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Goal orientation, the growth mindset and coping strategies for success and failure in competitive sport

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Table of contents

Chapter 3 – Methodology

Chapter 4 – Results

Chapter 5 - Discussion and conclusion

List of tables

List of figures

Lists of appendixes

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Doeloriëntering, die groeiende instellingsteorie en hanteringstrategieë vir sukses en mislukking in kompeterende sport

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Opsomming

In vandag se sportloopbane is daar geen ruimte vir foute nie. Vir hierdie rede moet ‘n atleet ten alle tye op sy of haar beste wees. Dit is baie belangrik vir ‘n atleet om sy emosies in toom te hou, want somtyds kan die atleet se emosies bepaal of hy of sy sukses of mislukking gaan ervaar. Daarom is die doel van die studie om die reaksie van atlete op sukses en mislukking te bepaal. Die feit dat daar ‘n beperkte hoeveelheid navorsing oor die tema van die studie is beklemtoon weereens die belangrikheid van die studie.

Elke atleet ervaar en reageer verskillend op sukses en mislukking. ‘n Atleet kan sukses of mislukking gebruik as ‘n fasiliteerder of as ‘n debiliteerder. As ‘n atleet sukses of mislukking sien as ‘n fasiliteerder, sal die atleet sukses of mislukking gebruik as ‘n metode om sy of haar prestasie/s te verbeter. Indien ‘n atleet sukses en mislukking sien as ‘n debiliteerder, beteken dit dat die atleet nie die vermoë of vaardighede het om sukses of mislukking te gebruik tot sy of haar voordeel nie. Dit wil voorkom dat elite atlete die vermoë of vaardighede het om sukses en mislukking te gebruik tot hulle voordeel, as gevolg van die feit dat daar geen plek vir foute tydens die kompetisie is nie. In die studie probeer die navorser bepaal hoe elite- en beginner atlete sukses en mislukking hanteer en wat hulle reaksie op sukses en mislukking is. Elke atleet het ‘n unieke manier om sy of haar talente te ontwikkel. Atlete wat glo dat hulle gebore is met ‘n talent of vermoë en

kan nie die talent verbeter met oefening of ‘n groter poging kan geklassifiseer word as statiese instelling. Indien die atleet glo dat hulle, hulle talent kan verbeter, kan dit gesien word as ‘n groeiende instelling.

Hierdie studie maak van die gemaklike sowel as die ewekamsige steekproefmetode gebruik. Elke deelnemer moes voldoen aan sekere kriterium om deel te wees van die studie. Die studie se kriteria het beklemtoon dat elke atleet aktief betrokke in ‘n sekere sportsoort moet wees, mag dit wees op skool-, provinsiale-, nasionale- of internasionale vlak. Om te bepaal watter tipe doeloriëntering elke atleet is was hulle gevra om die taak en ego oriëntasie vraelys in te vul. Deur die verwysing kan bepaal word wat hulle reaksie is tot sukses en mislukking, was daar van die atlete verwag om die vrae oor sukses en mislukking te voltooi. Die selfteorie vraelys wat deur die atlete voltooi is, het bepaal of die atlleet ‘n statiese of groeinde instelling het.

Deur gebruik te maak van die resultate van die vraelyste wat voltooi is deur die atlete kon daar korrelasies gemaak word. Taakoriëntasie en die groeiende instelling is meer dominant as die ego oriëntasie en die statiese instelling. Atlete in die algemeen reageer meer konstruktief teenoor sukses en mislukking. ‘n Sterk korrelasie was gevind deur taakoriëntasie en positiewe reaksie tot sukses en mislukking. Gedeeltelike korrelasie kon gemaak word tussen ego oriëntasie en positiewe reaksie tot sukses. ‘n Positiewe korrelasie kon gemaak word tussen taakoriëntasie en groeiende instelling, asook ego oriëntasie en statiese instelling.

Sleutelwoorde: Doeloriëntasie, taakoriëntasie, ego oriëntasie, self-teorië, groei instelling, statiese instelling, sukses, mislukking, positiewe reaksie tot sukses, negatiewe reaksie tot sukses, positiewe reaksie tot mislukking, negatiewe reaksie tot mislukking.

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Goal orientation, the growth mindset and coping strategies for success and failure in competitive sport

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Summary

In today's sport careers there is no room for error. This is why athletes should be "on top of their game" every time they compete. It is very important for athletes to keep their emotions under control, because emotions can sometimes determine success or failure. But more important is how the athlete reacts to success and failure. Therefore, in this study the aim was to establish an athlete's reaction to success and failure. An athlete should have the ability or strategy to handle success and failure. According to this statement, it underlines the importance of the current study. The fact that there are limited resources in this field accentuates the need for this study.

Each athlete experiences and reacts to success or failure differently. An athlete can use success or failure as a facilitator or as a debilitator. If an athlete sees success or failure as a facilitator, he or she will use success or failure as a method to enhance his or her performance. But if an athlete sees success and failure as a debilitator, it means that the athlete does not have the ability or skills to use success or failure to his or her advantage. It seems that elite athletes may have the skills or ability to use success and failure as a facilitator and not as a debilitator owing to the fact that in the elite arena there is no place for errors. In this study, the researcher examines how elite and beginner athlete's handle

success and failure and what their reaction is towards success and failure. Each athlete has a unique way to develop his or her talents. Athletes who believe that they are born with limited talent or ability and cannot improve this talent by more practice or more effort can be classified as having a static mindset. When athletes believe that they can improve their talent or ability, they could be seen as athletes with a growth mindset.

This study made use of a combination of convenient and random sampling. Each athlete had to comply with the criterium to be part of the study. The criterium stipulated that each athlete should be an active participant in sport either at school-, provincial-, national- or international level. To determine what goal orientation each athlete had, they were asked to fill out the task- and ego orientation in sport questionnaire. To determine what their reactions to success and failure were, athletes completed an assessment of success and failure questionnaire that was self-developed by the present researcher Roelie Potgieter and his study leader professor Ben Steyn. The self-theory questionnaire that was completed by the athletes determined whether an athlete was in the fixed or growth mindset.

Using the results determined through the questionnaires that were completed by the athletes, correlations could be made to motivate the study. Task orientation and the growth mindset is more predominant than ego orientation and the fixed mindset. Athletes in general react more constructively towards success and failure. A strong correlation was found between task orientation and positive reaction to success and failure. Partial correlation between ego orientation and positive reaction to success was found. Positive relations were discovered between task orientation and the growth mindset, as well as ego orientation and the fixed mindset.

Keywords: Goal orientation, task orientation, ego orientation, self-theories, growth mindset, fixed mindset, success, failure, positive reaction to success, negative reaction to success, positive reaction to failure, negative reaction to failure.

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Declaration

I, the undersigned, declare that the work in this dissertation is my own original work.

Signature:

Date:

Chapter 1

Problem statement and research goal

"To look both success and failure in the eye and see them both as imposters!" - Kipling

1.1 Introduction

The main goal in sport is to perform well. Many athletes show potential and have the right physical stature for sport, but somehow their big match temperament does not match their abilities. Poor and inconsequent performances in sport cannot be seen only as a lack of talent, but may also reflect a lack of mental toughness. Each situation produces a certain, yet different, stumbling stone for each athlete to overcome. Therefore, in this study the aim was to establish an athlete's reaction to success and failure. It is not only important for athletes to have strategies or techniques during or after a competition to handle success and failure. It is also important how an athlete react to his or her successes and failures and how they utilize it to improve their performances.

In this study, the researcher determines the impact that success and failure have on an athlete's achievement motivation. Therefore, it will be meaningful to determine the possible relationship between reaction to success and failure and goal orientation (perception of success and failure) and self-theories (perception of the nature of sport abilities) when competing in a competitive sport.

Most athletes experience failure as a factor that diminishes their motivation needed to excel in sport. There is a notion that elite or superior athletes use success and failure as a facilitating factor, rather than a debilitating factor to excel in their sport. Elite athletes use failure as a motivational factor to assist them to function on a high level of participation. Many great champions believe that one should first learn to fail before one can succeed. Younger or more inexperience athletes may experience success and failure as debilitating, rather than facilitating. When athletes see failure as negative, it can break down their confidence as well as self-esteem. This may lead to greater failure and also

increase their anxiety about failure, which leads to a higher probability of failure. Most athletes want to use failure as a positive motivation to excel in sport. When using failure as a constructive motivator, it increases one's ability to work harder. This ability to compensate to perform is a real trademark of a true champion. Therefore, one can make the statement that elite athletes have the ability to transform failure to their advantage.

Athletes can also see success as debilitating; for example, if elite athletes experience a lot of success it could distract them from their goal of the pursuit of excellence and give them a false estimation of themselves. Success can also create an anxious feeling in the elite athlete, due to all the expectations they have to fulfil as a "top dog." This anxious feeling can occur when success is seen as negative, and the feeling of "losing my cutting edge" is created.

1.2. Problem statement and aim of the study

In a sport career today an athlete must perform well, no matter what, and should have a few coping strategies to handle success and failure in order to keep his or her performance consistent or to improve. Much research has been done on goal orientation and attributes that lead to success and failure, but very little research has been done on the athlete's reaction to success and failure and the techniques they use after failure or success. The above mentioned statements of the present researcher highlight the importance of the present study. Owing to the paucity of research related to athletes' reactions and coping abilities in relation to success and failure, the resources used in the present study are spread over a time period of 20 years. As a result there is no condensed focus on resources during the last five years.

1.3. The objectives of this study

- To determine how athletes in general react to success and failure.
- To determine whether the level of participation influences the reaction to success and failure.
- To establish how ego- and task orientated athletes react to success and failure.
- To determine how self-theories (fixed- and growth mindset) relate to the reactions to success and failure.

- To determine how ego orientated and task orientated athletes relate to self-theories (fixed- and growth mindset).

1.4. Hypotheses

Hypothesis 1

Most athletes react positively to success and failure.

Hypothesis 2

Elite athletes are prone to utilise success and failure as facilitating in comparison with novice or beginner athletes who may perceive success and failure as debilitating.

Hypothesis 3

Task orientated athletes are prone to react positively to success and failure, and ego orientated athletes are prone to react positively to success only.

Hypothesis 4

The fixed mindset relates negatively to positive success and positive failure, and the growth mindset relates positively to success and failure.

Hypothesis 5

Task orientated athletes relate positively to the growth mindset, and ego orientated athletes relate positively to the fixed mindset.

1.5. Clarification of terminology

A few terms will be used in the course of the study and will therefore be defined briefly:

1.5.1. Goal orientation: According to Duda's theory, there is ego- and task orientated athletes (Duda,1989). Steyn (2001a) defines ego orientated athletes as athletes who measure their performance against the performance of other athletes and who also want to beat their opponents with the least possible effort. Task orientated athletes are the opposite of ego orientated athletes. Task orientated athletes focus on self-mastery and reaching personal goals. Therefore, one can say that ego orientated athletes are more extrinsically motivated; whereas task orientated athletes are more intrinsically motivated. A distinction will be made between task- and ego orientation. Briefly, it is the competitive sport person's perception on success and failure.

Goal perspective theories of achievement motivation assume that there are two main goals, namely task and ego involvement. These two goal perspectives relate to how athletes test their level of competence (Singer, Murphey & Tennant, 1993). When referring to task involvement, it requires that the perceptions of high ability and subjective success are based on the experience of learning, personal improvement, and task mastery. Ego involvement refers to the feeling of personal achievement and high competence that is created from the perception that one has demonstrated superior ability. To a person who is ego orientated, the ultimate success would be beating or outwitting his or her competitor with the least possible effort (Steyn, 2001b).

In summary, one can define the relevant terms as follows: **Goal orientation** is the way athletes measure their success and failure during a competition situation. **Task orientation** can be defined as perceptions of high ability and subjective success that are based on the experience of learning, personal improvement, and task mastery. **Ego orientation** can be defined as the feeling of personal achievement and high competence that is created from the perception that one has demonstrated superior ability (Steyn, 2001a).

1.5.2. Self-theory is a methodology allowing individuals the opportunity to describe how they view their individual intelligence, personality or abilities. These are also applied to envisage a person's own self-goals, self-judgments, and helpless versus mastery-orientated reactions (Dweck, 2000). In short, self-theory can be defined as individuals' perceptions of their own sporting ability. Out of the self-theories, two perspectives were born, namely the entity theory (fixed mindset) and the incremental theory (growth mindset).

The entity theory (fixed mindset): It is very important to realise that everybody is born with a certain amount of talent. However, it is important that one should know that one's talent does not restrict one from performing better. This is where the challenge comes in with people with a fixed mindset, namely to persuade them that their talent is only an obstacle or a "mental block" that keeps them from excelling in their sport

(Dweck, 2000). Athletes with a fixed mindset believe that their abilities are fixed and therefore, they put high credibility on performance goals, which display their high ability and natural talent to perform well in their sport. Athletes with a fixed mindset do not want to expose their weaknesses, because they believe this will point out their lack of ability. They also do not want to utilise failure, mistakes and disappointments to excel in their sport, because this shows their lack of ability and they believe that their abilities are fixed, so their performance cannot improve. The good news about the fixed mindset is that one is capable of overcoming this mindset and moving closer to the growth mindset. If one summarises this information in one sentence, the definition of a fixed mindset can be formulated as follows: when individuals believe that they have an unchanging ability (Dweck 2000; 2005).

The incremental theory (growth mindset): These athletes put high credibility on learning goals. They believe that if one masters the skills, one can exceed one's wildest expectations. These athletes are totally in contrast with fixed mindset athletes (Dweck, 2005).

They believe that one's talent cannot restrict one from becoming the best in the world. They utilise and analyse failure, mistakes and disappointments to improve their ability and master their skills. They acknowledge their weaknesses because they believe that if one does not acknowledge one's weaknesses, it prevents one from mastering one's skills and ability to excel in sport. This mindset plays an important role in determining whether an athlete is going to be successful or not, for example when an athlete is just starting out or when going through a rough patch, a beginner athlete sees this first period simply as mastering the skills and the more experienced the athlete become his or her failures are seen as a great room for improvement of their skills and not as failure. The growth mindset implies that the individuals believe that they can develop, but can also improve their ability through constant hard work (Dweck, 2005).

1.5.3. Success is something different for each individual. Some take part in sport for the glory of it and some just do it because they like participation in sport. Therefore, the definition of success cannot be based only on winning, but one should also consider the factor of personal growth or personal improvement. Some athletes are motivated by

achieving personal goals and others are motivated by the fact that they are getting something for their achievements. In Chapter 2, the two perspectives of success are discussed. **Positive success** is when an individual uses success in a constructive way to excel in sport. **Negative success** is when an individual perceives success as destructive and not constructive to excel in the particular sport. The working definition for success can be seen as achieving or exceeding the outcome that was desired.

1.5.4. Failure is the opposite of success and something everybody wants to avoid. Failure can also be seen in two perspectives, namely if one does not win, one has failed; but failure can also be experienced if the target that was set was not reached. **Positive failure** is when an individual uses failure as a motivational factor to perform better. **Negative failure** occurs when an individual perceives failure as an obstacle to performance. Therefore, failure can be seen as an inability to influence oneself, one's performance, and one's career to the degree that would allow one to achieve one's desired goal.

1.5.5. An International athlete is when an athlete competes or represents his country in the international arena. They usually represent their country in world championships or Olympic Games.

1.5.6. A National athlete is when an athlete competes on a national level. These athletes represent their provinces in the national competitions in their own countries.

1.5.7. A Provincial athlete is when an athlete represents his or her sport code on a provincial level.

1.5.8. A School athlete is an athlete that represented his school in a sport code on at least 3 occasions.

1.5.9. An Elite athlete is an athlete that has reached the highest level of participation in his or her sporting code.

1.5.10. A Novice or beginner athlete is someone that is just starting to learn to do a sporting code for the first time.

1.6. Outline of the study

Chapter 1 contains the analysis and formulation of the problem and the aim of the study, determines the objectives and refines the hypotheses of the present study. A short, explanation of the working definitions is found in this chapter.

Chapter 2 covers the theoretical framework of the study. Goal orientations could be defined by two orientations, namely ego and task orientation and could be explained through definitions, pointing out of differences and examples. The two self-theories, the entity and incremental theories, will also be explained. Success and failure will be defined as well as the impact they have on athletes. Coping strategies for athletes will be considered, as well as ways in which athletes handle success and failure.

In chapter 3, the methodology will be discussed. A quantitive research method is been used and the research design, data sampling, data analysis, procedure and the pilot study will be discussed.

Chapter 4 will reflect on the data that were obtained during the study and the way in which the results were analysed will be discussed.

Chapter 5 contains the discussion, future recommendations and conclusion.

Chapter 2

Literature review

In this chapter, relevant theories were studied. The relevance of this study is that there could be as close a relationship between ego orientation and the fixed mindset as between task orientation and the growth mindset, as well as how athletes react to success and failure. Firstly, the goal orientation theory as performance motivation was studied, secondly self-theories and finally what an athlete's reaction was to success and failure.

2.1. Introduction

This study is motivated by the small number of studies in the field of ego and task orientation in sport and their close relationship with the fixed and growth mindset to success and failure. Few studies have examined the influence and effect that success and failure have on athletes in a competitive and demanding environment. Without a greater understanding of goal orientation and success and failure, the advancement of a complete theory of goal orientation, success and failure is limited.

For most young athletes, competitive sport represents an enjoyable process of self-discovery, achievement and acceptance within social circles. There is a strong notion that young sport participants develop positive, goal orientated behaviour and self-confidence as they strive to improve their sporting ability.

The main objective of the present study was to do an in-depth study to determine how participants overall react to success and failure. Furthermore, the objective was to determine the relationship between goal orientation, self-theory (entity and incremental theories), and the reaction to success and failure in competitive participating athletes.

2.2. Goal orientation

2.2.1. Defining ego and task orientation

Athletes are individuals acting within their own frame of reference. Some measure performance or outcome against the performance of others and other athletes just enjoy the moment and observe their individual performance irrespective of the outcome. The main goal in sport is to be successful, but each individual ascribes and defines success and failure differently (Steyn, 2001a).

According to goal perspective theories of achievement motivation, there are two main goal orientations, namely ego- and task orientation. The word goal orientation is used or referred to because there is a distinct difference between an individual's achievement goal and goal orientation. Ego and task orientation relate to how athletes perceive or test their level of competence (Singer *et al.,* 1993).

An athlete, who starts off taking part in a new sport and works hard at mastering the skill and succeeds in doing so, gets a high sense of accomplishment. This athlete has a healthy perception about his or her ability and enjoys seeing improvement. When an athlete sees success in this way, the athlete is steadily progressing towards a more task orientated approach in his or her sport.

When an athlete emphasises characteristics such as learning from one's mistakes, personal mastery of skills, the importance of making an effort and participation for participation's sake, the athlete is regarded as more task orientated (Singer *et al.*, 1993). Therefore, when referring to task orientation, the perceptions of high ability and subjective success are necessarily based on the experience of learning, personal improvement and task mastery. All these forms of behaviour are considered as positive learning situations (Todorovich, Model, Wirth & Stopka, 2005). One can state that high- and low skilled task orientated athletes can show the same motivational patterns during training and competition (Burton & Naylor, 2002). These athletes believe that exerting maximal effort will enhance and cultivate their ability levels. Task orientated athletes make a greater effort when they see the task as a challenge (Todorovich, Wirth, Zhang, Tilman & Fleming, 2004). These individuals are liable to adopt adaptive behaviour,

which makes them keen to take on new challenges (Todorovich *et al.*, 2005). These participants' primary goal is not to relate their performance with those of others (Ntoumis & Biddle, 1998). Task orientation is associated with the anticipation that participation in sport will enhance their self-confidence; they will learn how to give their best and to be a good ambassador for their sport and country (Duda, 1989). Task orientated athletes are motivated to participate and will take part in sport as long as there are personal challenges (White, 1998). Therefore, task orientated athletes take on challenging and difficult goals even if there is a risk of failure, because their focus is to increase competence (Burton & Naylor, 2002).

An athlete who interprets success only through the statement, "winning is not everything, it is the only thing", and shows off his or her superior ability, regardless of any personal improvement, can be one of the first indicators of an environment where the athlete manifests characteristics such as interpersonal competition, social evaluation and normative base testing and feedback. The athlete is most likely to be ego orientated (Ommundsen & Roberts, 1996; Steyn, 2001b). Ego-orientation refers to the feeling of personal achievement and high competence that is created from the perception that one has demonstrated superior ability. To a person who is ego orientated, the ultimate success would be beating or outwitting a competitor with little effort (Ommundsen & Roberts, 1996; Steyn, 2001b). These social comparisons serve as a source of information for the ego orientated athlete. Ego orientated athletes believe that sport will enhance their social status in addition to creating a feeling of self-importance (Duda, 1989). Ego orientated athletes' primary focus is on winning and is driven by the statement, "I must be the best! "(Wann, 1997). They adopt the notion that ability is a skill that is fixed and limited. Therefore, success is defined based on social comparisons, competitive outcomes and a desire to prove themselves. Nonetheless, because they win almost every time and are socially compatible, they discern that they have a high ability (Burton & Naylor, 2002). Ego orientated athletes are most confident and motivated when their opponents' abilities are more or less the same or less than theirs. Therefore, these individuals are more likely to adopt forms of behaviour in achievement surroundings that are less sought-after or maladaptive (Burton & Naylor, 2002). One can say that ego

orientated athletes use sport to boost their self-image, as well as their reputation (Steyn, 2001a).

In short, one can state that goal orientation reveals how an athlete perceives success and failure, how he or she approaches achievement-motivation situations and why he or she competes in sport.

