therefore, the researcher decided to use a questionnaire.

Questionnaires are used to sample many respondents that answer the same question or questions (Neuman, 1997). This is done to make deductions of behaviour. The questionnaire is developed based on a theoretical or applied research problem. The questionnaire used in this study asked respondents to report on the effect of environmental stressors, additional stressors, motivation to participate, motivational strategies and coping strategies during events. The advantage of this is that the individual can report on present and past behaviour. This method can be used to gather descriptive, explanatory and explorative data (Babbi, 1995; Terreblanche & Durrheim, 1999; Bryman & Bell, 2003).

The use of questionnaires has certain limitations also (Maloney & Ward, 1976; Babbi, 1995; Terreblanche & Durrheim, 1999; Frary, 2002; Babbi & Mouton, 2003; Polonsky

& Waller, 2005). In this study the respondents were from various cultural backgrounds and language groups. Therefore, the semantic meaning of words used in the questionnaire might not necessarily be the same for all respondents. The consequence of this is that respondents might misunderstand questions and provide responses that are of little or no use. To counter this, the questionnaire was first tested on individuals from similar language groups and cultural backgrounds. Additionally, responses were clarified after the questionnaires were completed.

Secondly, the nature of this questionnaire requires from the individual a certain level of intra-personal insight to accurately assess and perceive his or her “typical” behaviour to some extent. A lack of intra-personal insight or an inability to identify typical behaviour could lead to inaccurate descriptions or guesses. To counter this, clear descriptions of the circumstances of behaviour were given. Additionally, respondents were asked to report on past experiences under these circumstances.

Thirdly, any type of data gathering technique that relies on self-reports by respondents (such as questionnaires and interviews), the truthfulness and honesty of the answers is questionable to some extent. This is especially true for questions that seek answers to sensitive issues or issues that may have “socially acceptable or unacceptable answers”. An understanding of the reasons for the study as well as how their answers will contribute to the study might motivate respondents to answer honestly. By assuring participants of absolute confidentiality and anonymity it will further increase the willingness of respondents to participate more truthfully. In this study, the purpose of the study as well as how their responses would contribute to the study were explained verbally to the respondents. Furthermore, there was a written explanation of the study that formed part of the questionnaire that the respondents completed. In this written explanation the aim of the study, how their responses will contribute to the study as well as assurances of confidentiality and anonymity were given.

Lastly, the questions that form part of the questionnaire do not necessarily relate to the specific concepts that are being measured in the study. According to Frary (2002), the questionnaire developer should precisely define what information is required and write as few questions possible to obtain this information. A shotgun approach where too many peripheral and “might be nice to know” questions are asked must be avoided. This can be done when the researcher has done an extensive search of the literature and knows exactly which questions are important

and those that are not. In this study the questions and items of this questionnaire have been identified from extensive literature searches on the subject. Although there are always the possibility of some overlap, vagueness and mistakes, that is the aim of this study and research in general to identify and thereafter accept and discard information that relates or does not relate to this topic.

The aim of the questionnaire is to get basic biographical information about the respondent. Furthermore, the following research questions will be answered by this questionnaire:

- To determine the perceived impact of environmental stressors on athletes involved in endurance events;
- To determine the motivational strategies used by athletes participating in extreme endurance events;
- To determine the coping strategies used by athletes participating in extreme endurance events.

In other words, the questions in the questionnaire will focus on the athlete's conscious motivation(s) for participating in endurance sport, factors in the environment that increase stress levels, coping strategies used by athletes to overcome stressors and motivational strategies used by athletes to ensure continued performance during endurance events.

Open-ended, closed-ended and Lickert scale questions will be used with the emphasis on open questions. Open-ended questions are used to get respondents' views, opinions or descriptions of experiences (Babbi & Mouton, 2003; Polonsky & Waller, 2005). The reason for this is that open-ended questions can help to understand trends as it adds meaning to the responses. However, open-ended questions should have a specific purpose and should be worded in such a manner that it does not lead the respondent or presuppose an answer. This is done to ensure that the participant's has ample opportunity to record own views and perception. The advantage of open-ended questions is that the individual respondent has the opportunity to air his own opinions or describe his experiences without being restricted by limited choices as are often the case with closed-ended questions. The researcher is therefore able to get a wealth of information that can be used to create