Table 1: The process and outcome goals in sport (Steyn, 2001b: 12)

Winning A	**Winning X**
• Technical and self-improvement • Exercise and health • Enjoyment of game • Development of concentration • The ability to remain calm and task orientated under pressure • The development of self-knowledge through sport • The expression of physical and personal potential on all levels	• Trophies and prizes • Prestige and recognition • Approval of others • Dominating and defeating others • Proving oneself • Pleasing parents, teachers, coaches and friends • Prestige of the school

To explain and understand the concepts of ego and task orientation, Table 1 demonstrates two different definitions of success: The 'winning A' column is a process and implies that one should go through this process before one can reach the column 'winning X' as an outcome. The process (winning A) contains certain characteristics that are needed to reach the outcome, for example exercise and health, the ability to remain calm and task orientated under pressure, development of concentration and the expression of physical and personal potential on all levels. The outcomes (winning X) contain issues such as trophies and prizes, the approval of others and dominating and defeating others (Steyn, 2001b).

Traditionally a person will choose 'winning X' and will define success as receiving an award when one has outperformed one's competitors. In this way, one can physically

feel and see success. Therefore, 'winning A' is not the preferred outcome. In reality, for example, one should first exercise correctly and live healthily before one can defeat one's opponent or receive a reward. One could actually connect the column 'winning A' with being task orientated and the 'winning X' column with being ego orientated. Task orientated athletes are hard workers and are not obsessed about the rewards at the end of the process. They are more focused on the process goals that have to be reached and most importantly, they are there for the enjoyment of the game. Ego orientated athletes rather compete to receive rewards and prove to themselves and to others that they have superior ability (Steyn, 2001b). In conclusion, for the best development an athlete should embrace and see success in both 'winning A' and 'winning X'. This also applies to the criteria of failure.

2.2.2. Development of ego and task orientation

After explaining what ego and task orientation is, one is rather curious about how human beings adopt or choose one of these orientations or to which one they can relate. The next step explains how humans develop or adopt a certain goal orientation.

Between the ages of two and six, the young child tends to view individual ability by how well a task was performed. When there is an improvement from the first time to the second time, one naturally assumes that one has the ability to perform the skill. The individual effort put into mastering the skill is perceived as high ability and competence. Competence is then seen as hard work and high capacity. Therefore, at these ages one can assume that a child is more task orientated (Cox, 2002).

Harwood (2005) suggests that coaches and parents should shape the athlete's development between the ages of six and 14 years, because in this developmental stage their cognitive abilities are developing at a high speed and they start to understand that effort is not the only fixation that causes success. The actions of coaches, parents, peers and teammates have a great impact on the athlete's understanding of what achievement means (Harwood, 2005). Steenkamp and Steyn (2002) found that parents who put a high price on success direct their children to become more ego orientated. Parents do not give enough opportunity for their children to develop their potential and to enhance their

focus. These athletes perceive success as winning and therefore, the ego orientation is reinforced.

It is important that parents should motivate task orientation more than ego orientation, so that the athlete can choose in which motivational climate he or she can perform best. In a recent study, Duda, Balaguer, Castillo and Alvarez (2005) found that athlete's needs for self-sufficiency, competence and relatedness were fulfilled when they were functioning in a coach-induced task-involving climate and the basic need of satisfaction forecast a better individual strength. Furthermore, they found that there was some intervention in the girls' basic need of satisfaction by the relationship of task climate with well-being. For the boys, perceived autonomy and competence were the partial interveners. This, studies has shown that task-involvement may have the potential to enhance future athletes'well-being through active participation as well as understanding and incorporating different models of motivational process.

Cox (2002) stated that from the age of six or seven, the child starts to perceive his or her ability based on comparative relation to other individuals and not on previous individual performance. High ability and competence are then purely perceived as, "How did I do better than the others?" Perceived ability is then a function of one's own capacity in relation to that of others, rather than being the function of high ability. This appears as though the child has had a perception switch from being task orientated to being more ego orientated (Cox, 2002). In a recent study, Takenouchi, Taguchi and Okuda (2004) commented that athletes who experience a catastrophe try to discover themselves and dedicate themselves to excel in sport performance and to being someone's team-mate. All these experiences can lead to stronger ego development. Furthermore, in the study of Takenouchi *et al.* (2004), they found that in boys, strong ego development was closely related to the competition level at which they competed. Thus, the higher the level of the competition, the higher ego development features in the boys' development. As for the girls, they have exhibited strong ego development in displaying their ability during a competition. Therefore, it can be stated that ego development could generally be associated with performance in intense competition and in controllable circumstances. A previous study of Xiang and Lee (1998) also showed that when children go to school for

the first time, they tend to be more task orientated, but from grade one to higher grades the ego orientation tends to grow stronger. Ego orientation can assume its full proportions as soon as children realise that performance has a lot to do with their personal abilities and the tendency to show off these abilities. Roberts (2001) found in his study that 10- to-11-year-old boys and girls who were task orientated believed that motivation and effort caused their success. Ego orientated boys and girls did not believe that effort and motivation contributed to their success or failure. The results of 12- to-14-year-old boys and girls, as well as 16-to-18-year old boys and girls, were almost a duplicate of the previous study of the 10-to-11-year old boys and girls (Roberts, 2001).

Cox (2002) states that at the ages of 11 and 12, a child has developed to be either task- or ego orientated, depending on the situations he or she has been exposed to and reacted to. When an environmental factor causes a person to focus on social comparison, one can assume that he or she is ego orientated. However, when a situation causes someone to focus upon personal mastery and the improvement of his or her performance, the assumption is that the person is task orientated (Cox, 2002). At this stage (11-12 years) of their development, they start to realise that despite their effort, some athletes have more potential or talent than others do (Harwood, 2005).

When athletes interact with others in a favourable environment that strengthens a particular goal perspective and motivates a certain motivational climate, it could result in either task or ego orientation (Singer *et al.*, 1993). As mentioned before, coaches, parents and teammates have a big impact on how the athlete interprets achievement. When a coach trains a team and stipulates the reinforcement of high ability, and concentrates on the significance of learning and shared contributions, the athlete will perceive a task orientated environment. When a team coach gives punishment and negative feedback on mistakes or failures, an ego orientated environment will be developed (Harwood, 2005). During a training session the type of involvement can differ throughout the training session, but the motivational climate determines whether the athlete will gravitate to be more task or ego-orientated (Cockerill, 2002).

Nicholls (1984) and Duda (1987) led the speculation that the most critical factor for a child's achievement motivation or orientation is his or her own perceived ability. The goal theory states that a child has perceived ability changes, because of the developmental level the child finds himself or herself in (Cox, 2002).

Potgieter (2006) defines achievement motivation as the attitude of the participant in a performance situation where achievement is measured by a certain standard. These standards can be previous performances of the participant, standardised tables or the opponent. Optimising and maintaining motivation is critical for an athlete mainly for two reasons. Firstly, athletes will not reach their maximal level of performance if their motivation levels are low. Secondly, athletes with low levels of motivation do not derive any enjoyment from their competitions and they run a high risk of ending their sport career (Fry & Fry, 1999).

Nicholls (1989) developed a based theory of achievement motivation that can be seen as a logical extension of both Bandura's theory on self-efficacy and Harter's theory on competence. According to the achievement goal theory, there are three factors that interact and are necessary to determine a sportsperson's motivation, namely achievement goals, perceived ability and achievement behaviour. It is important that one should establish what motivates the athlete and what his or her perceptions of success and failure are (Weinberg & Gould, 2003).

The achievement theory can be summarised in the following figure (Weinberg & Gould, 2010: 65):

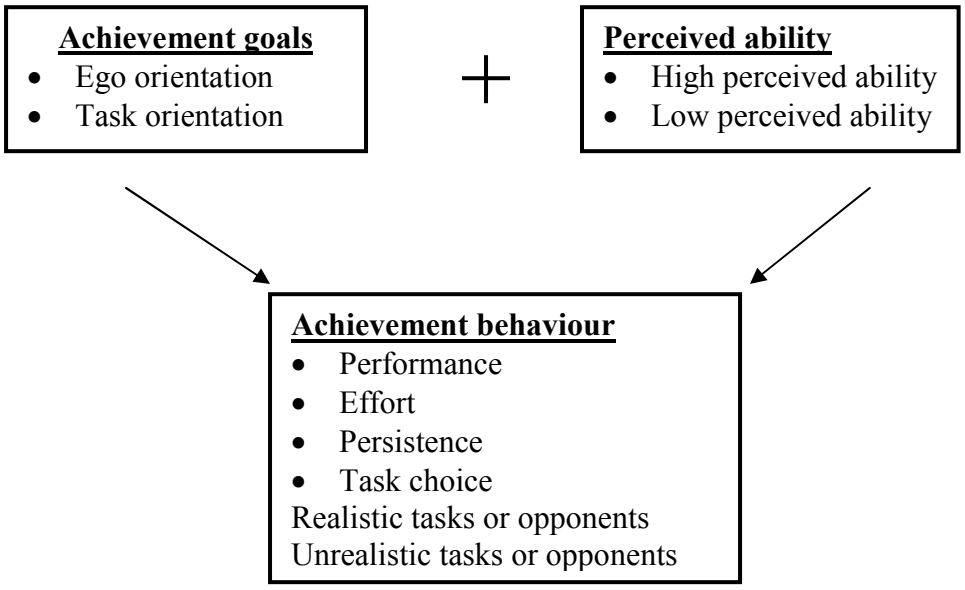

Figure 1: Achievement theory

When considering the studies that were examined, it would appear as if one should favour an athlete who is task orientated more highly. Therefore, some guidelines are offered to steer an athlete in the direction of task orientation.

Duda and Treasure (2001) gave target structures and strategies that enhance task orientation. A coach should present the athlete with reasonably demanding tasks that highlight the individual's challenge and active involvement. Athletes should be involved in making decisions, as well as setting goals. Athletes should be in a situation where they can develop leadership and take ownership for development in their sport, as well as being taught self-management and self-monitoring skills. Individual meetings with athletes should be held to see progression and to reward them for improvement. The coach should create various group arrangements, which stress the importance of co-operative solutions to training problems that have been set before them. Evaluation criteria should be developed that are based on effort, persistence and progress to an individual goal. Athletes should do self-evaluation regularly. Skill training should

recognise that each athlete learns at a different level and that each athlete should get some one-on-one coaching (Williams, 2006).

Studies have shown that task orientated athletes have a lot of fun in sport even if they fail. Since they experienced enormous enjoyment from taking part in doing their sport and learning new skills, studies have shown that task orientated athletes stay committed to the sport much longer than ego orientated athletes. Given that task orientated athletes are so committed and ambitious to master the task on hand, a task orientated athlete is much more "in the moment" than an ego orientated athlete is (Cockerill, 2002).

Cockerill (2002) maintains that fair play, the characteristics of task orientation are strengthened. The characteristics are strengthened because the only way they can judge their performance correctly is through honesty and fair play. Therefore, task orientated athletes' gain nothing through dishonesty. On the other hand, ego orientated athletes would go to the extreme to show off their superior ability. Task orientated athletes desire challenging tasks (Cockerill, 2002).

To create task orientation, one should put the emphasis on success only being achieved through hard work and dedication. Highly ego orientated athletes see success resulting from high ability and master the art of deception. Ego orientated athletes believe that success can only be reached by using drugs or steroids (Singer *et al.*, 1993).

2.2.3. Differences in ego and task orientation

Social cognitive theories of achievement motivation have emphasised that situational factors and individual differences directly reflect which goal perception state prevails (Singer *et al.*, 1993).

Vlachopoulos and Biddle (1996) accentuate that task orientated athlete's experience success when they compare their current performance with their previous performance and see an improvement. Ego orientated athletes' main goal is to illustrate superiority over their opponents. Vlachopoulos, Biddle and Fox (1997) imply that task orientated athletes' primary goal will not be to illustrate superior ability, but to exert superior effort

anyway to master the task at hand, without comparing themselves with their opponents. Although there could be athletes who have more skills than they do, they will still try to reach their personal goals. Ego orientated athletes will want to illustrate their superior ability to their opponents and if they do not succeed in doing this, they will stop trying and believe that their opponents have more ability than they have (Fry & Fry, 1999). Task-orientated athletes' see sport as the main goal, but the ego-orientated athlete utilises sport to see the goal (Steyn, Steenkamp & Viviers, 1997).

Singer *et al.* (1993) argued that when an athlete is more task orientated, it improves his or her optimal performance and persistence, promoting a strong work ethic. Task orientation should match the selection of competitive levels, opponents and tasks that are encouraging to ensure optimal performance and personal satisfaction (Singer *et al.*, 1993).

Steyn (2001b) contends that when an athlete is ego orientated there are enquiries about the athlete's level of competence and one expects a low achievement-orientated behavioural pattern. These athletes give up the activity or claim lack of interest when they are compared to athletes who are confident or task orientated (Steyn, 2001b).

Burton and Naylor (2002) argued that ego orientated athletes view participation in sport as a means to an end, where the outcome is overemphasised. They tend to use sport to enhance their own special reputation and fame. These athletes use their opponents to demonstrate their superior ability. Ego orientated athletes will make a greater effort until they come to the conclusion that social comparison is not probable; at this point they will abandon the task at hand and continue by taking part in a task where they are sure they will succeed. In addition, their sustained effort to demonstrate ability without making much effort against weaker opponents will deteriorate when they go on to compete on a higher level. On the other hand, these athletes could be optimistic about the future, because their experience has shown that they have high ability, which leads to social compatibility (Burton & Naylor, 2002).

Interestingly enough, in recent research of Harwood (2005) it showed that task orientated athletes have been found to have a more positive correlation with enjoyment and satisfaction when they compete in sport. In total contrast, ego orientated athletes reported a negative relation with enjoyment and satisfaction. It was also found that during a competition when anxiety or stress takes its toll, ego orientated athletes handle it by getting emotional and getting upset or "losing their cool," On the other hand, task orientated athletes handle anxiety by working harder and looking for support (Harwood, 2005).

Task orientated athletes are committed to training and to improving their skill. Ego orientated athletes simply prefer to compete and not to train. Task orientated athletes use feedback that they get to perform better. Ego orientated athletes are just worried about their performance in comparison with others and are concerned about the result (Harwood, 2005).

Dweck (1986) indicated that the goal orientations are independent. Therefore, task and ego orientations are not opposite ends of a continuum. An athlete can be strongly task and/or ego orientated, or low in both, may be high in one orientation and low in the other orientation (Singer *et al.*, 1993). One may easily get a rigid impression of a task orientated athlete who only participates to have fun and for whom winning is not important. However, to the individual winning is very important, but it is not everything. Duda (1993) stated that the destroying factor for ego-orientated athletes is the experience they have when they lose.

Burton and Naylor (2002) highlighted that task orientation is conductive to optimised motivation. Task orientated athletes have shown enviable cognitive and effectual responses. Therefore, it shows that research tends to favour task orientation more than ego orientation. However, controversy arises when one looks at elite athletes: which orientation is dominant? This interesting unique mixture of ego and task orientation is dynamic and still has to be researched to determine the full implication of these phenomena (Burton & Naylor, 2002).

Both goal orientations have their own unique characteristics. Task orientated athletes see the purpose of sport as enhancing skills, enhancing their self-esteem, teaching others to do their best and helping others to co-operate positively with coaches and parents. Highly ego orientated athletes see involvement as equipment to make them feel significant, have higher self-esteem and raise their social status.

The differences between task orientated and ego orientated athletes was summarised as follows by the present researcher:

Table 2: Differences between ego- and task orientated athletes

Task orientated	**Ego orientated**
Marginal comparison with opponents to determine success.	Constant comparison with opponents to determine success.
Success is determined by reaching personal goals and personal improvement (internal norm).	Success is determined by defeating the opponent (external norm).
Intrinsic motivation dominated (enjoyment, satisfaction).	Extrinsic motivation dominated (medals, social acceptance, acknowledgement).
Process orientated (experience of learning is important).	Outcome orientated (winning is everything).
Participant is master of own existence.	Sport can become obsessive.
Make greater effort when situation is challenging.	Minimise effort when situation is difficult.
Takes more risks and is more independent.	Takes hardly any risks and is more dependent.
Lowers stress and has more undivided focus.	Higher stress and more divided focus.

2.2.4. Ego and task orientation and coping with success and failure

Goal orientation influences a participant's achievement motivation, as this is the way the athlete ascribes and defines his or her success and failure in a sport situation (Dunn, 2000; Potgieter, 2006).

Conroy, Poczwardowski and Henschen (2001) found that athletes ascribe success to achieving the outcome that was desired, earning the opportunity to succeed and the ability to implement a desired process within their performance and career. On the other hand, failure was ascribed to the inability to influence themselves, their performance, and their career to the degree that would allow them to achieve their desired goals. Athletes also saw failure as not making the most of their opportunities and therefore, they felt as though they not only let themselves down, but also their family, coach and team (Conroy, Poczwardowski & Henschen, 2001).

An individual's goal orientation is theorised to reflect on how perceived ability is developed and what its impact is on achievement behaviour, mainly because these issues dictate how success and failure are evaluated.

Burton and Naylor (2002) maintain that in most success situations, task orientation results in behaviour conductive to long-term achievement and investment. Task orientation should enhance the probability that the athlete feels capable when exposed to performance activities. These athletes counteract failure better and come closer to reaching their potential during their career because of their challenging goals, maximal effort, better use of problem-solving strategies and longer endurance in the face of failure. Therefore, their focus is on learning and improving their ability, despite their temporary failure, which helps them to remain optimistic (Burton & Naylor, 2002). Task orientated athletes have a lot of fun in sport even if they fail. As a result focusing on task mastery and creating challenging tasks, task orientation is stimulated. Therefore, one can assume that task orientated athletes are not afraid to fail or make mistakes or they see it as a learning curve.

Ego orientated athletes have the tendency to view success relative to the performance of others (Steyn, 2001b). Highly ego orientated athletes see success as high ability and mastering the art of deception. Ego orientated athletes may have the tendency to use drugs or engage in other forms of unethical behaviour because of "the win at all costs" attitude (Steyn *et al.*, 1997). As these individuals do not see effort and ability as one entity but as separate entities, they believe that failure reflects a lack of skill or talent when comparing themselves to other competitors who have achieved better results (Todorovich *et al.*, 2005). Ego orientated athletes will avoid challenges that carry a risk of failure or situations in which they could make various mistakes (Burton & Naylor, 2002). Ego orientated athletes will decrease the effort to exploit ability when they are winning, and they will decrease participation to protect their ability when losing (Harwood, 2005). For example, a study was done on wall climbers who were either task orientated or ego orientated. An interesting finding was that the task orientated athletes put in great effort when they were at the most difficult part of the climb; in total contrast, the ego orientated athletes used minimum effort when they found a difficult part in their climbing route. In the easy part of the climbing the ego orientated athletes exerted maximal effort, presumably to show off their ability (Sarrazin, Cury & Roberts, 1999).

Ego orientated athletes will not participate for as long as task orientated athletes, because the importance of positive social comparison reduces the level of challenge in terms of goals and this limits how long they will stay out of the face of failure (Burton & Naylor, 2002).

Anxiety plays an important role in sport performance. Ego orientated athletes have higher anxiety levels because of their pre-occupation with being in control. Task orientated athletes experience less anxiety because they do not care about the performance of others, but rather concentrate on their own performance (Walling & Duda, 2003). Therefore, one can assume that ego orientated athletes fade under the pressure of anxiety and cannot handle the fact that they are at risk of failing. Task orientated athletes concentrate on themselves. Therefore, their anxiety levels are lower at major sporting events.

Considering all the above information, one could presume that task orientated athletes will cope more effectively with success and failure than athletes who are more ego orientated.

2.2.5. Myths and facts about ego and task orientation

There are a few myths and facts about motivation. The first *myth* is that athletes are either ego- or task orientated. The *fact* actually is that people are not restricted to a particular goal perspective, but at a certain level they can be either task- or ego orientated or they can be both at the same time (Walling & Duda, 2003).

The *myth* about ego orientated athletes is that they perform better in sport than task orientated athletes. The *fact* is that there is no verification of this myth about performance. Actually the ego orientated athletes are affronted when athletes with lower skills query their capabilities. Current studies indicate that task orientated athletes will progress more in their performance over time than ego orientated athletes will (Walling & Duda, 2003).

The *myth* about task orientated athletes is that only ego orientated athletes long for competition and would like to win. A misconception is that task orientated athletes do not care about winning. On the contrary, task orientated athletes put a lot of effort and time into their sport and use competition situations to evaluate their improvement (Walling & Duda, 2003). These myths and facts can limit conceptions of what task and ego orientated athletes really are.

2.3. Self–theories

Self-theories are a methodology allowing individuals the opportunity to describe how they view their individual intelligence, personality, sport and other abilities. It is also applied to envisage a person's own self-goals, self-judgments, and helpless versus mastery-orientated reactions (Dweck, 2000).

Dweck (2000) has identified two theories of ability, namely the entity and incremental theory. The entity theory or fixed mindset is displayed when individuals believe that

they have an unchanging ability. This means that they have a certain talent and irrespective of whether they learn a skill or not, the talent remains the same.

The incremental theory is in direct contrast with the entity theory; individuals believe that they can grow and constantly develop their abilities. They believe that through learning and practising they can become more competitive by improving their talents. Athletes in this category give credit to individuals who easily learn a skill or have a natural talent for the activity, but their main focal point or initiative is that anyone can improve in due course. This theory can also be called the growth mindset (Dweck, 2005).

The entity theory tends to direct individuals to base their performance goals on their talent or ability. A performance goal is a goal that proves that one has a certain amount of ability or talent. Individuals who fall within the parameters of the entity theory constantly tend to highlight their capabilities and hide their shortcomings in identified areas of development. This group will discard a valuable learning occasion if it carries the risk of unmasking their deficiencies. This is due to an individual's fear that weaknesses that are exposed may emphasise their lack of ability and this prevents them from using their freedom to take the cure for their weaknesses (Dweck, 2005).

2.3.1. Self- theories and effort

Athletes who fall within the parameters of the incremental theory are individuals who want to increase their ability by focusing on learning goals (Dweck, 2005). Typical characteristics of these athletes are that they are willing to take risks and make mistakes, because they see it as a natural part of learning. This characteristically assists these athletes in mastering new skills, consequently increasing their ability and performance. They believe that the mistakes they make are not based on their permanent qualities (Dweck, 2005).

Athletes who are in the fixed mindset feel that they are measured by their mistakes and setbacks. They believe that they are measured by the effort exerted when competing. In other words, if one has the ability one should not need maximal effort to be successful.

Dweck (2005) stresses that this attitude or mindset could reflect a lack of talent or ability.

Once again, athletes who are in the growth mindset realise that one needs to exert maximal effort, or else one will never know one's real ability. They believe that although one may have natural talent or ability, one must be diligent to fulfil one's full potential (Ommundsen, 2001b).

2.3.2. Self-theories and mastery-orientated coping

Dweck's (2005) studies have shown that individuals who relate to the incremental theory cope better with failure or setbacks than individuals in the entity theory. Individuals in the incremental theory see failure as a motivation to re-commit themselves to the activity when they have experienced a setback. As for the entity theory, interest is lost and they drop out of the activity (Dweck, 2005).

2.3.3. Self-theories and confidence

It seems that the incremental theory individual can maintain confidence for a longer period by focusing on the growth of potential and not on performance. Although the athletes have clear shortcomings, they feel that they need to learn and one does not need great confidence to excel in learning. As for the entity theory, when these athletes' performance is not up to the expected standards or what they personally expected, they could easily lose their confidence (Dweck, 2005).

2.3.4. Self-theories and potential

When looking at the entity framework, one can easily see who has talent. Therefore, a natural athlete in the present should be a great athlete in the future. If one shows no potential at an early stage, there could be a great chance that one will not be a great athlete later on. On the other hand, the incremental framework is somewhat problematic because discipline, commitment and passion for the sport are a great recipe to become a great athlete if one does not have the talent. Dweck (2005) refers to the work of Betty Edward, an art instructor, who found that some of the art students' first portraits were horrible, but with some instruction and motivation, within five days there was a huge

difference (Dweck, 2005). In other words, someone cannot be identified as having potential at the first attempt without keeping the person's ability in mind. Wang and Biddle (2003) created a questionnaire that assesses the entity as well as the incremental theories. What they found is that the entity theory describes success as beating others through skills. In contrast, the incremental theorists see success as improving or mastering new things. This correlates highly with ego and task orientation. They also found that if the activity is difficult to comprehend in the incremental framework, participants change the way they approach the task. The entity theorists give up or take the easier tasks if the activities are too difficult.

2.3.5. Self-theories and development

A certain self-theory can be developed in the way children interpret the feedback from parents, coaches and teachers. If students are praised for their qualities, the entity theory is encouraged, but if the students are praised for their progress in what they are doing, the incremental theory is nurtured (Mueller & Dweck, 1998). Ommundsen (2001a) found that entity theorists rejected an opportunity to learn in which they could not look gifted. They instantly lost interest if the activity got more difficult and did very poorly in difficult problem solutions. The incremental theorists did very well if the task gave them the opportunity to learn. They all remained interested when the task became more challenging, even if the task surpassed their abilities.

Dweck and Legett in 1988 illustrated in Figure 2 how incremental and entity athletes react to a performance situation (Ommundsen, 2001b).

Theories, goals and response pattern in achievement situations			
Theory of intelligence	**Goal Orientation**	**Perceived Present Ability**	**Behaviour Pattern Affective Response**
Entity (Intelligence/ ability is fixed) →	Performance (Goal is to gain positive judgement/avoid negative judgements of ability →	High →	Mastery orientated (seek challenge positive affect)
		Low →	Helpless (avoid challenge, negative affect)
Incremental (Intelligence is malleable) →	Learning (Goal is to increase ability) →	High or low →	Mastery orientated (seek challenge, positive affect)

Figure 2: Theories, goals and response pattern in achievement situations (Ommundsen, 2001b:148).

In summary, individuals relating to the entity theory have a greater fear of failure and do not use coping strategies when they have failed, because they believe failure reflects their lack of talent or ability. This usually results in a loss of interest and drive; consequently they withdraw from the activity that they feel adversely affects their performance.

People described by the incremental theory find challenges irresistible, they focus on learning goals constantly, exposing themselves to self-development activities and therefore, acquiring and mastering different skills. These individuals use these learning experiences to reach their full potential by accentuating the importance of maximal effort. In the event of failure or under-performance, they use effective coping strategies to recommit themselves to the activity.

2.3.6. Differences between the incremental and the entity theory

Using the literature above the present researcher has drawn up a table (Table 3) to summarise the major differences between the incremental and entity theories.

Table 3: Differences between incremental and entity theories

Incremental (Growth mindset)	**Entity (Fixed mindset)**
• Learning goals	• Performance goals
• Focus on improving rather than proving	• Proving that one has an admirable amount of ability
• Seeking out challenges	• Avoiding challenges (afraid to expose lack of ability)
• High motivation to improve skills	• Low motivation to improve skills
• Value effort as key to success	• One does not need effort if you have naturally ability
• Persist effectively in the face of obstacles	• Withdraw when the going gets tough
• High enjoyment even in difficult challenges	• Low enjoyment when the going gets tough

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2.3.7. Relationships between goal orientations and self-theories

There are many relations between task orientation and the incremental theory, as well as ego orientation and the entity theory. Two tables (Tables 4 and 5) were drawn up by the present researcher to show the relations between the goal orientations and self-theories.

Table 4: Relationships between task orientation and the growth mindset

Task orientation	The growth mindset
• A marginal comparison with opponents to determine success • Success is determined by reaching personal goals and personal improvement (internal norm) • Intrinsic motivation dominated (enjoyment, satisfaction) • Process orientated (experience of learning is important) • Participant is master of own existence • Increases effort when situation is challenging • Takes more risks and is more independent • Lower stress and has more undivided focus	• Learning goals • Focus on improving rather than proving • Seeking out challenges • High motivation to improve skills • Value effort as key to success • Persist effectively in the face of obstacles • High enjoyment even in difficult challenges

Table 5: Relationships between ego orientation and the fixed mindset

Ego orientation	The fixed mindset
• Constant comparison with opponents to determine success • Success is determined by defeating the opponent (external norm) Extrinsic motivation dominated (medals, social acceptance, acknowledgement) • Outcome orientated (win is everything) • Minimise effort when situation is difficult	• Performance goals • Proving that one has an admirable amount of ability • Avoiding challenges (afraid to expose lack of ability) • Low motivation to improve skills • One does not need effort if you have naturally ability

• Takes hardly any risks and is more dependent • Higher stress and more divided	• Withdraws when the "going gets tough" • Low enjoyment when the going gets tough

When studying the tables, one can see that there is a strong overflow but not an exact relation between task orientation and the incremental theory, as well as ego orientation and the entity theory. It is important to note that goal orientations are perceptions of success and failure and self-theories are the perception of one's own abilities and intellect.

If one reconcile the 'winning A and X' table on page 13, one can discern that task orientation and the incremental theory can be linked to the 'winning A' and ego orientation and the entity theory to the 'winning X' column. Task orientated athletes focus on 'winning A', ultimately to achieve 'winning X' as the outcome. Therefore, athletes should be motivated to focus on 'winning A' to enhance personal growth and improve their skills so that they can achieve 'winning X'.

2.4. Success and failure

According to the Oxford dictionary (Tulloch, 1992), *perception* is defined as taking cognisance or being aware of objects in general, sometimes practically one's consciousness. Steyn (2008) defines perception as the way the individual categorises the information and sensations that athletes obtain from situations in which they find themselves. He also explains that it could be a way in which an athlete interprets and understands a certain situation or experience.

Conroy, 2001 highlighted that most athletes see failure as inability to influence themselves, their performance and their career to the degree that would allow them to achieve their desired goals. They also view failure as not making the most of their opportunities and therefore, they feel as though they have let their family, coach and team down. This generates negative feelings about themselves.

Conroy *et al.* (2001) lists higher- and lower-order themes (Table 6), which describe the criteria that are used to evaluate failure of athletes in their performance domains.

Table 6: Criteria to evaluate failure of athletes in their performance (Conroy *et al*., 2001: 308)

Higher-order Theme	Lower-order Theme
Control Category	
• Commitment unfulfilled	• Not accomplishing personal goals, wasted an opportunity
• Insufficient realistic control	• Not controlling things individual should control, poor adaptation, poor artistic communication, losing perspective on personal role in performance
• Blocked wish for unrealistic control	• Thinking athlete should control more than he or she can, no futher opportunity
Affiliation Category	
• Generates negative feelings in others	• Giving others a reason to doubt in me, disappointing others
• Generates negative feelings in self	• Low self-esteem, becoming sceptical of self

Success is seen as achieving or exceeding the outcome that was desired, earning the opportunity to succeed and the ability to implement a desired process within athletes' performance and career. Conroy also lists (Table 7) higher- and lower-order themes, which describe the criteria that are used to evaluate the success of athletes in their performance domains (Conroy, 2001).

Table 7: Criteria to evaluate success of athletes in their performance (Conroy *et al*., 2001: 310)

Higher-order Theme	Lower-order Theme
Control Category	
• Commitment unfulfilled	• Accomplishing goals, earned/deserved the opportunity, showed others person can still perform well
• Implementing desired process	• Controlling what person can control, maximising his or her potential, adapting effectively • Thinking athlete should control more than he or she can, no more opportunity
Affiliation Category	
• Desire to please others	• Effective artistic communication, satisfying others
• Enhanced self perception	• Appreciation of self, positive feelings about self, awareness of receiving positive attention

In 1967, Coopersmith defined success in four different categories, namely power, significance, virtue and competence (Fourie, 1992). Power is defined as the ability to control the situation, as well as influencing others. Significance can be seen as acceptance, attention and affection of others. Virtue is loyalty to a specific moral model. Competence can be seen as the standards or goals that have been reached successfully. Athletes can achieve success in all four of these categories. For example, if an athlete is a captain of a team, it satisfies the category of power. Significance is reached by participating in the sport, the recognition of the team, as well as the attention of the spectators, abiding by the rules of the sport and sportsmanship. The category of virtue is satisfied and a feeling of competence comes from mastering the skill, as well as the experience of winning (Fourie, 1992).

Podlog (2002) found that creating a good feeling was not based on whether one has or has not achieved a desired goal, but ascribed success to hard work and participation with enthusiasm. Many athletes have determined success and failure on the basis of individual and team expectations.

Podlog also argued further that athletes measure success and failure by whether they reach their potential or not. Athletes defined failure as giving up on a goal or quitting before a serious attempt to achieve it has been made and not solely as not winning or failing to reach goals (Podlog, 2002). One athlete said that one also fails when one does not create a situation in which one can fail or succeed. Another athlete stated that although she did not reach her main goal, she still felt that she had succeeded because she had trained hard and put in maximal effort during training and in the competition (Podlog, 2002).

2.5. Attribution

According to the Oxford English dictionary (Tulloch, 1992), *attribution* is defined as regarding something as effect of a stated cause. It can therefore aid in defining how athletes regard success and failure.

One's goals in combination with one's beliefs in what causes success in a certain situation represent the athlete's personal theory of how things work in a successful situation. Therefore, task orientated athletes are linked to the belief that effort and team-work with others lead to success, whereas ego orientated athletes ascribe success to beating others and showing superiority (Roberts, 2001).

Most athletes describe their individual performance based on whether the competition was won or lost. These attributions are a wonderful package of information about the athlete's self-confidence, as well as his or her motivation to succeed or fail. It was found that individuals do search for causes in response to achievement outcomes. These causes of outcomes can be interpreted in three dimensions, namely control, locus of causality and stability.

Two dimensions were formed, namely stability and instability. The first assumption puts ability and the difficulty of the task under the dimension of stability. Personal effort and luck were reflected under the dimension of instability. These two dimensions explain success and failure and reflect the degree to which these are likely to occur (Cratty & Pigott, 1984). A second scale focuses more strongly on the emotions of the athlete, reflecting two dimensions that are internal and external to the athlete. Effort and ability fall under the internal dimension of luck, while ability falls under the dimension of internal qualities (Cratty & Pigott, 1984).

	Internal	**External**
Stable	ABILITY	TASK DIFFICULTY
Unstable	EFFORT	LUCK

Figure 3: Failure and success scale (Cratty & Pigott, 1984: 109)

Nicholls (1989) stated that people pass through four levels of development and their maturity is weighed by how good they can differentiate effort, ability and the outcome of a situation, as well as the concepts of luck and task difficulty. Level one can be regarded as an undifferentiated goal perspective. Children regard effort, ability and a successful outcome as the same. A child does not know the difference between luck and ability or that one skill requires a higher level of competence than others do (Cox, 2002). Level two is when the child begins to differentiate between effort and ability, but effort is still seen as the critical concept to be successful at a skill. Level three can be seen as transitional, because children begin to see the difference between ability and effort. They can differentiate but sometimes go back to the undifferentiated conceptualisation of the two. Level four can be labelled as the differentiated goal perspective level (Cox, 2002). At the age of 12, the child can fully discern the difference between ability, effort, luck and outcome. He or she also understands that some tasks are or can be more difficult than others. The child sees effort as a concept that helps to enhance performance, but understands that one needs high ability to perform the activity. When a child's performance is successful and he or she exerted minimal effort, he or she attributes it to

high ability. A child feels that luck has no influence on the outcome of the performance (Cox, 2002).

In the case of most persons in the sport, business or medical sphere, self-credit is taken for success achieved. For example, a task orientated person will typically describe his or her success, as "I knew I had the ability but I exerted maximum effort in every attempt I took." On the other hand, an ego orientated person will describe his or her success as, "I had the ability and therefore, I didn't exert maximum effort in every attempt." The above are all examples of internal attributions of athletes (Cratty & Pigott, 1984).

Weiner and Kukla (1970) found that men with high achievement motivation tend to ascribe their success to their high ability as well as their effort, but perceive failure as due to lack of effort. Men with a low achievement motivation are less prone to ascribe their success to internal causes, while they see their failure as resulting from lack of ability (Kukla, 1972).

Although there are a few speculations on the casual attribution theory concerning what the causes of success and failure are, Weiner has described it as either internal (ability and luck) or external (luck, task difficulty, and effort or the ability of the opponents) (Weiner & Kukla, 1970).

Cratty and Pigott (1984) did research on the attribution of winning and losing athletes. They found that winning is attributed to being more internally focused and losing is attributed to being more externally focused. Therefore, success is primarily due to one's own effort and ability and failure is primarily based on external factors, such as the opponents' efforts and situations.

If one compares the attribution theory with the task and ego orientation, one can see that effort, luck, ability and task-difficulty each plays a different role in the ego and task orientation development. The hypothesis behind this is that ego orientated athletes want to show their superiority by using the minimum effort to demolish their opponents and if they succeed, they feel that it was really more luck than their ability and when they fail,

they believe that the task-difficulty exceeded their ability to succeed. Task orientated athletes flourish on tasks through which they can improve their ability and make the greatest possible effort when they compete. They believe that they have the ability to succeed and luck plays no role in their performance.

Steyn (2008) has drawn up a table (Table 8) of the perceptions of athletes' performance that they can use as either a performance booster or a performance blocker.

Table 8: Perception of athlete's performance (Steyn, 2008: 330)

Performance Boosting	**Performance Blocking**
• Competition is a challenge: It is an occasion where talents could be showed off. Failure and mistakes are used as a learning experience and to develop the inner self	• Competition is a threat: The athlete needs to impress all the people (coach, parents, competitors) there is no room for failure or mistakes
• Competitors are a good motivation to show superior ability	• Competitors are rivals preventing one from doing my best
• Success is measured by refining and constant progress	• Success can only be measured by the outcome
• Criticism is taken as information to improve performance	• Criticism is a mind throbbing experience and is taken personally
• Setbacks and injuries are part of the game and are used constructively	• Setbacks and injuries have a negative effect and obstruct goals
• Success is defined by how others see and evaluate the athlete	• Real success comes from personal satisfaction and pleasing oneself in my performing well
• Sport is a bad master but a good servant. Sport is a good way to discover oneself	• Sport is very important and a lot of time is put into sport and there is no room for mistakes or failure

Performance-boosting implies that success and failure should be used to improve one's performance and personal growth. Performance-blocking implies that success and failure are and could be a threat and thus have a blocking effect on performance. A correlation can be made when looking at Table 8; one can see that a task orientated athlete's perception tends to be performance boosting. A correlation can be seen between blocking performance and ego orientated athletes.

2.6. Coping strategies

2.6.1. Defining coping strategies

According to Anshel, Kim, Kim, Chang and Eom (2001), there are three misinterpretations of the definition of coping, namely whether coping is conscious, as opposed to an automatic process, whether the concept of coping infers effectiveness in responding to stress and what the differences between coping strategies and coping styles are. Researchers have generally agreed to define coping as conscious psychological and physical efforts to improve one's inventiveness in dealing with stressful events or reduce external demands, such as managing the environment.

Athletes who apply the correct coping strategy could use this as a re-motivator, which they could utilise to recuperate and concentrate on the high standards they adopt to demonstrate their superior abilities (Lazarus, 2000).

2.6.2. Dimensions of coping

Researchers have found a strong relationship between performance and coping strategies and have tried to describe, clarify and predict which coping behaviour is used after a performance (Conroy, 2002). An athlete's background of previous success or failure is also likely to be reflected in what he or she regards as the causes of success and failure. Therefore, an athlete who is insecure and has a history of failure will reinforce his or her feeling of unworthiness and will use stable causes to explain the losing situation, such as "I was not good enough, the other team was better". An athlete who has a history of success, but was defeated, will use an unstable cause to explain the situation such as "I just didn't try hard enough this time" (Cratty & Pigott, 1984).

Therefore, one can define coping as a process of making cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (Yoo, 2001). Coping can be seen as an attempt to satisfy a situational demand and it does not involve the outcome of the performance (Compas, 1987). Coping can be categorised in two dimensions, namely problem-focused and emotion-focused coping. Problem-focused coping involves cognitive and behavioural efforts to change the problem during distress. Emotion-focused coping entails regulating emotional responses caused by the problem (Folkman & Lazarus, 1985).

Stressors often elicit emotion-focused and problem-focused coping, but recently researchers have found that problem-focused coping strategies are adopted when situations are supposedly attainable and controllable. Emotion-focused coping strategies are proposed to predominate in situations supposed to be beyond the control of the individual (Lane, James & Stevens, 2002). Researchers have found that athletes with high self-esteem utilise problem-focused coping strategies and make more adaptive choices in stressful situations. One can relate this to task orientated athletes because they are in control of their situation, as they compete against themselves and not against their competitors. Athletes with low self-esteem rely more on the emotional-focused coping strategies and will make more maladaptive choices in stressful situations (Lane *et al.*, 2002). This can be related to ego orientated athletes because in a stressful situation or if they are confronted with possible failure, they try to use other outcomes, such as, “I didn’t feel well”, “I had bad luck.”

Endler and Parker (1990) proposed the third coping dimension, avoidance coping dimension. *Avoidance coping* is turning away from the stressful situation, typically involving cognitive and behavioural disengagement. Avoidance can include persons using either ego orientated strategies or task orientated strategies to avoid a stressor by seeking out other people, thinking about other things, engaging in other tasks or contemplating failure (Yoo, 2001).

Coping can be seen as a reaction or long-term alterations that are made, which may be either maladaptive or adaptive and may be effective or ineffective (Conroy, 2002).

Performance destruction and dropping out are also assumed to be behavioural consequences of the ego orientated athlete when the satisfactoriness of one's ability is in doubt. Although this behavioural pattern is rational if the goal is to "save face" and preserve one's sense of superior competence, such behaviour is clearly maladaptive from a point of view of the achievement (Yoo, 2001).

When an athlete attributes all success to internal causes, it can be seen as an ego-enhancing strategy. However, if failure is attributed to external causes, it could be ascribed to an ego-protecting strategy. These are good examples of how ego orientated athletes cope with success and failure (Cox, 2002).

2.6.3. Self-esteem as a coping strategy

Research by Sonstroem (1997) has shown that one's physical self has been related to certain life adjustments people make, as well as to participation in exercise. This contributes to one of the general components, namely self-esteem (Georgiadis, Biddle & Chatzisarantis, 2001). Sonstroem and Morgan (1989) also discovered that experiencing positive feelings of capability and self-esteem can contribute to enhanced performance in competitive situations, as long as this behaviour can be maintained. The external locus of control is beyond one's control in a situation. The individual can then describe the desirable outcome of an external locus of control as having good luck, and which cannot be ascribed to hard work (Zaichkowsky & Sime, 1982).

Lane *et al.* (2002) reported that athletes with high self-esteem would have more positive thoughts about themselves after they have failed. Therefore, the primary positive focus is on the goal ahead. Athletes with low self-esteem will use this strategy and will doubt the positive thoughts they have about themselves.

Athletes who have low self-esteem have coping strategies that are not useful and therefore, negativity lead their thoughts. Although self-efficacy is derived from the

source that is based on performance, it is proposed that self-esteem moderates the convenience of remembering performance accomplishments after failure (Lane *et al.*, 2002).

2.6.4. Changing one's mindset

"Mind over matter" is a very true and strong statement. Therefore, an athlete should have the following thoughts: one is what one thinks one is, one is able to do what one thinks one is able to do, one can become what one thinks one will become and one is unable to do what one thinks one is unable. If one can imagine it, one can become it (Zaichkowsky & Sime, 1982).