meaning. The disadvantage of open-ended questions is that the responses have to be coded or grouped before they can be processed (Babbi & Mouton, 2003). This coding process requires of the researcher to interpret the meaning of responses leading to the possibility of researcher bias and misunderstanding. Furthermore, there is always the danger that some respondents will give irrelevant answers. In this study researcher bias and misunderstandings in the coding process was minimised by the clarification of responses where the researcher physically discussed the responses with every respondent once he/she completed the questionnaire. Closed-ended questions are mostly used to guide the respondent to make a choice between questions that were pre-determined by the researcher (Babbi & Mouton, 2003; Polonsky & Waller, 2005). This ensures a greater uniformity of responses and are easier to code and process. The one major shortcoming of closed-ended questions lies in the researcher's structuring of the responses. When the answers to questions are obvious and clear, there should not be any difficulties. However, when structuring closed-ended questionnaires, two structural requirements should always be kept in mind; the response categories should be exhaustive and the answer categories must be mutually exclusive (Babbi, 1995; Babbi & Mouton, 2003).

This questionnaire was developed by the researcher based on the findings in the literature (see Appendix B). The questionnaire consists of 27 questions. The questionnaire is structured in the following manner:

- Questions 1 – 3: Basic biographical data;
- Questions 4 – 5: Information on the type of endurance sport the athlete participates in;
- Question 6: Information on the frequency of participation;
- Questions 7, 9, 10, 14, 15, 19, 20, 21: Motivation to participate in endurance sport;
- Questions 8.1 – 8.12, 16, 17, 22, 26: Stressors involved in endurance sport;
- Questions 8.1 – 8.12, 13, 15, 16, 23, 25, 27: Coping strategies used before, during and after endurance events;
- Questions 8.1 – 8.12, 11, 12, 13, 14, 15, 19, 20, 21, and 24: Motivational strategies used before, during and after endurance events.

It might appear as if there are some duplications in the answers to the questions. However, this is not the case. In some of the questions there is some overlap,

especially in the case between some areas of coping strategies and motivational strategies.

However, as seen in chapter 5, the relationship between coping and motivational strategies is complex and often so integrated that it is difficult to make a clear distinction. Therefore, it is possible that some of the questions in the questionnaire might be related to both coping and motivation. To avoid duplication and misunderstandings, the researcher discussed each respondent's responses with him/her once he/she completed the questionnaire. This ensured the accuracy of the responses as well as the fact that the researcher clearly understood the meaning of each response.

6.4 DATA ANALYSIS AND INTERPRETATION

According to Polonsky and Waller (2005) the terms analysis and interpretation are often misused as being interchangeable whereas each have distinct meanings and roles. After data gathering, as with any research study, the researcher usually possesses a lot of data that on its own do not make much sense. Data analysis is the process whereby the researcher cleans and assembles the data, brings order and structures a mass of collected data (Marshall & Rossman, 1995; Polonsky & Waller, 2005). Therefore, the aim of this phase is to process or order the data into "logical" or more accurately – manageable data that can be interpreted (Stewart & Shamdasani, 1990; Baron & Byrne, 1991; Graziano & Raulin, 1993; Babbi, 1995; Singer, 1995; Hoepfl; 1997).

Data interpretation is the process whereby the researcher makes sense of the data or creates meaning from the structured data (Polonsky & Waller, 2005). In this process all the critical thinking abilities of the researcher come into play to interpret the data in order to find the actual meaning. It follows that data analysis will have to be done before data interpretation can take place. The main research approach of this study is qualitative rather than quantitative. Therefore, the focus will be on the content (what is being said) as well as the quality of the experience (how the respondent feels). However, this does not mean that quantitative methods will not be used to order or process the "raw" data. In this study, data that was derived from the closed-ended questions was processed using frequency analysis to develop a descriptive profile of the participants as well as to develop initial patterns of behaviour and specific themes. The aim of this phase is to order, identify themes and search for