In everything one does, energy must be created. Thinking uses, creates, and converts energy. This can be achieved through positive thinking. An athlete must be equipped with skills or strategies to develop, assemble, and use this energy at the right time and place to maximise the performance (Butt, 1987).

Through changing one's thoughts, one changes feelings and disengages from other possible behaviour. It is therefore imperative that an athlete should have the skill or coping strategies to become a more positive spirit and this can be achieved by self-affirming statements. Thought stopping was started in the late 1970's to block out negative thoughts and replace them with positive thoughts (Butt, 1987).

John Wooden, the basketball coach, said after a disappointing match, "*When the game is over, I want your head up. And I only know one way for a head to be up – and that is for you to know that you did your best. This means the best you can do. That's the best; no one can do more. You make that effort and your head will be held high"* (Zaichkowsky & Sime, 1982: 27).

Gauron (1984) found that swimmers could recover more quickly psychologically after a bad performance than basketball players. His explanation was that one is dealing with the swimmer's speed versus the basketball player's team-work. Therefore, one can come to the conclusion that one can change the state of one's own mind, but not that of

others (It is said that if I can change your mind what prevents you from changing it back?). He also implied that it is easier to measure something that is concrete, such as, time as opposed to the complexity of team-work (Zaichkowsky & Sime, 1982).

Each athlete has an inner or ultimate athlete; this must be encountered and allowed to mature. The athlete must have the techniques or skills to eliminate fear of failure so that performance can be maximised (Ravizza, 1984).

Student actors use cognitive responses, such as positive thinking and concentration, as well as behavioural strategies, for example deep breathing and relaxing of muscles (Conroy, 2002).

Examples of cognitive restructuring and thought stoppage to stop negative mind-sets prior, during and following a competition are explained in the following table (Table 9) adapted from Zaichkowsky and Sime (1982).

Table 9: Cognitive restructuring and thought stoppage (Zaichkowsky & Sime, 1982: 32).

Prior to the Competition	***During Competition***	***Following Competition***
"My beam routine isn't as good as my teammates. I do not have any confidence. I know I'll embarrass myself."	"Gosh, I feel awful. I bet I look terrible. I bet everyone is laughing at me."	"That felt O.K. but I'm not very happy."
"Stop"	"Stop"	"Stop"
"Relax"	"Relax"	"Relax"
"Think rationally"	"Take your time"	"Think rationally"
	"Concentrate"	
	"Breathe"	
"This is my favourite event.	"O.K., great mount. Breathe	"I did great. Look at the

I have done my routine perfectly thousands of times. I stay calm, and visually rehearse the routine perfectly in my head. I fear. I have a great routine. I will do my best to the best of my ability and be happy. Take my time and concentrate on what I am doing."	slowly and now focus attention on the next move and let it flow. Concentrate on each trick as it comes."	scores. I performed well. I slightly missed a couple of moves. However, I do not have them down in practice yet either. I must practice more. When I get them down I will be able to compete with anyone. I'm getting there, I feel proud."

Hypnosis can be very efficient when an athlete is on a losing streak or on a wave of success. Once again an athlete should have the strategies or skill to identify the situation and take action by positively motivating themselves when they need it. This can typically be achieved by thinking of when one was riding on a wave of success and every time one feels as if one is a failure, one recalls that feeling to uplift one's spirit (Zaichkowsky & Sime, 1982).

Many athletes have reported that when they thought of nothing but their performance, they excelled. Their concentration and emotions were focused on the task that they were performing and they were not preoccupied with verbal judgments of themselves. Therefore, they were using all the energy that they had built up to complete their task successfully. This can also help an athlete to refocus after a winning or losing streak and focus on the goal ahead (Zaichkowsky & Baltzell, 2001).

2.6.5. Feedback after failure

Sometimes people want feedback on why they succeeded or failed. It is suggested that athletes can ask themselves the following questions after achieving success or failure (Burton, Naylor & Holiday, 2001).

When one has failed it is important to stay positive, but also very important to learn from one's mistakes. The following questions can be asked after failing:

- Did I not try hard enough?
- Was my technique faulty and does it need to be adjusted?
- Were the goals I set unrealistic?

Assessing one's goals and techniques helps one to see the positive side of things and makes competing a more positive experience. Failing then becomes a step forward towards perfect technique (Burton, Naylor & Holiday, 2001).

After achieving success, one should assess what one can improve on and store the feeling of success in one's mind. The following questions can be asked:

- If the goal was easily achieved, do I need to make my next goals harder?
- If the goal took a dispiriting length of time to achieve, do I need to make the next goals a little easier?
- Is there something I learned that would lead me to change goals I have not achieved yet? If the answer is positive, then I should do so.

When setting goals, it is important to keep in mind that they change as one matures. One should try to adjust goals according to one's growth in terms of one's goals and personality. If goals are not attractive to a person anymore, new ones should be set that can motivate the person. It could give one more satisfaction and help one to reach one's goals earlier than one had thought (Burton *et al.*, 2001).

2.7. Reactions to failure and success

Athletes react differently to failure. Some may see it as a learning curve and others may see it as a distraction or obstruction in attempting to reach their goals. Diener and Dweck (1978) identified two kinds of reactions to failure, namely helpless and mastery-oriented patterns. The helpless response is described as occurring in a situation that is out of control and where there is a perception that nothing can be done to save the situation. The mastery-oriented approach is described as an enduring response where the athletes

remain focused on their current task in spite of all the difficulties (Diener & Dweck, 1978).

In a study of Zaichkowsky and Sime (1982) a few students' participated on difficulties with solving different problems. When failure occurred, the helpless group reacted by saying things such as, "I guess I am not very smart." They all questioned their intellectual ability. In contrast, when they had a few runs of success they felt that there was nothing wrong with their intelligence. When they were given more difficult problems, the helpless group lost faith in their ability and lost perspective on the success they had achieved in the past. When failures and successes were added up, it showed that there were more successes than failures. The helpless response group was so discouraged that they actually thought that they had experienced more failures than successes (Zaichkowsky & Sime, 1982).

Students in the mastery response group responded in totally the opposite way. After failure they did not blame anything, not even themselves; they did not even see themselves as having failed. Where the helpless group questioned their abilities, the mastery group tried to determine how they could improve their performance. It seems as if this group sees failure as a learning phase, rather than an impostor.

Losing instead of winning can have an important value: self-disclosure. One can lie to everybody, but one can never lie to oneself. In losing people disclose to others their inadequacies, their failure to achieve a goal to which they had committed themselves. This can help an athlete to concentrate and start focusing on the task (Zaichkowsky & Sime, 1982).

Like everything in life too much of a good thing is not good. Therefore, winning can also create uninviting consequences. When an athlete creates too much reactive aggression and determination to win at all cost, it could result in an undesirable outcome. A very good example is the former tennis player, Chris Evert, who by the age of 22 had won more than 500 matches and millions of dollars in prize money, but then

just stopped playing. The reason she gave was; "Maybe I was winning too much" (Zaichkowsky & Sime, 1982).

If winning becomes too important it can lead to the following (Butt, 1987):

- If winning is the only outcome and fear of losing plays a role, cheating is considered as an option if there is only a slim chance of being caught.
- Losing can become depressing and diminishing for an athlete. They not only do not reach their desirable outcome, but they lose their appetite.

Losing can become a threat rather than an incentive for reanalysis, improvement in strategy or increased understanding of the game (Butt, 1987).

Curtis (1991) developed the success and failure cycles. They show how a person usually reacts to success and failure. These cycles also illustrate the way to construct a winning mindset, as well as a losing mindset.

Figure 4 presents the success cycle and shows that a positive self-image creates a positive attitude and expectation. This improved positive behaviour leads to improved performance. These new forms of behaviour produce an attitude of expecting a positive result, rather than hoping for a positive result. A winning tradition should be imprinted in a team by focusing on the thinking process (Curtis, 1991).

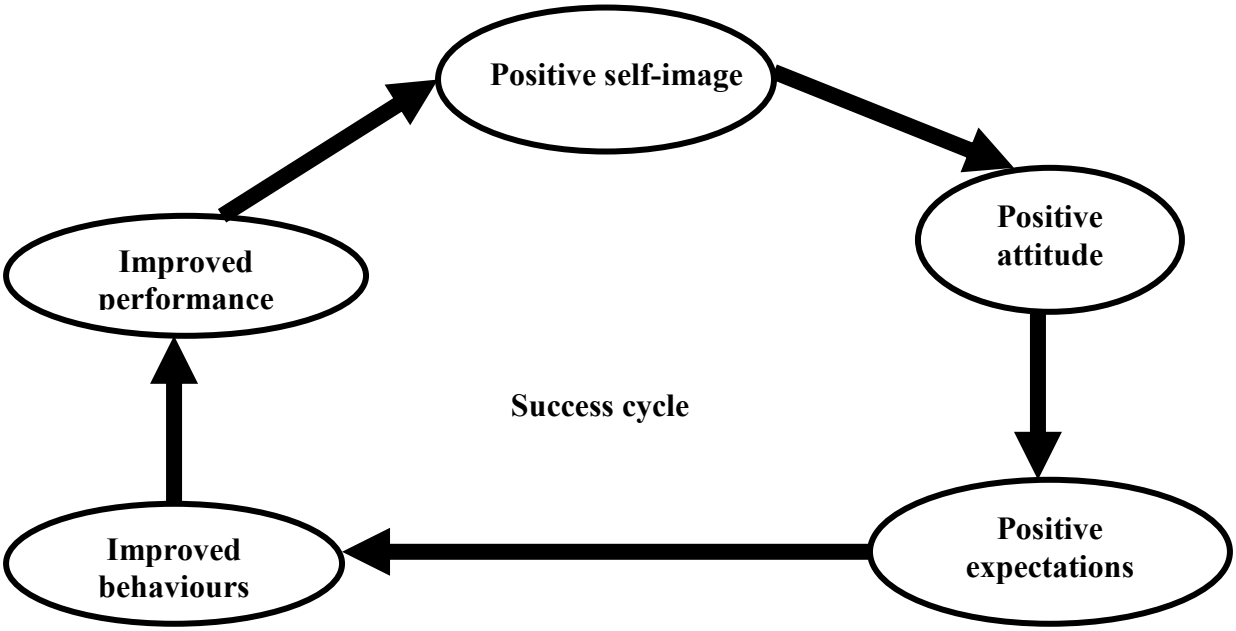

Figure 4: Success cycle (Curtis, 1991: 9)

In contrast, in the failure cycle (Figure 5) the negative self-image leads to a negative attitude as well as negative expectations that cause negative behaviour, which ultimately leads to poor performance or even failure. This strengthened negative self-image keeps the attitude and expectations in the failure cycle. That is why the thinking process can determine whether the team has a winning or losing tradition (Curtis, 1991).

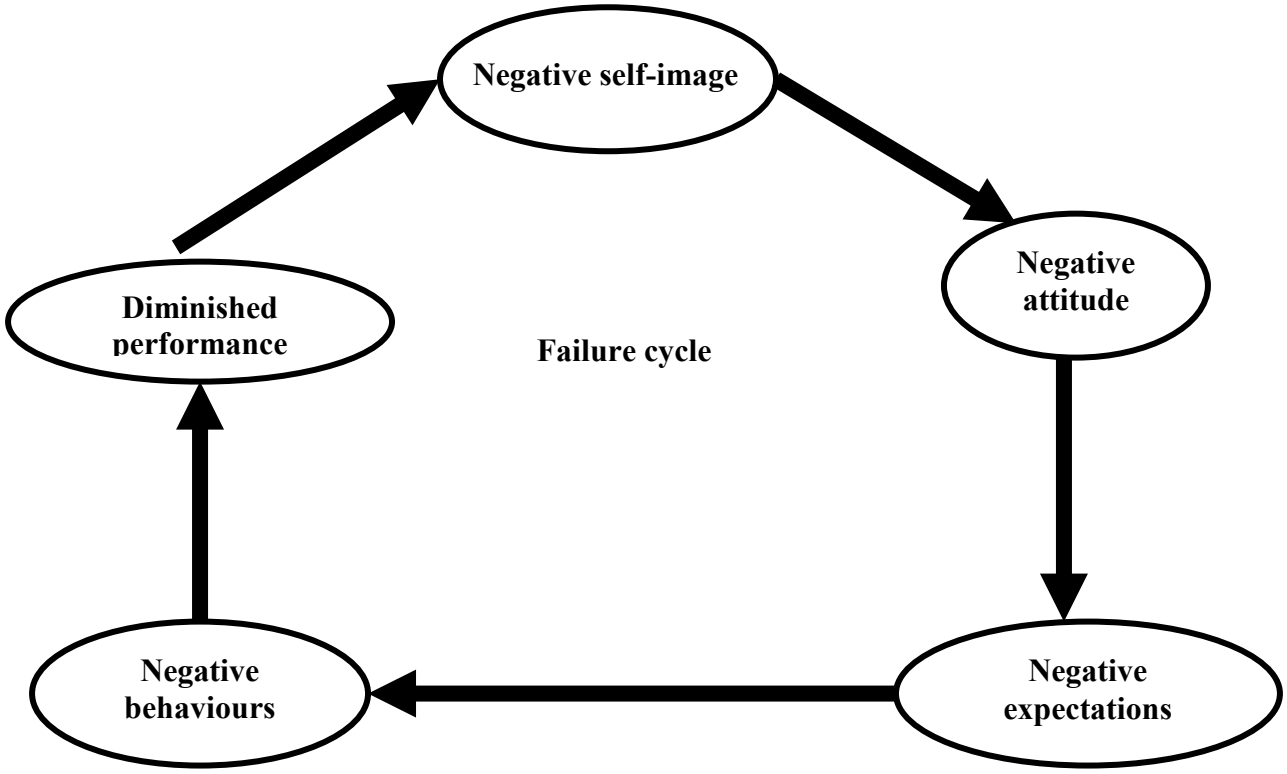

Figure 5: Failure cycle (Curtis 1991: 10)

In summary, if one considers at goal orientation and self-theories, as well as success and failure literature, it exemplifies that goal orientation and self-theories are a good foundation for the body of knowledge on how athletes handle success and failure. It is of the utmost importance to know how an athlete reacts to success and failure. It seems as if success and failure are dealt with better by athletes with a task orientation and a growth mindset, rather than those with an ego orientation and the fixed mindset.

Chapter 3

Methodology

3.1. Introduction

Research strategies can be either quantitative or qualitative. The choice of the research method should be examined closely by the researcher to determine whether the method that has been chosen will give enough information, will fit in with the research question, will be cost-effective and can be successfully executed (Marshall & Ross, 1995). In this research project, it was decided to use a quantitative research approach and was pre-experimental. Quantitative research can be defined as the production of general validity laws of human behaviour based on objective, controlled observation and measurement (Ferreira, Mouton, Puth, Schunrink & Schunrink, 1988).

In quantitative studies, standardised measuring instruments are used, for example questionnaires, to determine the experiences of participants before they are placed in a certain category.

3.2. Method

3.2.1. Research design

The present study was conducted by means of a survey. The current study is explorative in nature. A research design can be defined as the basic plan that guides the data collection and analysis phases of the research project. It is the framework that specifies the type of information to be collected, the sources of data, and the data collection procedure (Kinnear & Taylor, 1996). Two standardised and one self-developed questionnaires were employed in this study. Respondents were requested to complete questionnaires.

3.2.1.1. Data sampling

A sample can be defined as a subset of the population. A sampling plan can be described as a design, scheme of action or procedure that specifies how the participants are to be

selected in a survey study (Rosnow & Rosenthal, 1996). The convenient sampling as well as random sampling methods was used, becoming the selective sampling of students who compete in sport on international-, national-, provincial- and school level. The sampling was convenient in the sense that all the participants were approached at the High Performance Centre of the University of Pretoria. The sampling was random in the sense that participants were approached blindly without having any background of them. The questionnaires were completed by 80 students on each level.

The data-sampling tool consisted of three separate questionnaires, namely a task- and ego orientation questionnaire (13 questions), an assessment of failure and success questionnaire (20 questions) that was developed specifically for the present study a self-theory questionnaire (six questions).

3.3. Data analysis

The information obtained from the sample was captured onto computer and analysed by means of the Statistical Product and Service Solutions Package. Results were analysed by means of the following statistical methods.

a. **Descriptive statistics**. Descriptive statistics are primarily aimed at describing the data. This method was used to give a description of the sample and respondents' responses to the various questions. All descriptive statistics are given in the format of frequencies. The results of all questions were recorded to group the extremes of agreement and disagreement together. Mean scores were also used to summarise performance on total scores of the dimensions.

b. **Inferential statistics**. Test hypotheses about differences in populations based on measurements made on samples of subjects (Tabachnick & Fidell, 1996).

c. **Spearman correlation coefficient.** This is a distribution-free version of the Pearson correlation coefficient, based on the ranks of the data, rather than the actual values. It is appropriate for ordinal data or interval data

that do not satisfy the normality assumption. Values of the coefficient range from –1 to +1. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships. This method was used to determine whether statistically significant relationships existed between the main factors measured in the combination of questionnaires (Tabachnick & Fidell, 1996).

i. **Kruskal-Wallis one-way analysis of variance**. This test is the distribution free analogue of the one-way analysis of variance and tests differences between three or more independent groups. It tests the hypothesis that all samples were drawn from identical populations and is particularly sensitive to differences in central tendency (Howell, 1992). This test was used to test differences between the opinions of respondents competing in sport on different levels. It was decided to make use of this non-parametric technique since there were only 20 respondents per group and the normal distribution of results cannot be assumed.

c. **Multivariate statistics.** Multivariate statistics can be defined as the types of analyses used where there are multiple dependent and independent variables simultaneously (Tabachnick & Fidell, 1996). This type of analysis was used to determine the underlying structure in each questionnaire as well as how consistently each questionnaire measures these constructs. The following two types of analysis were used.

i. **Factor analysis.** Tabachnick and Fidell (1996) describe this method as follows: When there are hypotheses about the underlying structure, or when the researcher wants to understand underlying structure, factor analysis is often used. In this case the researcher believes that responses to many different questions are driven by just a few underlying structures called factors. This

analysis was done on the self developed questionnaire aimed at the assessment of success and failure.

ii. **Reliability analysis**. Reliability can be defined as the – Extent to which a variable or set of variables is consistent in what it is intended to measure. If multiple measurements are taken, the reliable measures will all be very consistent in their values. It differs from validity in that it relates not to what should be measured, but instead to how it is measured (Hair, Tatham, Anderson & Black, 1998). Cronbach Alpha was used to determine the reliability of the assessment of success and failure questionnaire.

3.3.1. Measuring instruments

The measuring instruments used in this study are:

- Task and Ego Orientation in Sport Questionnaire (TEOSQ)
- Self-developed Questionnaire on reaction to success and failure
- Self-theory Questionnaire

3.3.1.1. Task and Ego Orientation in Sport Questionnaire (TEOSQ)

Duda and Nicholls' (1992) task- and ego orientated sport questionnaire assesses individual differences and the emphasis is placed on ego- and task-involved goal perspectives in sport. When completing the questionnaire, the athletes had to think when they felt successful in sport. The 13-item questionnaire reflects task- or ego-involvement in sport. There are seven questions based on task orientation and six questions based on ego orientation, which assess participants along a five-point Likert scale ranging from strongly agree to strongly disagree (Singer *et al.,* 1993). The scale has a high reliability for the orientations, with alpha coefficients of 0,81 for task orientation and 0,89 for ego orientation (Baric & Horgas, 2006).

3.3.1.2. Assessment of Success and Failure Questionnaire

A questionnaire was developed by the present researcher to determine how the participants cope with success and failure (whether they use it as constructive or destructive). They were tested on four levels, namely positive success, positive failure, negative success and negative failure. There were five statements made on each level

were the participant could rate the statements form “strongly disagree” to “strongly agree.” The questionnaire’s validity was tested by a professional statistical analyst and also underwent a pilot test to improve its validity.

3.3.1.3. Self-theory Questionnaire

A third questionnaire was developed to determine whether the athlete has a growth mindset or a fixed mindset. The three- and eight-item self-theory questionnaires along a five-point Likert scale ranging from “strongly agree” to “strongly disagree” (Dweck, 2000). Two different validation studies on the three- and eight-item questionnaires showed correlation coefficient values ranging between 0.83 and 0.92 (Edwards & Steyn, 2008). A study involving 352 participants revealed high Cronbach Alphas of 0.74 for the entity and 0.80 incremental theories questions (Biddle & Wang,Chattzisaraitis & Spray, 2003). The three-item applied sport setting scale was used to assess motivational aspects of the entity and incremental theories after participation. Therefore, it was not necessary to adapt the questionnaire.

3.4. Description of sampling

All 80 participants were randomly selected and all were volunteers who were actively competing in a sport at the University of Pretoria. Data were collected over a wide range of sport disciplines such as athletics, soccer and rugby. Data sampling was done courtesy of the High Performance Centre at the University of Pretoria. The criterium for participating was that; each participant should be participating actively on a certain level. The division criteria for this study are as follows:

- School – Participating on school level in sport. The participant has participated on the highest school level, namely representing his or her school’s top team.
- Provincial – Participant should compete on a junior or senior provincial level in sport. The participant must participate on the highest provincial level, namely representing his or her province in a competition or match.
- National – Participant should compete competitively on a national level in sport.

- International – The participant should compete competitively on an international level. The participant should have represented his or her country in the international arena.

Any participant who did not satisfy one of these criteria completely was excluded and listed as incomplete.

3.5. Procedure

In this research project, a quantative research approach was used. This research was pre-experimental. Athletes were asked to imagine a situation in which they experienced success as well as failure, then to complete the questionnaires. Data were collected by distributing three questionnaires to participating athletes. Firstly, the task and ego orientation in sport questionnaire (TEOSQ) was completed. Secondly, the self-developed questionnaire on success and failure was completed and thirdly, the self-theory questionnaire was completed.