patterns in the data that will answer the research questions of the study and can be communicated to the scientific community (Capra, 1983; Baron & Byrne, 1991; Graziano & Raulin, 1993; Babbi, 1995; Singer, 1995; Carney, Joiner & Tragou, 1997; Neuman, 1997; Van Schalkwyk, 1998; Denzin & Lincoln, 2000; Babbi & Mouton, 2003; Polonsky & Waller, 2005). This specific study focuses on the attitudes, experiences and typical behaviour of endurance athletes. The nature of the research questions is diverse ranging from simple descriptive data (types of stressors) to more complex relationships and patterns of behaviour such as the motivational and coping strategies used by athlete to overcome this. However, the basic approach of this study is to understand the individual athlete's experience during endurance events in terms of stressors, motivation to participate, coping with stressors and motivational strategies used to overcome stressors. To do this it is obvious that quantitative analysis would be unsuitable. Therefore, qualitative analysis will be used. Qualitative data analysis procedures fall into five distinctive modes: organising the data; generating categories, patterns and themes; testing the emerging themes against the data; searching for alternative explanations of the data; and report writing (Marshall & Rossman, 1995). In each phase of data analysis, data reduction is crucial as the mass of collected data is organised and ordered into manageable chunks or themes where after the researcher interprets the themes in order to give meaning and insight into the words of the respondents. The same distinctive five modes of data analysis procedure as described by Marshall and Rossman (1995) were followed in this study.

Organising the data. The researcher read the questionnaires several times in order to become familiar with the data. At the same time the researcher sorted the questionnaires according to broad categories such as gender, age, ethnic background, events participated in and types of endurance sport participated in. This was done to reduce the volume of data to a more manageable level. This also ensured that the researcher could start with the descriptive profile of the sample.

Generating categories, patterns and themes. This process involves the identification of regularities and similarities in the responses given by the participants. By grouping similar responses together, categories of meaning or themes emerge. In other words, by grouping and ordering the responses of the participants under certain specific themes (related to the theory and literature), the researcher was able to identify patterns of behaviour, individual differences between athletes and similarities of meaning and experiences. To determine this, the researcher did an initial coding of expected responses and themes. This changed as the analysis progressed – the

nature of qualitative research is fluid, adaptable and changeable to suit the nature of the data (Babbi, 1995; Neuman, 1997; Hesse-Biber & Leavy, 2004; Marschan-Piekkari & Welch, 2004). This initial coding did not restrict the researcher to dogmatically stick to the coding, but rather guided the researcher in the initial phases of the research. Figure 6.1 illustrates the first order coding process.

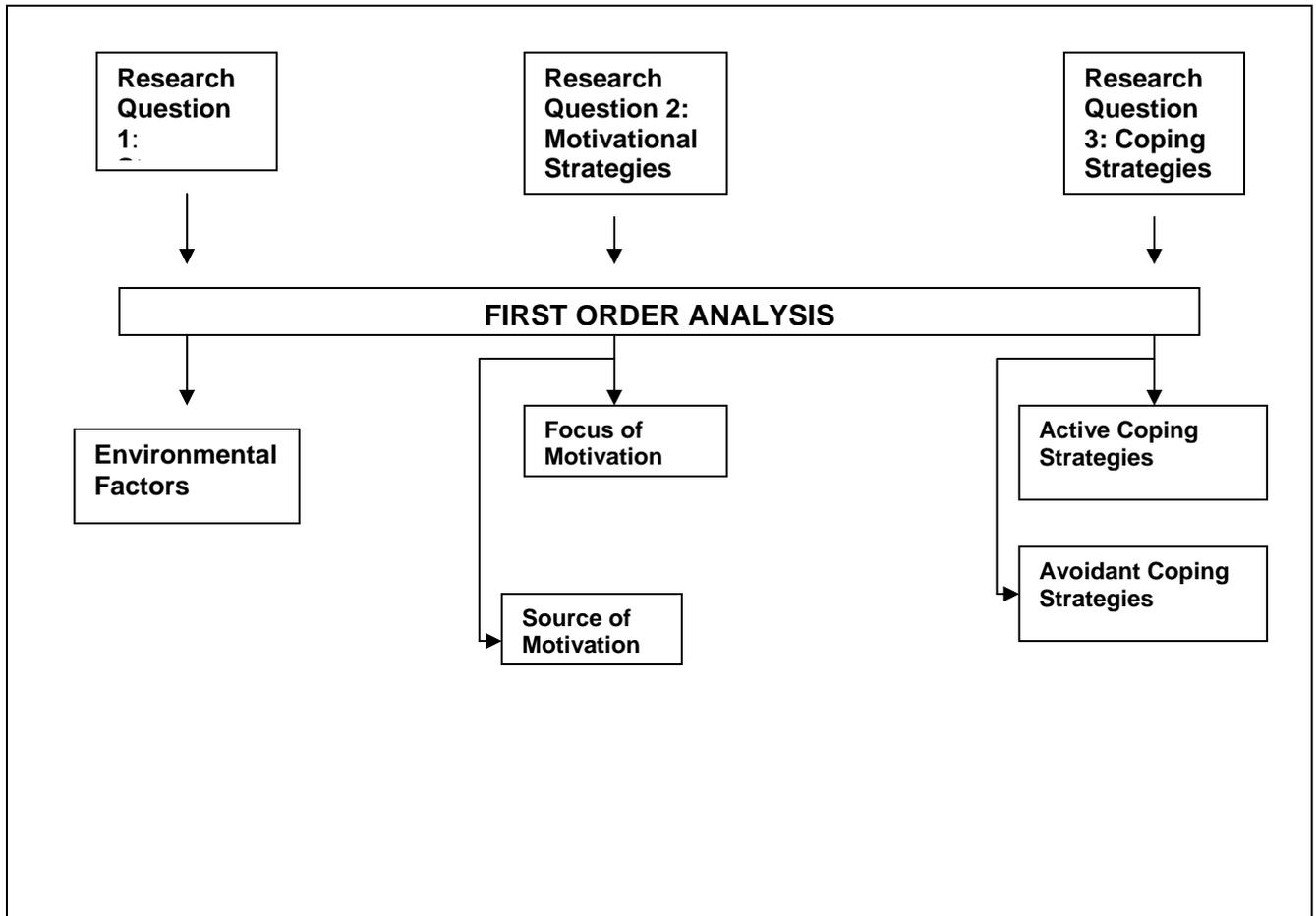


FIGURE 6.1: FIRST ORDER CODING PROCESS

Coding focused both on the manifest content (1st order analysis) – the visible, surface content as well as on the latent (2nd, 3rd and 4th order analysis) or underlying content and meaning. During the initial phase of analysis where the data from the questionnaire and clarification interviews was analysed to determine themes, the focus was more on the manifest content. The coding process of manifest content (2nd and 3rd order analysis) can be seen in figures 6.2, 6.3, 6.4, 6.5.