3.6. Pilot study

A pilot study was undertaken with 40 third year and honours students in the Department of Biokinetics, Sport and Leisure Sciences at the University of Pretoria. The reason for the pilot study was to determine whether the questionnaires were suitable for the study. Comments and suggestions that were made were used to improve the questionnaires. Christene Smit, the statistical analyst, analysed the questionnaires and found that the format of the questionnaires was correct and that the study could commence.

Chapter 4

Results

The data were statistically analysed by a professional statistical analyst. The Spearman correlation coefficient (r – scores) was used to determine the correlations. An r-score that is greater or equal to +0.45, as well as a r-score smaller or equal to -0.45, is a significant correlation. The significance of the correlations (p-value) was smaller or equal to 0.05.

The results of the analysis are reported in the order of the sub-problems stated earlier in this document.

4.1. Description of the samples

As mentioned earlier, the sample consisted of 80 respondents, who compete in sport on international-, national-, provincial- or school level. A description of the sample in terms of their age, gender, number of years they have been competing and the level at which they compete is provided in Tables 10 to 14.

All frequency tables can be interpreted as follows: The column referred to as frequency shows the actual number of respondents who chose a specific option in the question. The percent age indicates the percentage of respondents who chose a specific option in the total sample. The valid percentage refers to the percentage of respondents who chose a specific option out of those respondents who answered the question. Missing values, resulting from respondents not answering a question, are thus taken into account.

Table 10: Age

		Frequency age	Percent age	Valid Percent age	Cumulative Percent age
Valid	18.00	1	1.3	1.3	1.3
	19.00	17	21.3	21.3	22.5
	20.00	30	37.5	37.5	60.0
	21.00	17	21.3	21.3	81.3
	22.00	4	5.0	5.0	86.3
	23.00	3	3.8	3.8	90.0
	24.00	3	3.8	3.8	93.8
	25.00	1	1.3	1.3	95.0
	26.00	2	2.5	2.5	97.5
	27.00	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

The results in Table 10 indicate that the ages of respondents ranged between 18 and 27 years of age. The majority of respondents were between the ages of 19 and 21 (80.1%).

Table 11: Gender

		Frequency	Percent age	Valid Percent age	Cumulative Percent age
Valid	Female	41	51.3	51.3	51.3
	Male	39	48.8	48.8	100.0
	Total	80	100.0	100.0	

The sample was distributed equally in terms of gender, with 51.3% being female and 48.8% male (see Table 11).

Table 12: Number of years of competing in sport

		Frequency	Percent age	Valid Percent age	Cumulative Percent age
Valid	3.00	2	2.5	2.5	2.5
	5.00	1	1.3	1.3	3.8
	6.00	2	2.5	2.5	6.3
	7.00	3	3.8	3.8	10.0
	8.00	1	1.3	1.3	11.3
	9.00	2	2.5	2.5	13.8
	10.00	8	10.0	10.0	23.8
	11.00	4	5.0	5.0	28.8
	12.00	9	11.3	11.3	40.0
	13.00	18	22.5	22.5	62.5
	14.00	13	16.3	16.3	78.8
	15.00	7	8.8	8.8	87.5
	16.00	4	5.0	5.0	92.5
	17.00	1	1.3	1.3	93.8
	18.00	1	1.3	1.3	95.0
	19.00	1	1.3	1.3	96.3
	20.00	2	2.5	2.5	98.8
	21.00	1	1.3	1.3	100.0
	Total	80	100.0	100.0	

The results in Table 12 indicate that almost a quarter (22.5%) of the respondents have been competing in sport for 13 years, followed by 16.3% who have been competing for 14 years. Another 26.3% have been competing in sport for between 10 and 12 years.

Table 13: Highest level of competition

		Frequency	Percent age	Valid Percent age	Cumulative Percent age
Valid	International	20	25.0	25.0	25.0
	National	20	25.0	25.0	50.0
	Provincial	20	25.0	25.0	75.0
	School	20	25.0	25.0	100.0
	Total	80	100.0	100.0	

As indicated earlier, an equal number of students were chosen from each level of participation for the study, thus representing 25% each.

4.2. Description of the total sample's opinion on all statements

All results were recorded so that those respondents who strongly agreed and agreed were grouped together, as well as those who strongly disagreed and disagreed. The one neutral response was not recorded. The results of the students' responses are summarised in Figures 1 to 8 and reflect only those who agreed/strongly agreed versus those who disagreed/strongly disagreed.

4.2.1. Results on statements relating to ego and task orientation

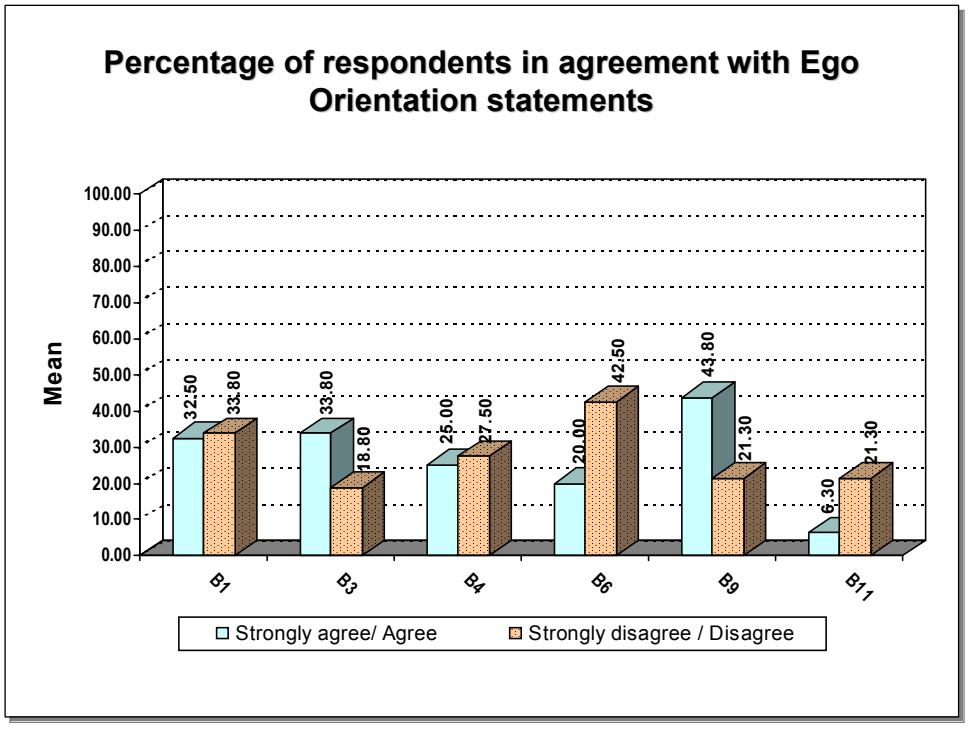

Figure 6: Ego respondents

The results in Figure 6 indicate that respondents were divided in their opinions on ego orientation questions. A third of the respondents either agreed or disagreed that they were the only ones able to play a sport. Another third agreed that they could do better than their friends, while only 18.8% disagreed. Almost a third either agreed or disagreed that others cannot do as well as they themselves. Almost half disagreed that others mess-

up and they do not, while 20% agreed with this statement. The opposite was true for the statement that they scored most points, where almost half (43.8%) agreed, while 21.2% disagreed. Students were less extreme in indicating whether they are the best, with only 6.3% who strongly agreed/agreed and 21.3% who disagreed or strongly disagreed.

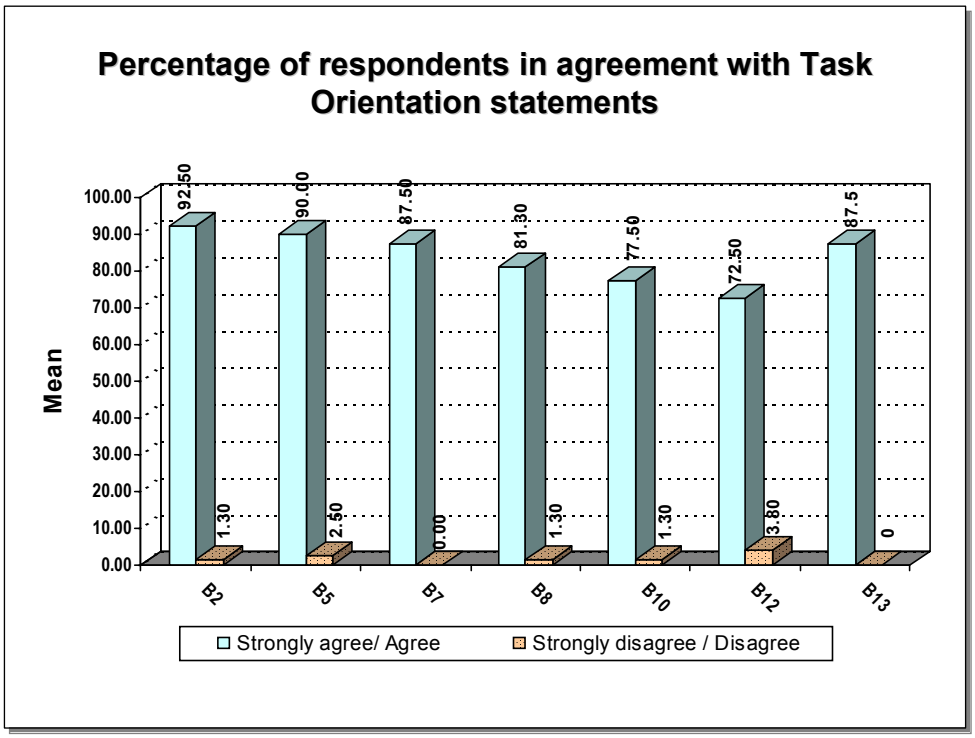

Figure 7: Task respondents

The results in Figure 7 indicate that students were far more decisive in their opinions regarding task orientated statements, with the majority by far agreeing with these statements. Most thus indicated that when they learn a new skill they want to practise it, they learn something that is fun to do, they learn new skills by trying hard, they work really hard, something they learn makes them want to practise more, skills they learn, really feel right and they do their very best. According to these results, it seems that task orientation is strongly represented and ego orientation not as strongly.

4.2.2. Results on statements relating to assessment of success and failure

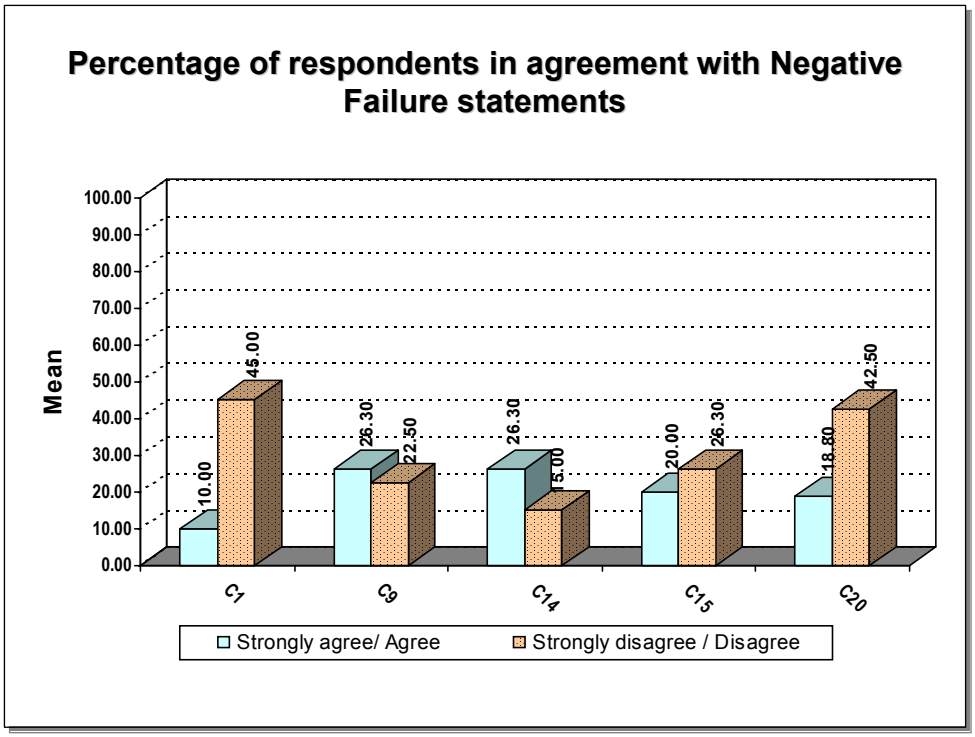

Figure 8: Negative failure respondents

The results in Figure 8 indicate that the minority of respondents agreed with statements that reflect negative failure. Almost half (45%) disagreed that if they fail, they struggle to recover and it feels as though they have lost their appetite for their sport. Another 40% disagreed with the statement that when they had failed, it feels as if their hard work had been in vain. Respondents were more divided in their agreement with the following statements, where approximately a quarter either agreed or disagreed with the statements: I feel depressed if I experience failure and disappointment in my sport (26.3% agreed); When I lose I feel very upset (26.3% agreed); When I have won I feel that I can take it easier (20% agreed). These questions may not discriminate very well on the dimension of negative failure.

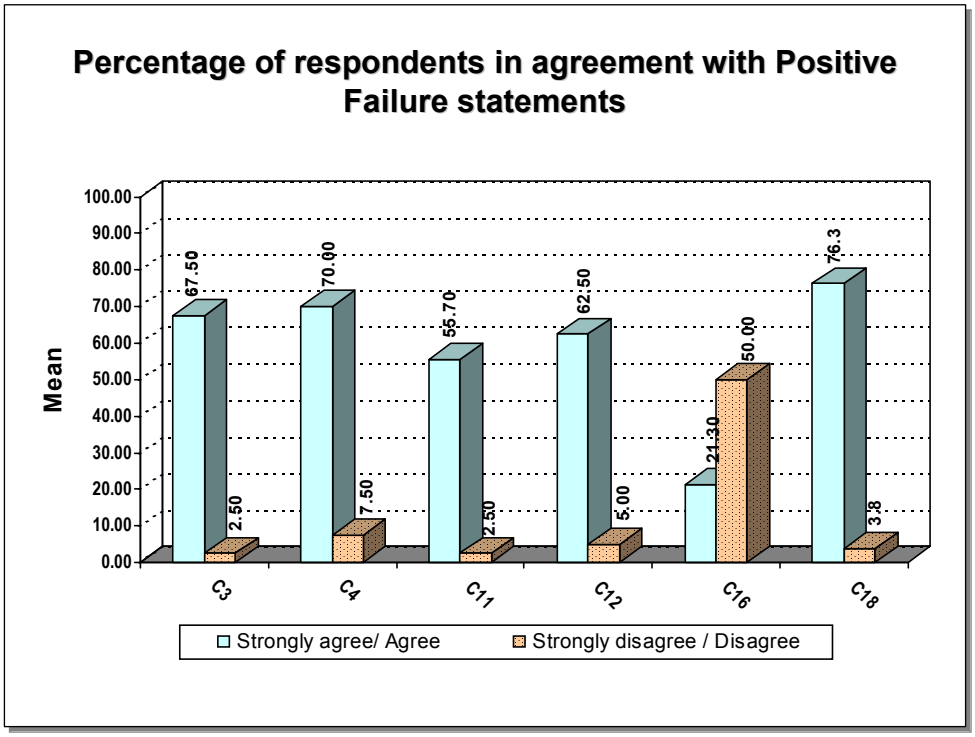

Figure 9: Positive failure respondents

Most of the respondents agreed with all but one statement on positive failure (see Figure 9). Half of the respondents disagreed that they love to be the underdog, with only 21.3% agreeing with this statement. The majority (76.3%) agreed that when they had failed, they could not wait to show people that they still had the ability to succeed. Another 70% could identify themselves with the statement "When the going gets tough, the tough get going". Another 67.5% and 62.5% respectively agreed that if they fail, it motivates them to work harder and that failure or disappointment had never been real obstacles to them. Half (55.7%) agreed that they recover quickly after a disappointing performance.

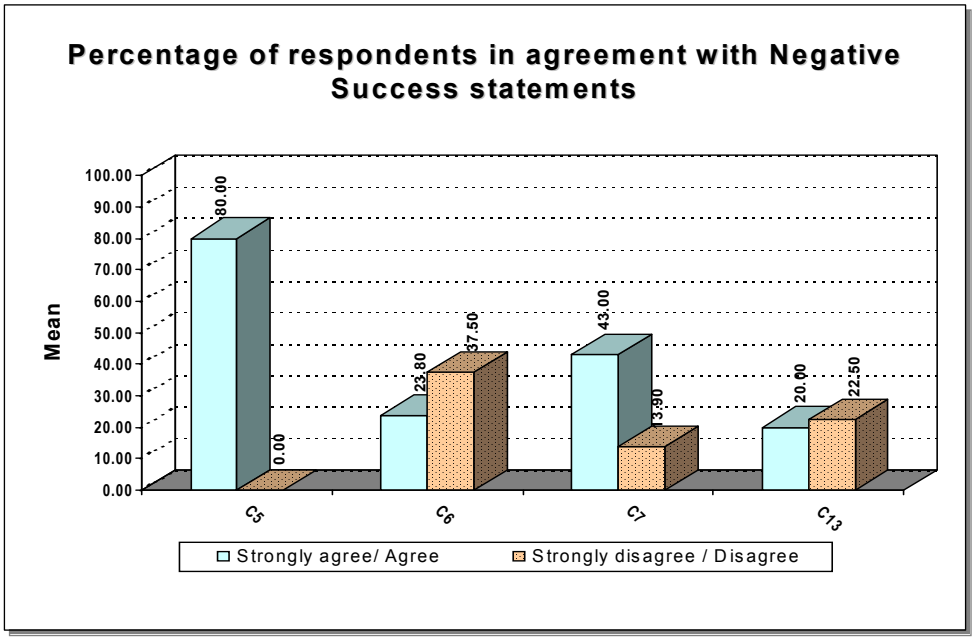

Figure 10: Negative success respondents

Respondents were less consistent in answering questions relating to negative success (see Figure 10). The majority of respondents by far (80%) agreed that success motivates them to perform but can be dangerous when it goes to one's head. Almost half (43%) agreed that they experience pressure to defend themselves when they do well. A third (37.5%) disagreed that they are sometimes too scared to be successful. Respondents were divided in their opinion on the statement that success sometimes distracts them from their goals, with a fifth either agreeing (20%) or disagreeing (22.5%) with this statement.

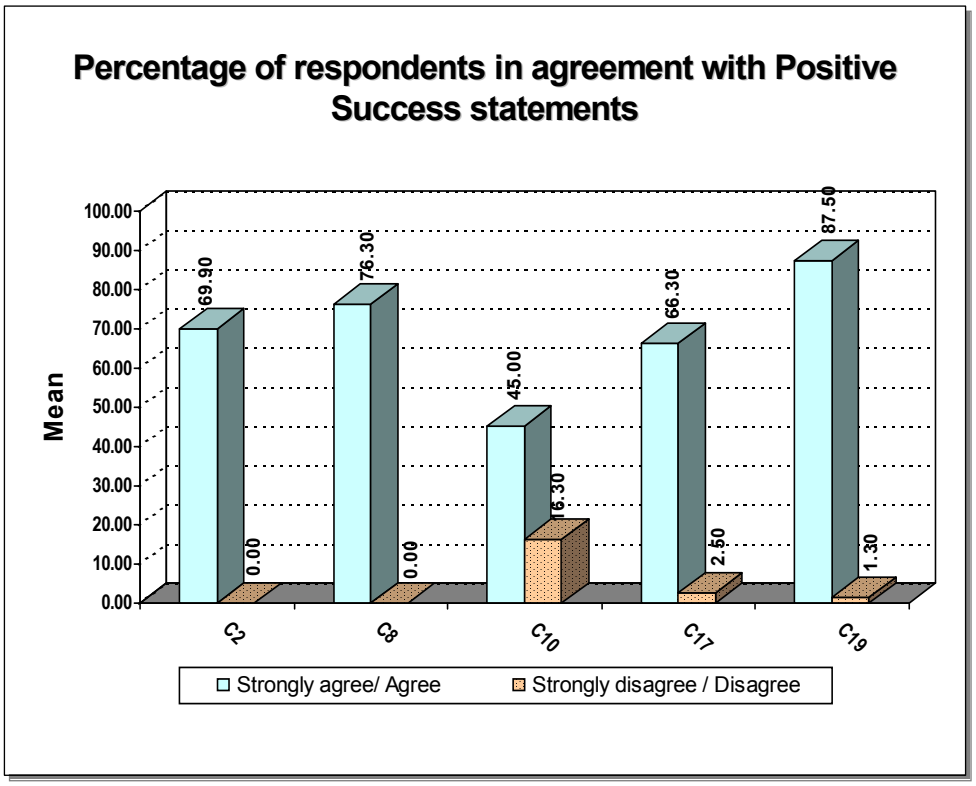

Figure 11: Positive success respondents

Most respondents agreed with positive success statements (see Figure 11). The majority (87.5%) agreed that success boosts their self-confidence. The majority also agreed that success breeds success (69.9%), that success motivates them but they keep their eyes on their goals (76.3%) and that they do their very best, even if they know they can win easily (66.3%). Very few if any of the respondents disagreed with these statements, except for the statement, "I'd rather be the top dog than the underdog". Forty-five percent agreed, while 16.3% disagreed with this statement.