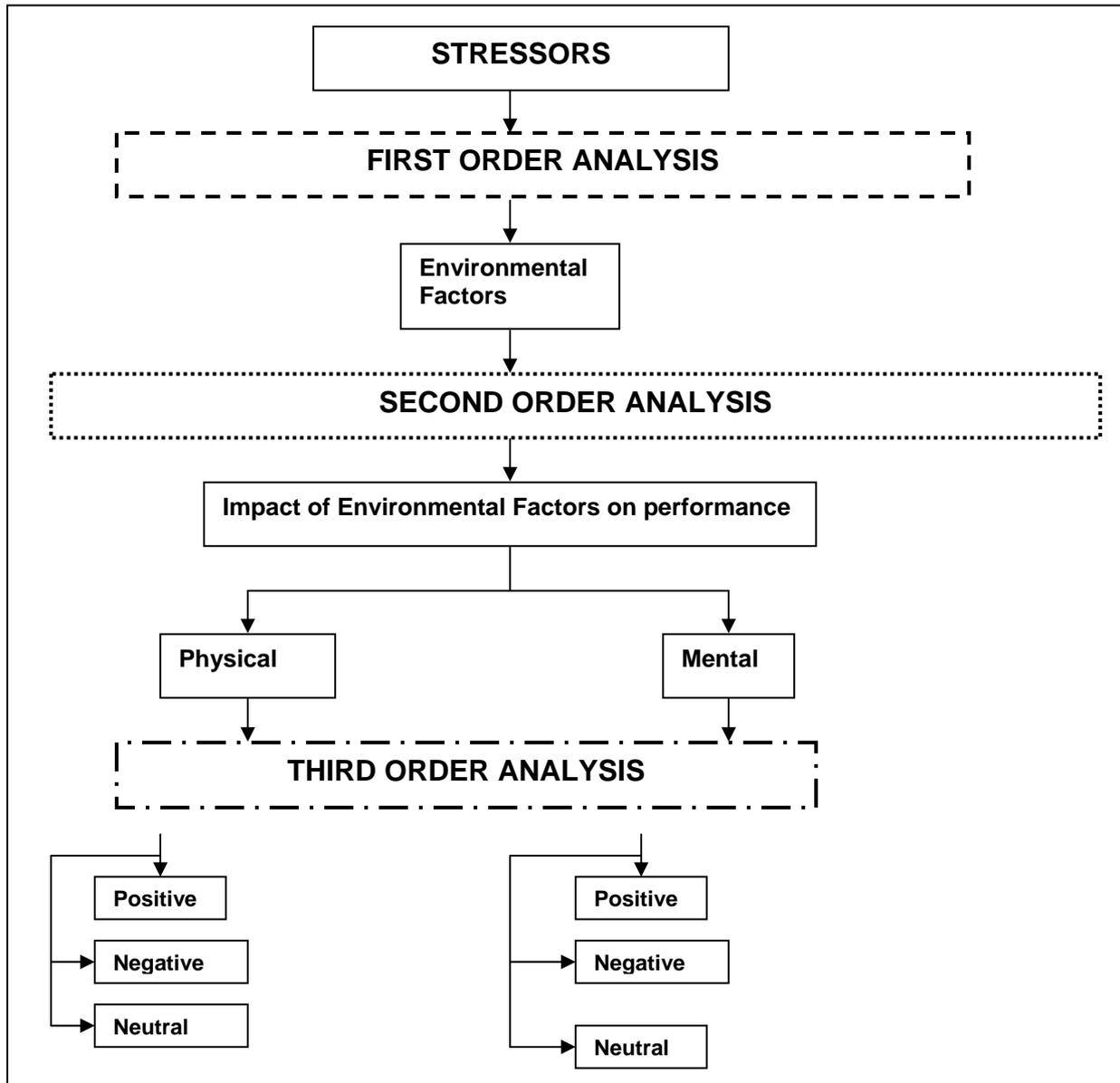


FIGURE 6.2: **STRESSORS; 2ND AND 3RD ORDER ANALYSIS**

Figure 6.2 illustrates the process followed to code and analyse the stressors involved in endurance events. Firstly, the first order analysis focused on separating stressors previously identified in the literature and additional stressors as it emerged from the data. The second order analysis focused on the perceived physical and mental impact of environmental factors on performance. Secondly, it focused on how additional stressors are perceived by endurance athletes. The third order analysis focused on the perceived positive, negative, and neutral impact of environmental factors on performance as these themes emerged from the data.

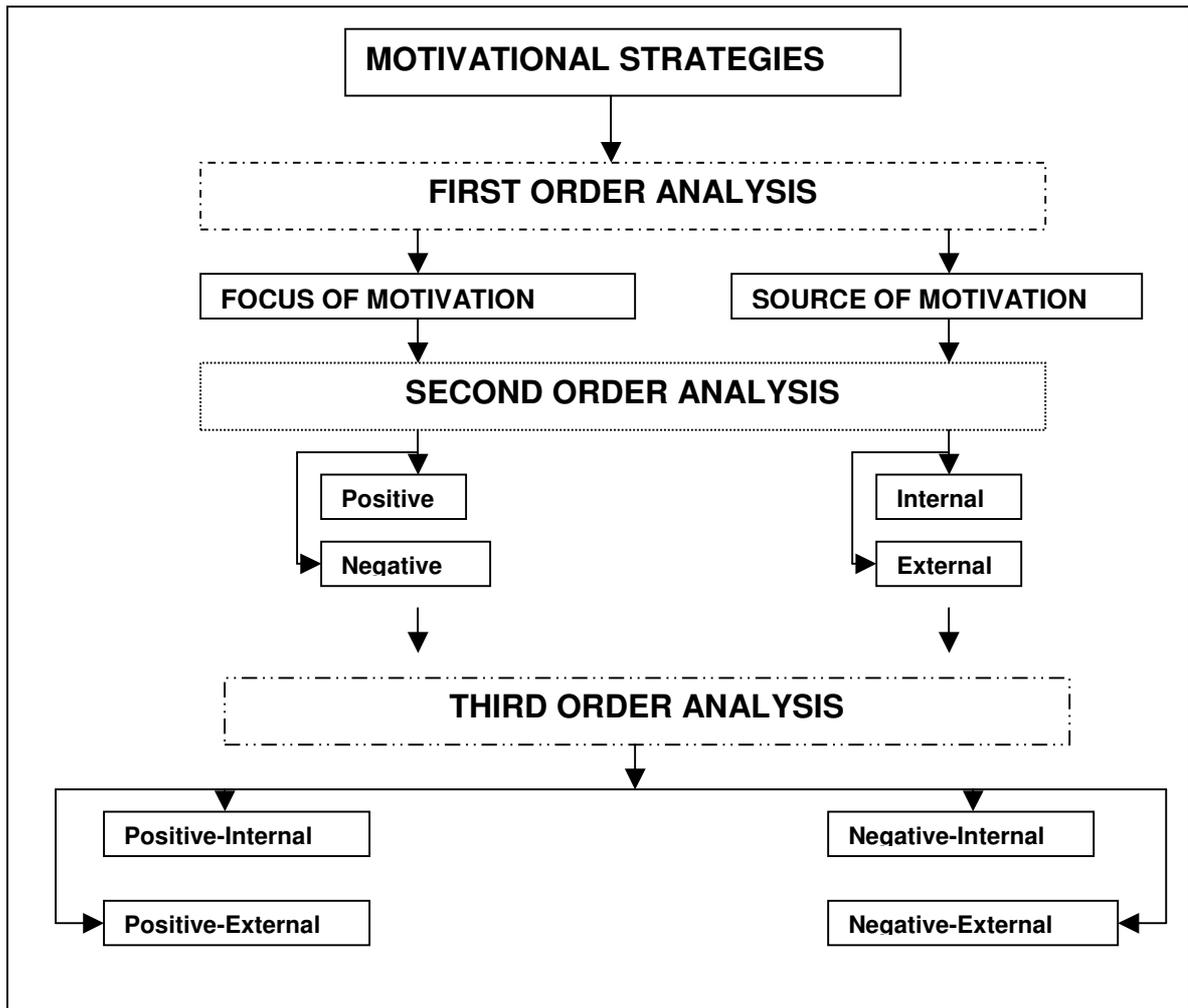


FIGURE 6.3: **MOTIVATIONAL STRATEGIES: 2ND AND 3RD ORDER ANALYSIS**

The first order coding and analysis of motivational strategies focused on two main themes that emerged from the data; focus of motivation and source of motivation. Second order analysis focused on positive and negative focus of motivation as well as on external and internal sources of motivation as these themes emerged, while the third order analysis focused on the combinations of motivational strategies as it emerged in the data.