4.2.3. Results on statements relating to the growth and fixed mindset

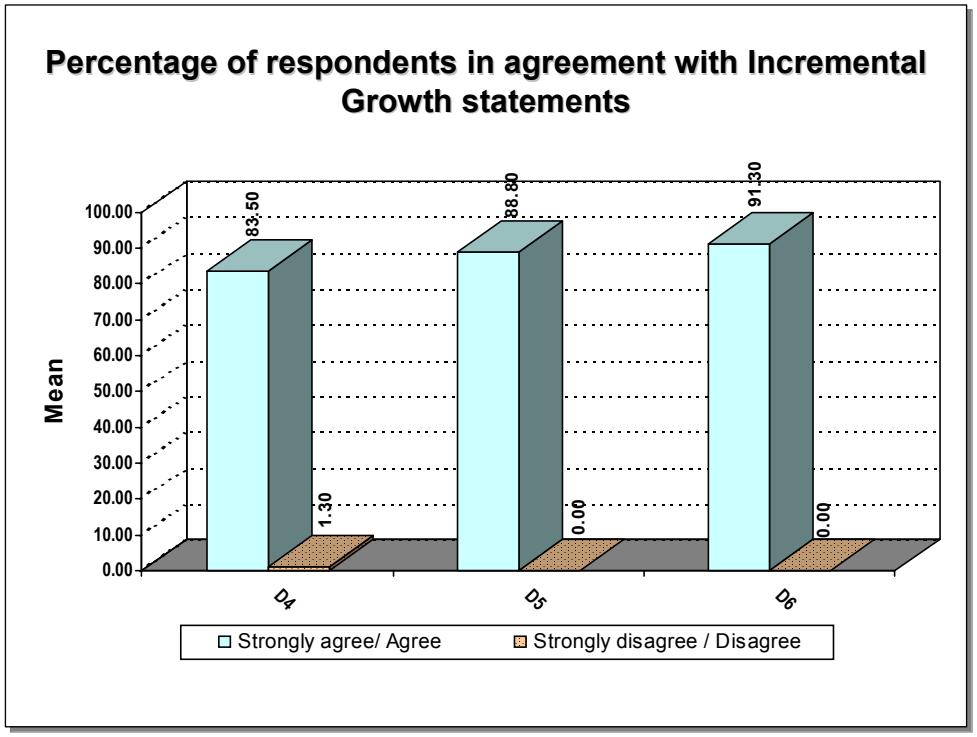

Figure 12: The growth mindset respondents

The results in Figure12 indicate that between 83.3% and 91% of respondents agreed with the statements relating to the growth mindset. In most cases none of the respondents disagreed with the following statements: How good you are at sport will always improve if you work at it (1.3% - disagreed); if you put enough effort into it, you will always get better at sport (0% - disagreed) and to be successful in sport, you need to learn techniques and skills and practise them (0% - disagreed).

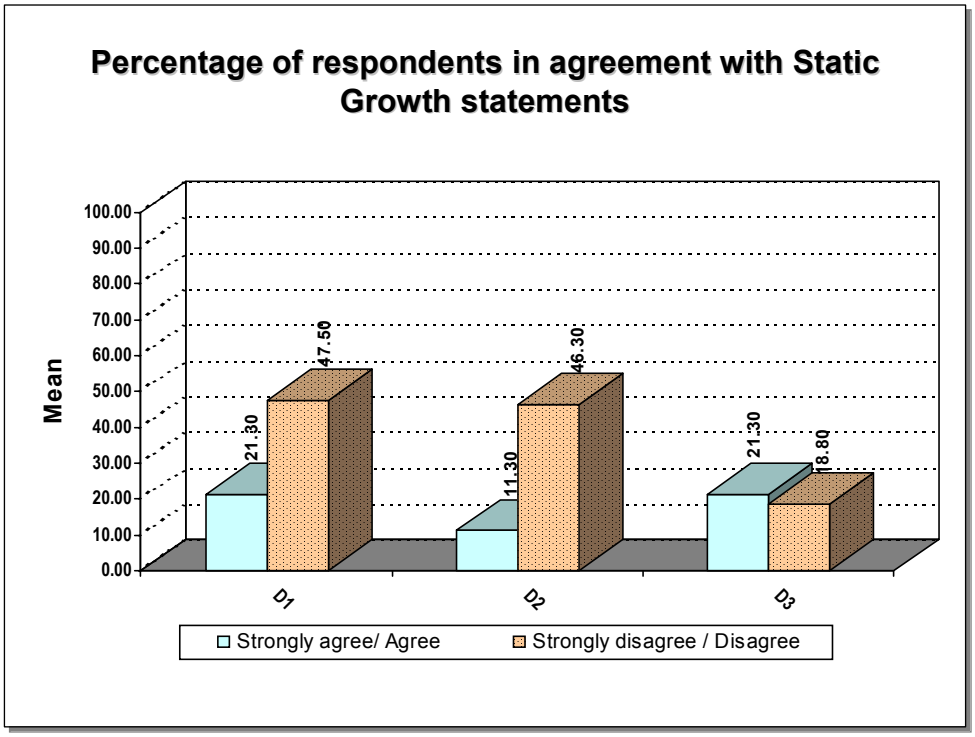

Figure 13: The fixed mindset respondents

Respondents tended to disagree more with statements reflecting a fixed mindset and seemed to be less definite about their agreement with these statements (see Figure 13). Almost half disagreed that when you are at a certain level of sport, you cannot really do much to change that (47.5%) or that even if you try the level you reach in sport cannot change (46.3%). They were more divided in their opinion regarding the statement "To be good in sport, you need to be naturally gifted", with a fifth either agreeing (21.3%) or disagreeing (18%).

4.3. Results of the correlations between the main dimensions measured

As described earlier, Spearman correlation coefficients were used to determine whether there were statistically significant relationships between the main dimensions measured in the study. Total scores were calculated by adding the results to the questions pertaining to these dimensions. The results of this analysis are presented in Table 14.

The results in Table 14 can be summarised as follows:

a. There is a strong positive correlation (r=0.504; p≤0.01) between task orientation and positive failure. The higher the scores on task orientation, the higher the scores on positive failure. This correlation is significant on the 1% level of significance.
b. Moderate positive correlations were found between positive failure and the growth mindset (r=0.443; p≤0.01) and positive success and the growth mindset (r=0.417; p≤0.01). Both correlations were statistically significant at the 1% level of significance. Higher scores on one dimension are associated with higher scores on another dimension.
c. Slightly weaker, but still moderate positive correlations were found between task orientation and positive success (r=0.332; p≤0.01) and ego and task orientation (r=0.318; p≤0.01). To a moderate extent, higher scores on the one dimension are associated with higher scores on the other. Both correlations were significant at the 1% level of significance.
d. Weak positive correlations were found between ego orientation and negative success (r=0.295; p≤0.05); positive failure and negative success (r=0.265; p≤0.05); positive failure and positive success (r=0.263; p≤0.05); task orientation and the growth mindset (r=0.243; p≤0.05) and ego orientation and positive failure (r=0.230; p≤0.05). All these correlations are significant at the 5% level of significance. Higher scores in one dimension thus relate to higher scores on another dimension, but the relationships between these dimensions are not very strong.
e. A weak negative correlation (r=-0.230; p≤0.05) was found between negative failure and positive failure. This correlation was significant at the 5% level of significance. A higher score on one dimension implies a low score on the other dimension.

For example, a high score on negative failure corresponds with a low score on positive failure. The relationship between the two dimensions is not very strong.

Table 14: Correlation matrix of the main dimensions

			Ego total	Task total	Negative failure	Positive failure	Negative success	Positive success	Incremental	Static
Spearman's rho	Ego total	Correlation Coefficient	1.000	**.318(**)**	.178	**.230(*)**	**.295(**)**	.199	.099	-.033
		Sig. (2-tailed)	.	**.004**	.113	**.041**	**.008**	.079	.384	.772
		N	80	**80**	80	**79**	**79**	79	79	80
	Task total	Correlation Coefficient	.318(**)	1.000	-.029	**.504(**)**	.171	**.332(**)**	**.243(*)**	-.146
		Sig. (2-tailed)	.004	.	.800	**.000**	.132	**.003**	**.031**	.197
		N	80	80	80	**79**	79	**79**	**79**	80
	Negative failure	Correlation Coefficient	.178	-.029	1.000	**-.234(*)**	.146	-.066	**-.219**	.116
		Sig. (2-tailed)	.113	.800	.	**.038**	.200	.561	**.052**	.304
		N	80	80	80	**79**	79	79	**79**	80
	Positive failure	Correlation Coefficient	.230(*)	.504(**)	-.234(*)	1.000	**.265(*)**	**.263(*)**	**.443(**)**	.017
		Sig. (2-tailed)	.041	.000	.038	.	**.019**	**.020**	**.000**	.879
		N	79	79	79	79	**78**	**78**	**78**	79
	Negative success	Correlation Coefficient	.295(**)	.171	.146	.265(*)	1.000	-.008	.049	.054
		Sig. (2-tailed)	.008	.132	.200	.019	.	.942	.666	.636
		N	79	79	79	78	79	78	79	79
	Positive success	Correlation Coefficient	.199	.332(**)	-.066	.263(*)	-.008	1.000	**.417(**)**	.132
		Sig. (2-tailed)	.079	.003	.561	.020	.942	.	**.000**	.245

Table14(continue)

		N	79	79	79	78	78	79	**78**	79
	Growth mindset	Correlation Coefficient	.099	.243(*)	-.219	.443(**)	.049	.417(**)	1.000	.058
		Sig. (2-tailed)	.384	.031	.052	.000	.666	.000	.	.612
		N	79	79	79	78	79	78	79	79
	Fixed mindset	Correlation Coefficient	-.033	-.146	.116	.017	.054	.132	.058	1.000
		Sig. (2-tailed)	.772	.197	.304	.879	.636	.245	.612	.
		N	80	80	80	79	79	79	79	80

(*)-5% level of significant. (**)- 1% level of significant.

4.4. Results of analysis aimed at determining differences in opinions of respondents at different levels of competition

As indicated earlier Kruskal-Wallis One-way analysis of variance was used to do this analysis. The analysis was done for the total dimensions, as well as on each question that constitutes these dimensions. The results of this analysis are presented in Tables 15 to 18.

Table 15: Results of differences in total dimension scores

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Ego total	80	20.4000	6.21676	7.00	33.00
Task total	80	12.3500	4.11265	7.00	31.00
Negative failure	80	18.6250	4.16852	6.00	28.00
Positive failure	79	15.4430	3.59040	7.00	24.00
Negative success	79	12.0759	3.14101	6.00	19.00
Positive success	79	10.8734	2.91049	5.00	18.00
Incremental	79	4.8481	1.73271	3.00	10.00
Static	80	11.6750	3.02218	6.00	18.00
Highest level of competition	80	2.5000	1.12509	1.00	4.00

Table 16: Kruskal-Wallis Test (Ranks)

	Highest level of competition	N	Mean Rank
Ego total	International	20	35.65
	National	20	32.70
	Provincial	20	44.53
	School	20	49.13
	Total	80	
Task total	International	20	34.83
	National	20	34.90
	Provincial	20	40.33
	School	20	51.95
	Total	80	
Negative failure	International	20	38.23
	National	20	38.25
	Provincial	20	42.70
	School	20	42.83
	Total	80	
Positive failure	International	20	31.75
	National	20	36.68
	Provincial	19	40.13
	School	20	51.45
	Total	79	
Negative success	International	20	40.65
	National	20	35.53
	Provincial	19	41.34
	School	20	42.55
	Total	79	
Positive success	International	19	35.53
	National	20	35.20
	Provincial	20	44.10
	School	20	44.95
	Total	79	

Table 16: (continued)

	Highest level of competition	N	Mean Rank
Incremental	International	20	31.85
	National	20	39.90
	Provincial	19	42.87
	School	20	45.53
	Total	79	
Static	International	20	38.25
	National	20	37.48
	Provincial	20	47.25
	School	20	39.03
	Total	80	

Table 17: Test statistics (a, b)

	Ego total	Task total	Negative failure	Positive failure	Negative success	Positive success	Incremental	Static
Chi-Square	6.499	7.294	.767	8.053	1.100	3.205	4.170	2.326
Df	3	3	3	3	3	3	3	3
Asymp. Sig.	.090	.063	.857	.045	.777	.361	.244	.508

a Kruskal-Wallis Test

Only one statistically significant difference could be found on the total scores for dimensions, which was significant at the 5% level of significance (see Table 17). There was a significant difference between the respondents at the various levels of competition on positive failure. Those respondents at school- and provincial level had significantly higher positive failure scores than those competing at national- and international level. No significant difference was found on any of the other total dimension scores.

Table 18: Results of differences on ego orientation and task orientation questions – Kruskal-Wallis Test

Ranks

	Highest level of competition	N	Mean Rank
B1.I'm the only one who can do the play or skill	International	20	41.40
	National	20	33.83
	Provincial	20	41.65
	School	20	45.13
	Total	80	
B2.I learn a new skill and it makes me want to practice more	International	20	33.48
	National	20	42.73
	Provincial	20	40.05
	School	20	45.75
	Total	80	
B3.I can do better than my friends	International	20	36.80
	National	20	30.55
	Provincial	20	48.63
	School	20	46.03
	Total	80	
B4.The others can't do as well as me	International	20	38.95
	National	20	30.98
	Provincial	20	43.38
	School	20	48.70
	Total	80	
B5.I learn something that is fun to do	International	20	44.85
	National	20	36.10
	Provincial	20	40.80
	School	20	40.25
	Total	80	
B6.Others mess-up and I don't	International	20	36.93
	National	20	35.58
	Provincial	20	44.48
	School	20	45.03
	Total	80	

Table 19: Test statistics (a, b)

	B1	B2	B3	B4	B5	B6
Chi-Square	2.643	3.792	8.131	6.491	1.749	2.835
Df	3	3	3	3	3	3
Asymp. Sig.	.450	.285	.043	.090	.626	.418

a Kruskal-Wallis Test

b Grouping Variable: Highest level of competition

Even though there was no difference between the respondents at the various levels of participation on the total dimensions of ego and task orientation, one statistically significant difference was found on the 5% level of significance (see Table 19). Participants at school and provincial level were less likely to agree with the statement: "I can do better than my friends."

Table 20: Results of differences on statements of ego and task orientation questions (continued) - Kruskal-Wallis Test

	Highest level of competition	N	Mean Rank
B7.I learn a new skill by trying hard	International	20	31.10
	National	20	35.50
	Provincial	20	42.65
	School	20	52.75
	Total	80	
B8.I work really hard	International	20	35.15
	National	20	33.68
	Provincial	20	44.73
	School	20	48.45
	Total	80	
B9.I score the most points/goals etc.	International	20	29.90
	National	20	41.45
	Provincial	20	41.40
	School	20	49.25
	Total	80	
B10.Something I learn makes me want to go and practice more	International	20	33.90
	National	20	39.75
	Provincial	20	43.00
	School	20	45.35
	Total	80	
B11.I'm the best	International	20	34.23
	National	20	39.30
	Provincial	20	44.38
	School	20	44.10
	Total	80	
B12.A skill I learn really feels right	International	20	37.30
	National	20	34.98
	Provincial	20	35.75
	School	20	53.98
	Total	80	

Table 20 (continued)

	Highest level of competition	N	Mean Rank
B13.I do my very best	International	20	35.28
	National	20	38.83
	Provincial	20	42.08
	School	20	45.83
	Total	80	

Ranks

Table 21: Test statistics (a, b)

	B7	B8	B9	B10	B11	B12	B13
Chi-Square	12.226	6.727	7.376	3.131	2.698	10.345	2.922
df	3	3	3	3	3	3	3
Asymp. Sig.	.007	.081	.061	.372	.441	.016	.404

a Kruskal-Wallis Test

b Grouping Variable: Highest level of competition

Even though there were no statistically significant differences between respondents participating at the different levels on ego and task orientation as a whole, another two statistically significant differences were found on the questions pertaining to these dimensions (see Table 21). Participants at school and provincial level were less likely to agree that they learn a new skill by trying hard. Respondents who participate at school level were far less likely to indicate that when they learn a skill it feels right.

Table 22: Results of differences on statements of negative and positive failure and negative and positive success – Kruskal-Wallis Test

	Highest level of competition	N	Mean Rank
C1.When I fail I struggle to get back and it feels as if I lost my appetite for sport	International	20	35.25
	National	20	43.45
	Provincial	20	45.90
	School	20	37.40
	Total	80	
C2.Success breeds success for me	International	19	37.29
	National	20	37.43
	Provincial	20	39.25
	School	20	45.90
	Total	79	
C3.If I fail it motivates me to work harder	International	20	40.40
	National	20	35.70
	Provincial	20	40.95
	School	20	44.95
	Total	80	
C4.I identify myself with the statement 'when the going gets tough, the tough gets going'	International	20	38.10
	National	20	38.85
	Provincial	20	37.25
	School	20	47.80
	Total	80	
C5.Success motivates me to perform but can be dangerous when it goes to your head	International	20	40.30
	National	20	32.35
	Provincial	20	40.70
	School	20	48.65
	Total	80	
C6.I am sometimes scared to be too successful	International	20	40.65
	National	20	37.65
	Provincial	20	41.88
	School	20	41.83
	Total	80	

Table 22 (continued)

	Highest level of competition	N	Mean Rank
C7.I experience pressure to defend myself when I do well	International	20	39.53
	National	20	34.55
	Provincial	19	44.24
	School	20	41.90
	Total	79	
C8.Success motivates me, but I put it behind myself to keep my eyes on my goal	International	20	39.55
	National	20	36.73
	Provincial	20	41.78
	School	20	43.95
	Total	80	
C9.I feel depressed if I experience failure and disappointment in my sport	International	20	41.25
	National	20	31.80
	Provincial	20	46.75
	School	20	42.20
	Total	80	
C10.I'll rather be the 'top dog' than the 'underdog'	International	20	41.08
	National	20	32.10
	Provincial	20	46.98
	School	20	41.85
	Total	80	

Table 23: Test statistics (a, b)

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Chi-Square	2.980	2.091	1.775	2.946	5.720	.453	2.070	1.229	4.630	4.475
df	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.395	.554	.620	.400	.126	.929	.558	.746	.201	.215

a Kruskal-Wallis Test

b Grouping Variable: Highest level of competition

None of the questions depicted in Table 23 showed a statistically significant difference in the opinions of respondents competing at different levels.

Table 24: Results of differences on statements of negative and positive failure and negative and positive success – Kruskal-Wallis Test (continued)

	Highest level of competition	N	Mean Rank
C11.I recover quickly after a disappointing performance	International	20	36.10
	National	20	38.23
	Provincial	19	39.68
	School	20	45.98
	Total	79	
C12.Failure or disappointment has never been a real obstacle for me. I see it as a challenge and learning experience	International	20	41.13
	National	20	39.63
	Provincial	20	38.85
	School	20	42.40
	Total	80	
C13.Success sometimes deviates me from my goals	International	20	42.10
	National	20	42.23
	Provincial	20	39.58
	School	20	38.10
	Total	80	
C14.When I lose I am very upset	International	20	40.23
	National	20	35.53
	Provincial	20	39.10
	School	20	47.15
	Total	80	
C15.When I have won I feel that I can take it easier	International	20	38.08
	National	20	47.35
	Provincial	20	38.03
	School	20	38.55
	Total	80	

Table 24 (continued)

	Highest level of competition	N	Mean Rank
C16.I love to be the underdog	International	20	33.85
	National	20	40.73
	Provincial	20	37.03
	School	20	50.40
	Total	80	
C17.I do my very best although I know I can win easily	International	20	30.05
	National	20	40.48
	Provincial	20	44.98
	School	20	46.50
	Total	80	
C18.When I have failed in a competition, I can't wait to show people that I still have it	International	20	26.70
	National	20	39.55
	Provincial	20	49.90
	School	20	45.85
	Total	80	
C19.Success boosts my self-confidence	International	20	32.30
	National	20	45.85
	Provincial	20	45.95
	School	20	37.90
	Total	80	
C20.When I have failed it feels as if all my hard work was for nothing	International	20	38.63
	National	20	41.33
	Provincial	20	40.28
	School	20	41.78
	Total	80	

Table 25: Test statistics (a, b)

	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20
Chi-Square	2.372	.320	.483	2.799	2.473	6.006	6.675	12.915	5.908	.228
df	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.499	.956	.923	.424	.480	.111	.083	.005	.116	.973

a Kruskal- Wallis Test

b Grouping Variable: Highest level of competition

Only one statistically significant difference was found on responses to the questions relating to positive failure (see Table 25). Participants at international and school level were more likely to agree with the statement: "Success boosts my self-confidence."

Table 26: Results of differences on statements of the growth mindset versus the fixed mindset

	Highest level of competition	N	Mean Rank
D1.You have a certain level of ability in sport and you cannot really do much to change that level	International	20	40.65
	National	20	36.30
	Provincial	20	45.93
	School	20	39.13
	Total	80	
D2.Even if you try, the level you reach in sport will change very little	International	20	39.83
	National	20	42.25
	Provincial	20	44.28
	School	20	35.65
	Total	80	
D3.To be good in sport, you need to be naturally gifted	International	20	35.33
	National	20	33.78
	Provincial	20	47.88
	School	20	45.03
	Total	80	

Table 26 (continued)

	Highest level of competition	N	Mean Rank
D4.How good you are in sport will always improve if you work at it	International	20	30.53
	National	20	40.48
	Provincial	19	40.18
	School	20	48.83
	Total	79	
D5.If you put enough effort into it, you will always get better at sport	International	20	35.20
	National	20	42.30
	Provincial	20	45.30
	School	20	39.20
	Total	80	
D6.To be successful in sport, you need to learn techniques and skills and practice them	International	20	38.58
	National	20	37.95
	Provincial	20	43.65
	School	20	41.83
	Total	80	

Table 27: Test statistics (a, b)

	D1	D2	D3	D4	D5	D6
Chi-Square	1.940	1.624	5.948	7.488	2.534	1.169
Df	3	3	3	3	3	3
Asymp. Sig.	.585	.654	.114	.058	.469	.760

a Kruskal-Wallis Test

b Grouping Variable: Highest level of competition

The results in Table 27 indicate that no statistically significant difference was found between respondents participating at different levels, regarding statements relating to the growth mindset and the fixed mindset.

4.5. Results of analysis of the underlying structure of the assessment of success and failure questionnaire

As indicated earlier, factor analysis was used to examine the internal structure of the questionnaire based on responses from respondents. The results are presented in Tables 28 and 29.

Table 28: Results of factor analysis - Rotated Factor Matrix (a)

	Factor 1	2	3	4
I do my very best although I know I can win easily	.693	-.285	.028	-.125
When I have failed in a competition, I can't wait to show people that I still have it	.690	.141	.159	-.007
Success motivates me, but I put it behind myself to keep my eyes on my goal	.549	-.270	-.053	.051
Success boosts my self-confidence	.543	.018	-.042	-.061
Success motivates me to perform, but can be dangerous when it goes to your head	.442	.148	.282	-.116
Success breeds success for me	.406	-.057	.024	.026
I identify myself with the statement ' when the going gets tough the tough gets going'	.353	-.247	.178	-.113
When I fail I struggle to get back and it feels as if I lost my appetite for sport	-.203	.631	-.097	.067
I feel depressed if I experience failure and disappointment in my sport	.184	.594	-.062	.132
When I have failed it feels as if all my hard work was for nothing	-.161	.572	.029	-.019
Failure or disappointment has never been a real obstacle for me. I see it as a challenge and learning experience	.062	-.552	.071	.129
When I lose, I am very upset	.080	.545	.178	.156
When I have won, I feel that I can take it easier	-.153	.434	.323	.042
I experience pressure to defend myself when I do well	.086	.119	.730	.068
I am sometimes scared to be too successful	.101	-.030	.463	-.106
If I fail it motivates me to work harder	.158	-.118	.461	-.094
Success sometimes deviates me from my goals	-.234	.113	.453	.013
I recover quickly after a disappointing performance	.084	-.241	.270	.039
I'll rather be the 'top dog' than the 'underdog'	.080	.083	-.137	.857
I love to be the underdog	.202	-.025	-.010	-.578

Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 5 iterations.

Table 29: Total variance explained by factors identified

Factor	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.324	11.618	11.618
2	2.235	11.177	22.795
3	1.554	7.771	30.567
4	1.209	6.046	36.612

Extraction Method: Principal Axis Factoring.

The results in Table 29 show that four factors were specified and extracted in the analysis. The questions that load on each factor with their factor loading are indicated in different colours. The manner in which questions are grouped together differs from the original intent of the questionnaire and by looking at the content of the questions the following factors could be identified.

a. **Factor 1:** This factor consists of six questions with factor loadings ranging from 0.639 to 0.353. The content of the questions included in this factor mostly relates to ***success as motivator for performance***. The last question has a low factor loading and thus does not correlate very highly with this factor, namely "I identify myself with the statement ' when the going gets tough, the tough gets going".

b. **Factor 2:** This factor consists of seven questions with factor loadings ranging from 0.631 to 0.434. Based on the contents of the questions included in this factor, ***discouragement as a result of failure*** can be identified as the underlying concept measured by these questions.

c. **Factor 3:** This factor consists of five questions with factor loadings ranging from 0.730 to 0.270. Based on the contents of the questions included in this factor, it seems to reflect ***emotive issues experienced during participation*** as underlying concept measured by these questions. The last statement, namely, "I recover quickly after a disappointing performance", does not correlate very highly with this factor as indicated by the low factor loading.

d. **Factor 4:** This factor only consists of two questions, with factor loadings of 0.857 and -0.578 respectively. The concept measured is clearly related to the **preference to being perceived as top dog or underdog.** The negative factor loading of the last mentioned questions indicated that respondents who have a preference for one would not prefer to be perceived as the other.

4.6. Results of analysis of the reliability analysis of the assessment of success and failure questionnaire

Cronbach's Alpha was used to analyse the reliability of the questionnaire. The results are presented in Table 30.

Table 30: Reliability analysis - item-total statistics

ALPHA = 0.497

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
When I fail I struggle to get back and it feels as if I lost my appetite for sport	52.6234	50.764	-.020	.515
Success breeds success for me	54.7143	47.786	.257	.470
If I fail, it motivates me to work harder	54.5974	47.454	.234	.471
I identify myself with the statement 'when the going gets tough, the tough gets going'	54.5974	47.612	.156	.483
Success motivates me to perform, but can be dangerous when it goes to your head	55.0260	46.684	.387	.453
I am sometimes scared to be too successful	53.0130	43.697	.293	.450
I experience pressure to defend myself when I do well	53.8442	43.844	.413	.432
Success motivates me, but I put it behind myself to keep my eyes on my goal	54.8442	49.133	.188	.482
I feel depressed if I experience failure and disappointment in my sport	53.4675	46.910	.212	.473

Table 30: (continued)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I'll rather be the 'top dog' than the 'underdog'	53.8831	52.131	-.119	.547
I recover quickly after a disappointing performance	54.3636	50.234	.065	.497
Failure or disappointment has never been a real obstacle for me. I see it as a challenge and learning experience	54.3636	52.629	-.127	.527
Success sometimes deviates me from my goals	53.3506	48.468	.129	.488
When I lose I am very upset	53.5325	45.884	.270	.461
When I have won I feel that I can take it easier	53.1169	47.473	.147	.486
I love to be the underdog	52.7532	49.004	-.015	.535
I do my very best although I know I can win easily	54.6623	47.174	.220	.472
When I have failed, in a competition, I can't wait to show people that I still have it	54.8052	45.054	.431	.439
Success boosts my self-confidence	55.1429	49.124	.214	.479
When I have failed it feels as if all my hard work was for nothing	52.8442	48.344	.077	.502

The results in Table 30 indicate that the reliability of the questionnaire is fairly low with a Cronbach's Alpha value of 0.497. In the Social Sciences, the norm is around 0.80 to indicate a measurement that measures fairly consistently. It thus seems that the questions in the questionnaire do not measure the dimensions of positive and negative failure and success consistently. Questions that seem to have a negative impact on the reliability of the questionnaire, since Cronbach's Alpha increases slightly with their exclusion, include the following: "When I fail I struggle to get back and it feels as if I lost my appetite for sport". "I'll rather be the 'top dog' than the 'underdog'". "Failure or disappointment has never been

a real obstacle for me". “I see it as a challenge and learning experience”. “I love to be the underdog”. “When I have failed, it feels as if all my hard work was for nothing”.

4.7. Summary of results

In this chapter, the findings of the study were first presented and then interpreted. Athletes on different levels of participation from a wide variety of sport codes were used to fill out questionnaires.

The questionnaires included in the survey focused on the following dimensions: Ego and Task orientation, Positive and Negative Success and Failure and the Growth mindset versus the Fixed mindset. Respondents’ responses to the statements relating to these dimensions can be summarized as follows.

Respondents were divided in their opinions regarding ego orientation statements. A third either agreed or disagreed with these statements. Almost half disagreed that others mess up and they do not, while another 43.8% agreed they score the most points. Very few indicated that they are the best, while 21.3% disagreed with this statement. Respondents were far more decisive in their opinions regarding task orientation and the majority agreed with all the statements relating to this dimension. Most agreed with statements that indicated the enjoyment of learning new skills and working hard at them.

Very few respondents agreed with statements of negative failure whereas, almost half disagreed with statements reflecting this dimension. Respondents thus seemed to disagree that failure discouraged them in their sport. Most respondents agreed with statements of positive failure except for one statement. Half of the respondents disagreed that that they love to be the underdog. It thus seems that failure tends to motivate them to perform better. Respondents were less consistent in answering statements regarding negative success. The majority agreed that success motivates them to perform but can be dangerous if it goes to your head. Almost half agreed that they experience pressure to defend themselves when they do well. Most respondents agreed with statements of positive success. It thus seems that success serves as motivator in their sport and the majority agreed that it boosts their self-

confidence. However, fewer respondents agreed with the statement "I'll rather be the top dog than the underdog."

The majority of respondents agreed with statements regarding the growth mindset. Most thus agreed that putting effort into practicing skills can improve participation in sport. Respondents tended to disagree with statements reflecting the fixed mindset. They did not agree that practice cannot improve participation in sport. They were, however, more divided in their opinion regarding the statement that to be good in sport, you need to be naturally gifted.

Results of the correlation analysis indicated that there is a strong positive correlation between task orientation and positive failure. Higher scores on the one dimension reflect higher scores on the other. Moderate positive correlations were found between positive failure and the growth mindset and positive success and the growth mindset. Slightly weaker positive correlations were found between task orientation and positive success and ego and task orientation. Only one negative correlation was found between negative and positive failure, even though the correlation was not strong.

The results of the analysis of variance indicated that on the dimensions as a whole only one statistically significant difference was found between respondents participating at different levels. Respondents at different participation levels differed significantly on positive failure. Respondents who participated at primary- and secondary school and junior- and senior provincial levels had significantly higher positive failure scores than those competing at national and international level. Analysis of the individual questions indicated the following: Respondents at school and provincial level were less likely to agree that they can do better than their friends and that they learn a new skill by trying hard. Respondents participating at school level were far less likely to agree that when they learn a new skill it feels right. Respondents who participate at international and school level were more likely to agree that success boosts their confidence. No statistically significant differences were found on any of the statements relating to the growth mindset or the fixed mindset.

Results of the analysis of the underlying structure of the assessment of success and failure questionnaire indicated that four factors could be extracted. Based on the content of the

statements included in each factor the following four factors could be identified: ***success as motivator for performance, discouragement as result of failure, emotive issues experienced during participation and wanting to be the top dog.*** Results on the reliability analysis of this questionnaire, however, indicated that it does not really measure these factors consistently with a fairly low Cronbach Alpha of 0.497.

The study will be concluded in the following chapter with conclusions and recommendations based upon the results presented in this chapter.

Chapter 5

Discussion and conclusion

5.1. Introduction

This chapter provides the discussion and the conclusion for the study, outlines the limitations, describes ongoing research and suggests recommendations for future research.

5.2. Discussion

The present study was conducted as mentioned in the title by 80 sport people with the aim of examining their goal orientation, entity mindset and coping with success and failure. Their ages ranged between 18 and 27 years, with the majority being between the ages of 19 and 21. The sample was split almost equally, with 41 females and 39 males. Most of the respondents had been competing in sport for between 10 and 14 years. The sample consisted of 20 respondents who competed at international-, national-, provincial- and school levels respectively.

The questionnaires included in the survey focused on the dimensions of ego and task orientation, positive and negative success and failure and a growth mindset versus a fixed mindset. Respondents' responses to the statements relating to these dimensions are summarised below.

5.2.1. Hypothesis 1: Most athletes react positively to success and failure.

According to the results of the present study, hypothesis 1 can be accepted as there was evidence that the majority of respondents experience success and failure as positive.

Most respondents agreed with all but one statement regarding positive failure. The results show that 76.3% of the respondents agreed that when they had failed, they could not wait to show people that they still had the ability to succeed. Seventy percent could identify themselves with the statement "When the going gets tough, the tough gets going". Sixty seven and a half percent and sixty two and a half percent respectively agreed that if they fail,

it motivates them to work harder and that failure or disappointment had never been real obstacles to them. Half of the sample group (55.7%) agreed that they recover quickly after a disappointing performance. Almost half (45%) disagreed that if they fail, they struggle to recover and it feels as if they have lost their appetite for their sport. Forty percent of the participants disagreed with the statement that when they had failed, it feels as if their hard work had been in vain.

The results of positive failure in this study were support those of Podlog's (2002) research. In their study they have found that athletes assess success and failure based on whether they reach their potential or not. Athletes defined failure as giving up on a goal or giving up before a serious attempt to achieve it has been made and not solely as not winning or failing to reach goals. During Podlog's research one of the respondents stated that although she did not reach her main goal, she still felt that she had succeeded, because she had trained hard and put in maximal effort during training and in the competition (Podlog, 2002).

Students in a study group, showed a positive reaction to a failed experience. After failure they did not blame anything, not even themselves; they did not even see themselves as having failed (Diener & Dweck, 1978). This strengthens the present study research that athletes do react positive to failure.

An athlete who has a successful history, but is defeated will use an unstable cause to explain the situation such as "I just didn't try hard enough this time" (Cratty & Pigott, 1984). With this statement "I just didn't try hard enough this time" shows that the athlete has a reason why he or she did not perform as usual. This is constructive positive reaction after failure and therefore strengthens the present study. Lane *et al.* (2002) reported that the participants with high self-esteem still maintained very positive thoughts about themselves even though they failed.

The very strong correlation of task orientation with positive reaction to failure is really encouraging and is fully in alignment with the total body of knowledge of goal orientation (Duda, 1993, Ommundsen & Roberts, 1996).

In this present study there was not a significant difference between positive and negative failure, but the respondents replied that most failure situations do not influence their performance.

Respondents did not show a strong support of to negative success, although 80% of the respondents strongly agreed that success motivates them to perform but can be dangerous when it goes to one's head. Almost half (43%) agreed that they experience pressure to defend themselves when they do well. A third (37.5%) disagreed that they are sometimes too scared to be successful. Respondents were divided in their opinion on the statement that success sometimes distracts them from their goals, with a fifth either agreeing (20%) or disagreeing (22.5%) with this statement.

Most respondents in the present study agreed with positive success statements. The majority (87.5%) agreed that success boosts their self-confidence. The majority also agreed that success breeds success (69.9%), that success motivates them but they keep their eyes on their goals (76.3%) and that they do their very best, even if they know they can win easily (66.3%). Very few if any of the respondents disagreed with these statements, except for the statement, "I'd rather be the top dog than the underdog". Forty-five percent agreed, while 16.3% disagreed with this statement.

Weiner and Kukla (1970) found that men with high achievement motivation tend to ascribe their success to their high ability as well as their effort, but perceive failure as due to lack of effort. Weiner and Kukla's research supports the present study, for the reason that in both studies it was found that effort plays an important role leading up to success.

Many athletes have reported that when they thought of nothing but their performance, they excelled. Therefore, they were using all the energy that they had built up to complete their task successfully (Zaichkowsky & Sime, 1982). This adds credibility to the present study that success motivates athletes but they still keep their eyes on their goals.

Although literature is limited for this present study, it had a fairly strong support substance with other research and steered the study in the right direction. This gives opportunity for further research on the title of the present study.

Hypothesis 1 can therefore be accepted due to the strong correlations between the present study and previous studies on success and failure. The strong correlation of positive success and positive failure strengthens hypothesis 1 even more.

5.2.2. Hypothesis 2: Elite athletes are prone to utilise success and failure as facilitating, in comparison with novice or beginner athletes who may perceive success and failure as debilitating.

According to the results that were found, hypothesis 2 could not be fully supported and therefore, a surprise rejection to the study. This was a surprise to study due to the fact that one assumes that elite athletes will use success as facilitating and not as debilitating factor. There are no statistically significant differences in the opinions of respondents at the different levels of participation with regard to positive and negative failure.

The results of the analysis of variance indicated that in the dimensions as a whole only one statistically significant difference was found between respondents participating at different levels and positive and negative success. Respondents who participated at school and provincial levels had significantly higher positive failure scores than those competing at national and international level.

Respondents who participate at international and school level were more likely to agree that success boosts their confidence.

Although there is limited research on this hypothesis, one can presume that self-esteem may play a role in the outcome of these results.

Lane *et al.* (2002) reported that athletes with high self-esteem would have more positive thoughts about themselves after they had failed. Therefore, the primary positive focus is on

the goal ahead, while athletes with low self-esteem will doubt the positive thoughts they have of themselves.

Athletes who have low self-esteem have coping strategies that are not useful and therefore negativity leads their thoughts. Although self-efficacy is derived from a source that is based on performance, it is proposed that self-esteem moderates the memory of performance accomplishments failure (Lane *et al*., 2002).

Sonstroem and Morgan (1989) discovered that if one experiences positive feelings of capability and self-esteem, it could contribute in an enhancing of success in competitive situations, as long as this behaviour can be maintained.

One can state that the reason why elite athletes do not use success and failure as facilitating and this hypothesis was not accepted, in view of due to today's high level and competitive sporting lifestyles, is that there is no room for errors. Therefore, athletes are constantly under enormous pressure to perform well and could see both success and failure as debilitators and not as facilitators.

Analysis of the individual questions indicated that this can also be attributed to the fact that experience is not necessarily a requirement for the handling of failure. To learn how to handle success and failure is a long-term goal that costs money and takes lots of time.

Respondents at school and provincial level were less likely to agree that they can do better than their friends and that they learn a new skill by trying hard. This could be ascribed to the fact that younger or beginner athletes have a tendency to feel that they have a lot more to improve and to develop in the sport in which they participate.

5.2.3. Hypothesis 3: Task orientated athletes are prone to react positively of success and failure and ego orientated athletes are prone only to react positively on success.

Hypothesis 3 can be accepted because a strong relationship between task orientation and positive failure was confirmed. Vlachopoulos and Biddle (1996) accentuate that task-orientated athletes experience success when they compare themselves with their previous performance and find that they have improved. An interesting finding in the research of Harwood (2005) was that task orientated athletes experience a positive correlation with

enjoyment and satisfaction when competing in sport. In total contrast, ego orientated athletes reported a negative relationship with enjoyment and satisfaction (Harwood, 2005).

Task orientated athletes review the experience and see how they have improved rather than letting success go to their heads. Ego orientated athletes are only worried about how good they are compared to others and consequently about the result (Harwood, 2005).

Results of the present study support those of a strong positive correlation (r = 0.504) between task orientation and positive failure was found above. Although there was a slightly weaker but still moderate positive correlation (r = 0.332) between task orientation and positive success, it supports the literature. Ego orientation and negative success showed a weak correlation (r = 0.295) which strengths the hypothesis.

To excel in sport athletes, coaches and parents should put more emphasis on developing a task orientated approach in their sport. If task orientation can over shadow the ego orientation, a constructive goal orientation is established that may lead to constructive psychological benefits as emphasized in the literature study.

5.2.4. Hypothesis 4: The fixed mindset relates negatively to positive reaction to success and failure, and the growth mindset relates positively to success and failure.

This hypothesis was partially accepted on the grounds to the results indicating that the growth mindset participants handled success and failure more superior than fixed mindset participants.

Moderate, positive correlations were found between positive failure and the growth mindset and positive success and the growth mindset, which showed a statistically significant 1% level of significance. The majority of respondents agreed (between 83, 3% and 91%) with statements on the growth mindset inventory. Most thus agreed that putting effort into practising skills can improve performance in sport. The incremental theory was in direct contrast with the entity theory, where individuals believe that they could grow and constantly develop their abilities. They believe that they could improve their talents and abilities

through learning and practising (Dweck, 2005). The correlation of the growth mindset with positive failure was expected and fits into the paradigm of the growth mindset as developed by Dweck (2000, 2005).

Respondents in the present study tended to disagree with statements reflecting a fixed mindset. Therefore, individuals who fall within the parameters of the fixed mindset statement believe that they have a certain ability or talent. Dweck (2005) found that the fixed mindset respondents constantly try to hide their shortcomings or tend to highlight their capabilities. The fact that fixed mindset respondents did not agree that practice can improve performance in sport, simply proves that fixed individuals believe that they have a fixed talent that cannot be developed further by training harder or making a greater effort. They were, however, more divided in their opinion regarding the statement that to be good in sport, one needs to be naturally gifted: 21, 3% agreed and 18% disagreed with this statement. This statement shows that weaknesses can emphasise lack of ability without allowing the freedom to present the cure for the weaknesses (Dweck, 2005).

The literature of Dweck (2005) also supports the results that were found during the present research. It demonstrates that the growth mindset individuals believe that working hard on a skill can improve one's ability. As were the fixed mindset supports that one only has a certain amount of talent and no harder work can improve it. Coaches, parents and athletes should motivate the growth mindset for optimal performance.

5.2.5. Hypothesis 5: Task orientated athletes relate positively to the growth mindset and ego orientated athletes relate positively to the fixed mindset.

Hypothesis 5 was in close association with the present study and can therefore be partially accepted. There is a weak positive relationship between task orientation and the growth mindset ($r = 0.243$) on a 5% significant level.

Moderate positive correlations were found between positive failure and the growth mindset and positive success and the growth mindset. As mentioned previously the majority of respondents agreed (between 83, 3% and 91%) with statements on the growth mindset. Most

thus agreed that putting effort into practicing skills can improve participation in sport. Growth mindset individuals believe that they can grow and constantly develop their abilities. Task orientated respondents most agreed with the following statements that correlate with the growth mindset. This correlates with Dweck's (2005) literature that when a growth mindset individual learn a new skill they want to practice it, they learn something that is fun to do, they learn new skills by trying hard, they work really hard, something they learn makes them want to practice more, skills they learn really feel right and they do their very best. They believe that they can improve their talents and abilities through learning and practicing (Dweck, 2005).

Through these two results above as well as the literature that was done for this study, one can recognise that there was a significant relationship between task orientation and the growth mindset. In the results of the present study, respondents were far more decisive in their opinions on task orientation and the majority by far agreed with all the statements relating to this dimension. Most agreed with statements that indicated enjoyment of learning new skills and working hard at them. Both these statements relate success to hard work, learning and improved participating in sport. Therefore, these statements strengthen and contribute to the partial acceptance of hypothesis 5.