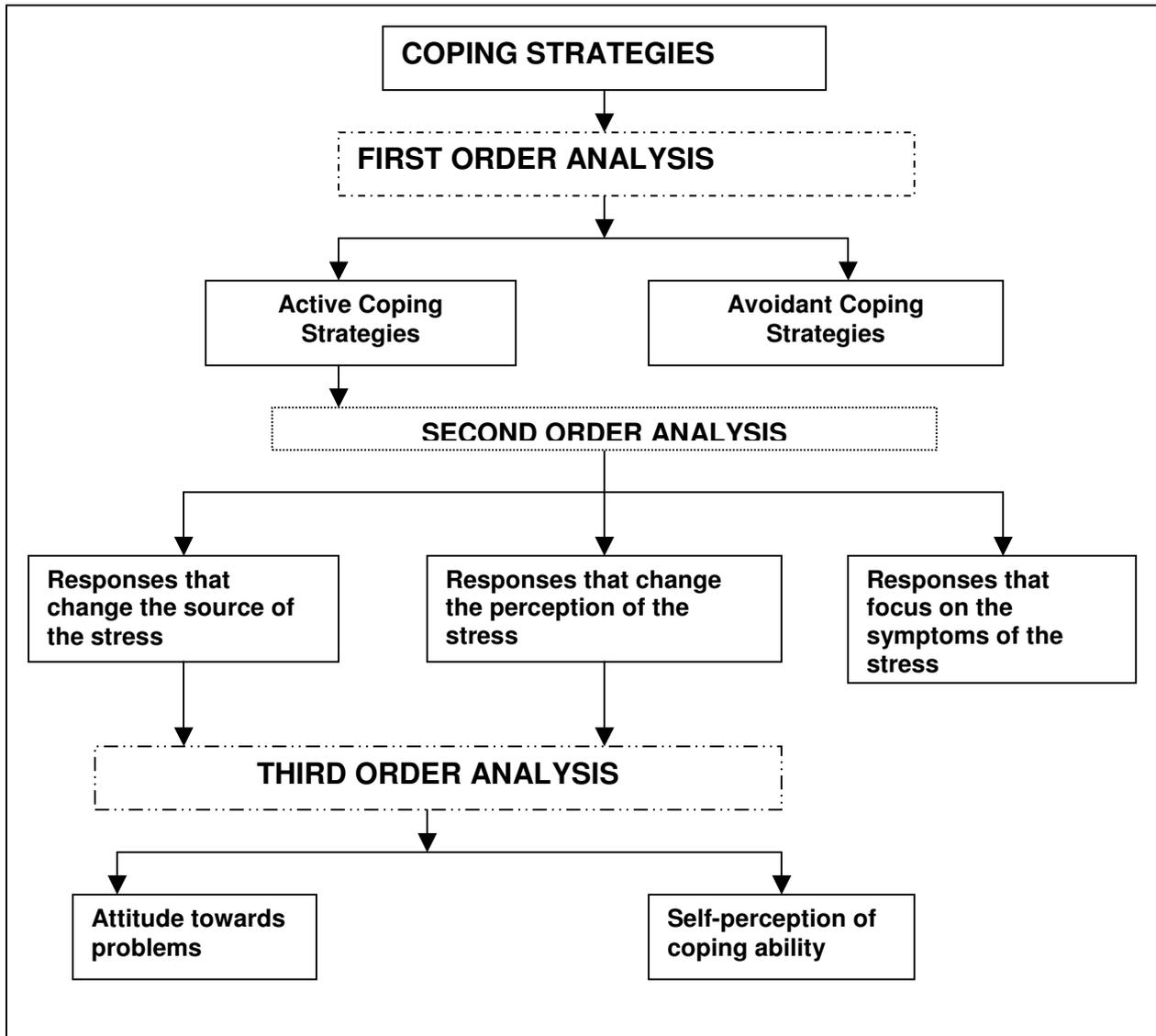


FIGURE 6.4: COPING STRATEGIES; 2ND AND 3RD ORDER ANALYSIS

Figure 6.4 illustrates the process followed to code and analyse the coping strategies and related themes involved in endurance events. The first order analysis focused on separating active coping strategies and avoidant coping strategies. The second order analysis focused on the three active coping strategies that were identified in the literature; responses that change the source of stress, responses that changes the perception of stress, and responses that focus on the symptoms of stress. Out of the analysis of these themes emerged, the third order categories that viewed the attitude towards problems and the perception of individual ability to cope with problems.

Once the coding was complete the researcher developed Excel spreadsheets for all the research questions as well as themes that were previously identified in the

literature. The responses for each of these questions were then grouped on the specific spreadsheet. Thereafter, the researcher then searched for similar responses and grouped these under subcategories or themes. The researcher already identified certain themes through the literature study. However, several themes emerged from the data that required the creation of new categories of meaning or themes that were not present in the literature. Excel spreadsheets were also created for these themes and sub-themes. This process continued until all the responses were grouped under specific themes or sub-themes. Once all the responses were grouped under the identified themes and sub-themes the researcher searched for those responses of which the *meaning* had internal convergence and external divergence, in other words where the meaning is internally consistent but distinct from each other. It is important to note that the focus was not on the face value of the response but rather on the inherent meaning of the response. Therefore, several responses that had the same wording had more than one inherent meaning and were therefore included in more than one theme or category (the seeming duality of meanings in some responses was clarified with each respondent after they completed the questionnaire).

Testing emerging themes. In this phase, the themes and patterns that emerged are evaluated by the researcher to determine the plausibility of these emerging themes (Marshall & Rossman, 1995). This process of evaluating or testing of the emerging themes entails a search of the data in order to challenge the themes. This is done by confirming the themes with positive comparisons in the data or by searching for negative instances of the patterns. In this study several initial themes and sub-themes were identified through the literature search. These themes and sub-themes can be seen in table 6.1.

TABLE 6.1: INITIAL THEMES IDENTIFIED THROUGH LITERATURE SEARCH

Nr	Theme	Sub-theme
1	Environmental Stressors	Heat, cold, altitude, wind, terrain, equipment, distance, sleep deprivation, nutrition, hydration and uncertainty.
2	Coping strategies	Responses that change the source of the stress or situation that causes stress; responses that change the individual's perception of the stressor or control the meaning of the experience after it happened; responses that control the symptoms of the stress itself after it emerged.

3	Motivational strategies	Positive-internal, positive-external, negative-internal, negative- external, and combinations.
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These initial themes and sub-themes were evaluated with the data to identify congruence as well as differences. Where congruence was found the themes and sub-themes were accepted. Where differences were found further analyses were done, alternative themes and sub-themes were identified and the process was repeated until all themes and sub-themes were acceptable. The same process was followed with new themes and sub-themes that emerged from the data.

Searching for alternative explanations. In this phase the researcher has to critically challenge the emerging patterns and themes. This very important process is done to ensure that the researcher is not biased in his interpretation of the data and to ensure that the interpretation is not superficial but has enough depth to achieves the research goals. In this process the researcher must search for and identify plausible alternative explanations, describe them and then demonstrate how the explanation offered is the most plausible. Therefore, in this phase the researcher has to interpret the data, challenge emerging themes, generate alternatives and argue to build a logical interrelationship that is supported by the data as well as by other studies.

In this study, this phase was followed meticulously. Each emerging theme was challenged. However, the results frequently concurred with the literature. In these cases the emerging themes were compared with the literature and where it concurred the theme was accepted. However, in those cases where the themes did not concur with previous studies or where new themes emerged, the researcher went back to the data and literature and generated alternative explanations. This was then noted, compared to the emerging theses and argued until an acceptable explanation was found.

Writing the report. According to Marshall and Rossman (1995) report writing about qualitative data cannot be separated from the analytic process. It is central to the process as the choice of words to summarise, explain and reflect the complexity of the data is in itself a process of analysis and interpretation.

In this study, the researcher attempted to report on his findings by giving a realistic account of the research phenomena that were studied. However, the researcher also

attempted to present the findings in a credible and respectable manner without boring the reader to death.

6.5 SAMPLING

The initial sample was 85 athletes. However, several of the respondents were found unsuitable due to the fact that they did not participate in endurance sport or were not experienced enough. The final sample for this study consisted of 53 experienced non-elite endurance athletes. These athletes were chosen on their availability and willingness to participate in the study.

An operational definition of experienced non-elite endurance athletes describes people who have participated in at least four endurance events (marathons – 10 km+, cycling – 30km+, mountain biking – 20km+, canoeing/kayaking – 30km+, backpacking – 30km+, adventure racing – 25km+, Iron Man etc.), two in the last year without being a professional athlete (non-paid).

For the first phase of data gathering (questionnaire), 53 experienced non-elite athletes completed the questionnaire.

For the second phase (informal interviews), the researcher discussed the responses to the questionnaire with 49 of available participants to clarify their responses as well as the specific meaning of each response.

6.6 ETHICAL CONSIDERATIONS

Ethics in research fulfill two basic roles; Firstly, the protection of people as research subjects and secondly, to ensure that good, quality research is done (Graziano & Raulin, 1993; Babbi, 1995; Marshall & Rossman, 1995; Carney *et al.*, 1997; Neuman, 1997; Van Schalkwyk, 1998; Denzin & Lincoln, 2000; Babbi & Mouton, 2003; Polonsky & Waller, 2005). The researcher met both these requirements in this study. Participation in this study was entirely voluntary. The participants never received nor were promised any form physical or psychological reward apart from the satisfaction of participating in this study. Care was taken to receive written consent from every participant to participate in this study and for the results of their participation to be used and communicated as part of scientific research (see Appendix A).

The researcher also promised and ensured that the confidentiality of participants in this study was protected. The information received was kept anonymous and confidential. The questionnaire and follow-up clarification interviews at no time, neither identify the participants nor are the results communicated in such a manner as to identify the individual respondents.

6.7 SUMMARY

This chapter outlined and described the methodological process that was used in this study. The chapter focused on factors such as the basic research approach, data collection, data analysis and interpretation, sampling as well as the ethical considerations. In the next chapter the results of the study and analysis will be presented.