Although there was not a clear relationship found between ego orientation and the fixed mindset, the literature that was found for the present study could strengthen the present hypotheses. In the present study the fixed mindset respondents did not agree that practice cannot improve participation in sport just proclaim that fixed mindset individuals believe that they have a fixed talent that cannot be further developed further by training harder or making a greater effort. They were, however, more divided in their opinion regarding the statement that to be good in sport, one needs to be naturally gifted: 21, 3% agreed and 18% disagreed. A third (27, 5%) of the ego orientation respondents agreed others could not do as well as themselves. Only 6% of the ego orientation respondents strongly agreed to the fact that they are the best, which could be correlated to the statements agreed in the fixed mindset. These results mentioned above shows the only partially relationship between the fixed mindset and ego orientation.

According to the fixed mindset, an individual has a fixed talent. This statement shows that weaknesses could emphasis the lack of ability without allowing athletes the freedom to accept the cure for their weaknesses (Dweck, 2005). Ego orientated and the fixed mindset athletes in present study were the direct opposite of task orientated and the growth mindset athletes. Both the ego orientated and the fixed mindset participants believed that they have limited abilities and talent. They regard beating others or demonstrating their superior ability through minimal effort as success.

Hypothesis 5 was supported by limited literature on the present research. There was a small relationship found between task orientation and growth mindset as well as ego orientation and fixed mindset which contributed to the partially acceptance of hypothesis 5.

The essential contribution of this study is to underline and accentuate the important role that task orientation combined with growth mindset can play in justifying the strict and sometimes adverse realities of failure and disappointment in sport.

5.3. Future recommendations

Future recommendations include: develop an intervention program for athletes to determine what their exact goal orientation and attribution is and to determine which orientation helps them to perform on an optimum level; develop a refined practical guidelines for the goal orientation and attribution intervention program, standardsize this intervention program so that it could be used by academic performances, as well as performance arts. Finally, to get better results standardize the reaction to success and failure questionnaire.

5.4. Limitations

The present study had limitations in the sense of a lack of literature. When the study was taken on by the researcher there was not a lot of research done in this field and therefore seen as a one of the limitations for the present study. The self-developed questionnaire could be more standardized in the future to get more accurate results. The sample group could have been bigger but there were a limited amount of elite athletes that were available for the study.

5.5. Conclusion

The researcher would like to end the study by rephrasing Kipling statement as quoted by Covey (1994)," To see success and failure both as imposters" to "To see success and failure as facilitators and not debilitators that can both contribute to success."

Based on the discussion, various conclusions can be drawn. Firstly, ego orientated athletes are more prone to show off their abilities through beating their competitors. Task orientated athletes are more prone to concentrate on their own abilities, complete the task successfully and improve personal growth. Therefore, there is great motivation that an athlete should strive to be more task orientated and not ego orientated.

Secondly, athletes with the growth mindset believed that they could improve their abilities by working and training hard, but those with a fixed mindset were convinced that their talents or abilities were unchanging and could not improve through training or hard work. It also seems that there could be a correlation between task orientation and the incremental theory, as well as ego orientation and the entity theory.

Results strongly suggest that respondents should use failure positively rather than negatively. Especially task orientated athletes see failure as a motivator and not a debilitator. They also believe that success could be negative because it gives one a swollen head and takes the attention away from the goal ahead. Most athletes feel that they want to be the underdog, because they feel that the spotlight is not on them, but rather on the top dog. It is important that the development of a body of knowledge on how athletes cope and react to success and failure is crucial for maintaining optimal motivation and fully developing an athlete's potential.

An interesting occurrence was found in the study. Respondents who participated at school and provincial levels had significantly higher positive failure scores than those competing at national and international level. The results were unexpected, but it could be due to the fact that there is zero tolerance for mistakes on elite levels of competitive sport.

It is important to keep in mind the value of the theories and literature when writing an intervention program on goal orientation and the attributes of athletes. This is important due

to the fact that the person who develops the intervention program should know the differences between the different goal orientations as well as the different attributes of athletes. This study has shown that there is an opportunity to write an intervention program on goal orientation and the attributes of athletes. The results lastly show that research is moving in the right direction and there consists a potential to develop a goal orientation and attribution intervention program. This research topic is still unanswered and the key to real success still lies out there and therefore, this research topic still needs intensive research.

References

Anshel, M.H., Kim, K., Kim, B., Chang, K. & Eom, H. (2001). A model for coping with stressful events in sport: theory, application, and future directions. *International Journal of Sport Psychology*, 32: 43-75

Baric, R. & Horgas, S. (2006). Psychometric properties of the Croatian version of task and ego orientation questionnaire (CTEOSQ). *Kinesiology,* 38(2): 135.

Balageur, I., Castillo, J., Alvarez, M.S. & Duda, J.L. (2005). Importance of social context in the prediction of self-determination and well being in athletes of different levels. *Paper presented at the 9th European congress of psychology. Granada: Spain.*

Biddle, S.J.H., Wang, C.K.J, Chattzisaraitis, N.L.D. & Spray, C.M. (2003). Motivation for physical activity in young people: Entity and incremental beliefs about athletic ability. *Journal of Sport Science,* 21(12): 973-989.

Burton, D. & Naylor, S. (2002). The Jekyll/Hyde nature of goals: Revisiting and updating goal-setting in sport. In T. Horn (Ed.), *Advances in Sport Psychology (2nd Edition)* (37-67). New York: Human Kinetics.

Burton, D., Naylor, S. & Holiday, B. (2001). Goal-setting in sport investigating the goal effectiveness paradox. In R.N. Singer; H.A. Hausenblas & C.M. Janelle. (Eds.), *Handbook of Sport Psychology* (497-528). New York: John Wiley & Son.

Butt, D.S. (1987). *Psychology of sport: The behaviour, motivation and performance of athletes (2nd Edition).* New York: Van Nostrand Reinhold Company.

Cockerill, I.M. (2002). *Solutions in sport psychology.* London: Thomson.

Compas, B.E. (1987). Coping with stress during childhood and adolescence. *Psychological Bulletin,* 101(3): 393-403.

Conroy, D.E. (2001). Progress in the development of a multidimensional measure of fear of failure: The performance failure appraisal inventory (PFAI). *Anxiety, Stress and Coping Journal,* 14(4): 311.

Conroy, D.E., Poczwardowski, A. & Henschmen, K.P. (2001). Evaluative criteria and consequences associated with failure and success for athletes and performing artists. *Journal of Applied Sport Psychology,* 13: 300-322.

Conroy, D.E. (2002). Coping responses to failure and success among elite athletes and performing artists. *Journal of Applied Psychology,* 14(4): 313-329.

Coopersmith, S. (1967). The antecedents of selfesteem. San Francisco: Freeman

Cox, R.H. (2002). *Sport psychology: concepts and application (5th Edition).* New York: Mcgraw-Hill.

Cratty, B.J. & Pigott, R.E. (1984). *Student projects in sport psychology.* New York: Mouvement Publications.

Curtis, J.D. (1991). *The mindset for winning.* New York: Coulee Press.

Diener, C.I. & Dweck, C.S. (1978). An Analysis of learned helpless: Continuous changes in performance, strategy and achievement cognitions following failure. *Journal of Personality and Social Psychology,* 36(5): 451-462.

Duda, J.L. (1987). Toward a development theory of children's motivation in sport. *Journal of Sport Psychology,* 9(2): 130-145.

Duda, J.L. (1989). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport and Exercise Psychology,* 11(3): 318-335.

Duda, J.L. (1993). Goals: a social cognitive approach to the study of achievement motivation in sport. In R.N. Singer; M. Murphey & L.K. Tennant (Eds.) *Handbook of Research on Sport Psychology* (421-436). New York: MacMillan.

Duda, J. L., & Nicholls, J. G. (1992). Dimensions of goal achievement motivation in schoolwork and sport. *Journal of Educational Psychology,* 84, 290-299.

Duda, J.L. & Treasure, D.C. (2001). Toward optimal motivation in sport: Fostering athletes' competence and sense of control. In J. Williams (Ed.), *Applied sport psychology. (4th Edition).* Mountain View. CA: Mayfield Press. 43-62.

Duda, J.L, Ballageur, I., Castillo, J. & Alvarez, M.S. (2005). Importance of social context in the prediction of self-determination and well being in athletes of different levels. *9th European Congress of Psychology. Granada: Spain.*

Dunn, R. (2000). Learning styles: Theory, research and practice. *National Forum of Applied Education Research Journal,* 13(1): 3-22.

Dweck, C.S. (2000). *Self-theories: Their role in motivation, personality, and development.* Philadelphia, PA: Taylor and Francis.

Dweck, C.S. (2005). Motivational process affecting learning. *American Psychologist,* 41: 1040-1048.

Edwards, D.J. & Steyn, B.J.M. (2008). Sport psychological skills training and psychological well-being. *South African Journal of Research in Sport, Physical Education and Recreation,* 30(1): 15-28.

Endler, N. S., & Parker, J. D. A. (1990). "Multidimensional Assessment of Coping: A Critical Evaluation." *Journal of Personality and Social Psychology*, 58(5), 844-854.

Ferreira, M., Mouton, J., Puth, G., Schurink, E. & Schunrink, W. (1988). *Inleiding tot kwalitatiewe metodes, module 3.* Pretoria: Raad vir Geesteswetenskaplike Navorsing.

Folkman, S. & Lazarus, R.S. (1985). If it changes it must be a process: A study of emotions and coping during three stages of a college examination. *Journal of Personality and Social Psychology,* 48: 150-170.

Fourie, K.D. (1992). *Success in sport and personal growth of delinquent boys committed to schools of industry.* Stellenbosch: University of Stellenbosch.

Fry, M.D. & Fry, A.C. (1999). Goal perspectives and motivational responses of elite junior weightlifters. *Journal of Strength and Conditioning Research,* 13(4): 311-317.

Gauron, E.F. (1984). *Mental training for peak performance.* New York: Sport Science Association.

Georgiadis, M.M., Biddle, S.J.H. & Chatzisarantis, N.L.D. (2001). The mediating role of self-determination in relationship between goal orientations and physical self-worth in Greek exercises. *European Journal of Sport Science*, 1: 1-8.

Hair, J.F., Tatham, R.L., Anderson, R.E.D. & Black,W. (1998). *Multivariate data analysis (5th Edition).* London: Prentice-Hall International, Inc.

Harwood, D.C. (2005). Goals: More than just the score. In S. Murphy (Ed.), *The Sport Psych Handbook* (19-36). New York: Human Kinetics.

Howell, D.C. (1992). *Statistical methods for psychology (3rd Edition).* Belmont: Duxbury Press.

Kinnear, T.C. & Taylor, J.R. (1996). *Marketing research: An applied approach.* New York: McGraw-Hill.

Kukla, A. (1972). Attributional determinants of achievement-related behaviour. *Journal of Personality and Social Psychology,* 21: 166-174.

Lane, A.M., Jones, L. & Stevens, M.J. (2002). Coping with failure: the effects of self-esteem and coping on changes in self-efficacy. *Journal of Sport Behaviour,* 25(4): 23-41.

Lazarus, R.E. (2000). Toward better research on stress and coping. *American Psychologist,* 556: 665-673.

Marshall, C. & Ross, G.B. (1995). *Designing qualitative research (2nd edition).* California: Sage.

Mueller, C.M. & Dweck, C.S. (1998). Intelligence praise can undermine motivation and performance. *Journal of Personality and Social Psychology,* 75: 33-52.

Nicholls, J.G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice and performance. *Psychological Review,* 91: 328-346.

Nicholls, J.G. (1989). *The competitive ethos and democratic education.* Cambridge, MA: Harvard University Press.

Ntoumis, V. & Biddle, S.J.H. (1998). The relationship of coping and its perceived effectiveness to positive and negative affect in sport. *Personality and Individual Differences,* 24(6): 773-788.

Ommundsen, Y. (2001a). Pupils' affective responses in physical education classes: The association of implict theories of the nature of ability and achievement goal. *European Physical Education,* 7: 219-242.

Ommundsen, Y. (2001b). Self-handicapping strategies in physical education classes: the influence of implicit theories or the nature of ability and achievement goal orientations. *Psychology of Sport and Exercise,* 2: 139-156.

Ommundsen, Y. & Roberts, G.C. (1996). Goal orientations and cognitive and effective correlates among team and athletes. *Scandinavian Journal of Sports Medicine,* 6: 45-46.

Podlog, L. (2002). Perceptions of success and failure among university athletes in Canada. *Journal of Sport Behaviour,* 25(4): 368-393.

Potgieter, J.R. (2006). *Sportsielkunde: Teorie en Praktyk.* Instituut vir Sportwetenskap, Stellenbosch: Universiteit van Stellenbosch.

Ravizza, K. (1984). Qualities of the peak experience. In J.M. Silva & R.S. Weinberg (Eds), *Psychological Foundations of Sport* (452-461). New York: Human Kinetics.

Roberts, G.C. (2001). *Advances in motivation in sport and exercise.* New York: Human Kinetics.

Rosnow, R.L. & Rosenthal, R. (1996). *Beginning behavioural research: A conceptual primer.* New Jersey: Prentice Hall.

Sarrazin, P., Cury, F. & Roberts, G. (1999). Exerted effort in climbing as a function of achievement goals, perceived ability, and task difficulty. *Psychology of Sport and Exercise: Enhancing the quality of life. Proceedings of the 10th European Congress of Sport Psychology – FEPSAC Part 2.*

Singer, R.N, Murphey, M. & Tennant, L.K. (1993). *Handbook of research on sport psychology.* New York: Macmillan Publications.

Singer,R.N., Hausenblas, H.A. & Janelle, C.M. (2001). *Handbook of sport psychology (2nd Edition).* New York: John Wiley & Son.

Sonstroem, R.J. & Morgan, W.P. (1989). Exercise and self-esteem: Rationale and model. *Medicine and Science in Sports and Exercise,* 21: 329-337.

Sonstroem, R.J. (1997). The physical self-system: A mediator of exercise and self-esteem. In K.R. Fox (Ed), The *physical self: from motivation to well being* (3-26). Champaign, IL: Human Kinetics.

Steenkamp, M.J. & Steyn, B.J.M. (2002). Sosiale klimaat en die ontstaan van ego- en taakoriëntering in sport. *Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning,* 24(2): 79-91.

Steyn, B.J.M. (2001a). Sport psychological considerations in children. *The SA Journal of CPD- Continuing Medical Education Journal,* 19(1): 11-16.

Steyn, B.J.M.(2001b). *Mental toughness.* Unpubished official practical manual for the ADT Security Services.

Steyn, B.J.M (2003): Goal orientation and the athletic triangle between the participant, coach and parent. *The II International Congress in Applied Psychology. Madrid: Spain. (2003 / 11 / 12-15).*

Steyn, B.J.M. (2008). Critical perceptions for optimal performance in sport. *The SA Journal of CPD Continuing Medical Education Journal,* 26(7): 328-330.

Steyn, B.J.M., Steenkamp, A.S. & Viviers, F.L. (1997). Ego and task orientation and the ethical problems of high school sport in South Africa. *South African Journal for Research in Sport, Physical Education and Recreation,* 20(1): 55-64.

Tabachnick, B.G. & Fidell, L.S. (1996). *Using multivariate statistics (3rd Edition).* Northridge: Harper Collins College Publishers.

Takenouchi, T; Taguchi, T. & Okuda, A. (2004). Relationship of sports experience and ego development of adolescent Japanese athletes. *Psychological Reports,* 95: 13-26.

Todorovich, J.R., Wirth, C.K., Zhang, J.J., Tilman, M.D. & Fleming, D.S. (2004). Measuring student compliance in elementary physical education. *Teaching Elementary Physical Education,* 15(4): 38-40.

Todorovich, J.R., Model, E.D., Wirth, C.K. & Stopka, C.B. (2005). I'm going to let my students do what?! Addressing safety in task involved setting. *Teaching Elementary Physical Education,* 16(1): 22-26.

Tulloch, S. (1992). The reader's digest Oxford complete word finder. The Reader's Digest Association Limited.

Vlachopoulos, S. & Biddle, S.J.H. (1996). Achievement goal orientations and intrinsic motivation in a track and field event in school physical education. *European Physical Education Review,* 2(2): 158-164.

Vlachopoulos, S., Biddle, S.J.H. & Fox, K.R. (1997). Determinants of emotion in children's physical activity: A test of goal perspectives and attribution theories. *Journal of Paediatric Exercise Science,* 9(1): 65-79.

Walling, M.D. & Duda, J.L. (2003). Motivating kids: balancing learning, fun and ego. *Performance Edge: The Letter of Performance Psychology,* 4(6): 1-10.

Wann, D.L. (1997). *Sport psychology.* London: Prentice Hall.

Wang, C.K. & Biddle, S.J.H. (2003). Intrinsic motivation towards sports in Singaporean students: The role of sport ability beliefs. *Journal of Health Psychology,* 8: 515-523.

Weinberg, R.S. & Gould, D. (2003). *Foundations of sport and exercise psychology. (3rd Edition).* New York: Human Kinetics.

Weinberg, R.S. & Gould, D. (2010). *Foundations of sport and exercise psychology. (5th Edition).* New York: Human Kinetics.

Weiner, B. & Kukla, A. (1970). An attributional theory analysis of achievement motivation. *Journal of Personality and Social Psychology,* 15: 1-20.

White, S.A. (1998). Adolescent goal profiles, perceptions of the parent-initiated motivational climate, and competitive trait anxiety. *The Sport Psychologist,* 12: 16-18.

Williams, W.J. (2006). *Applied sport psychology: Personal growth to peak performance.* New York: McGraw-Hill.

Xiang, P. & Lee, A. (1998). The development of self-perceptions of ability and achievement goals and their relations in physical education. In T.S. Horn (Ed.), *Advances in Sport Psychology (2nd Edition)* (157-186). New York: Human Kinetics.

Yoo, J. (2001). Coping profile of Korean competitive athletes. *International Journal in Sport Psychology,* 32: 290-303.

Zaichkowsky, L.D. & Sime, W.E. (1982). *Stress management for sport. American Alliance for health Physical Education Recreation and Dance.* Reston, VA: AAHPERD Press.

Zaichkowsky, L.D. & Baltzell, A. (2001). Arousal and performance. In R.N. Singer, H.A. Hausenblaus & C.W. Janelle (Eds.), *Handbook of Sport Psychology (2nd Edition)* (319-339). New York: John Wiley & Son.

Appendix A

Biographical Information

SECTION A: DEMOGRAPHIC INFORMATION

Please indicate making an "x" where applicable.

1. What is your age?

	Years

2. Gender:

F	**M**

3. How long have you been competing in sport?

	Years

4. At what level do you compete?

International		**National**		**Provincial**		**School**	

Appendix B

Task- and Ego –Orientation in Sport Questionnaire

Task and Ego Orientation in Sport Questionnaire

Use the 5 point scale to rate the statements below. Where "1" is "Strongly Disagree" and "5" will be "Strongly Agree."

I feel most successful in sport when ……	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
B1. I'm the only one who can do the play or skill.	1	2	3	4	5
B2. I learn a new skill and it makes me want to practice more.	1	2	3	4	5
B3. I can do better than my friends.	1	2	3	4	5
B4. The other can't do as well as me.	1	2	3	4	5
B5. I learn something that is fun to do.	1	2	3	4	5
B6. Others mess-up and I don't	1	2	3	4	5
B7. I learn a new skill by trying hard.	1	2	3	4	5
B8. I work really hard.	1	2	3	4	5
B9. I score the most points/goals/hits, etc.	1	2	3	4	5
B10. Something I learn makes me want to go and practice more.	1	2	3	4	5
B11. I'm the best.	1	2	3	4	5
B12. A skill I learn really feels right.	1	2	3	4	5
B13. I do my very best.	1	2	3	4	5

Appendix C

Assessment of Success and Failure Questionnaire

Assessment of Success and Failure Questionnaire (Present researcher)

Use the 5 point scale to rate the statements below. Where "1" is "Strongly Disagree" and "5" will be "Strongly Agree."

Choose how you usually feel during a competition ...	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
C1. When I fail I struggle to get back and it feels as if I lost my appetite for my sport.	1	2	3	4	5
C2. Success breeds success for me.	1	2	3	4	5
C3. If I fail it motivates me to work harder.	1	2	3	4	5
C4. I identify myself with the statement "when the going gets tuff the tuff gets going!"	1	2	3	4	5
C5. Success motivates me to perform but can be dangerous when it goes to your head.	1	2	3	4	5
C6. I am sometimes scared to achieve too much success.	1	2	3	4	5
C7. I experience pressure to defend myself when I do well.	1	2	3	4	5
C8. Success motivates me, but I put it behind myself to keep my eyes on my goals.	1	2	3	4	5
C9. I feel depressed if I experience failure and disappointment in my sport.	1	2	3	4	5
C10. I 'll rather be the "top dog" than the "under dog!"	1	2	3	4	5
C11. I recover quickly after a disappointing performance.	1	2	3	4	5
C12. Failure or disappointment has never been a real obstacle for me. I see it as a challenge and learning experience.	1	2	3	4	5

C13. Success sometimes deviates me from my goals.	1	2	3	4	5
C14. When I lose I am very upset.	1	2	3	4	5
C15. When I have won I feel that I can take it easier.	1	2	3	4	5
C16. I love to be the underdog!	1	2	3	4	5
C17. I do my very best although I know I can win easily.	1	2	3	4	5
C18. When I have failed in a competition, I can't wait to show people that I still got it.	1	2	3	4	5
C19. Success boosts my self-confidence.	1	2	3	4	5
C20. When I have failed it feels if all my hard work was for free.	1	2	3	4	5

Appendix D

Self – Theories Questionnaire

Self- theory Questionnaire (Dweck, 2000: 177)

Use the 5 point scale to rate the statements below. Where "1" is "Strongly Disagree" and "5" will be "Strongly Agree."

How important is the following statements……	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
How do you feel about…					
1. You have a certain level of ability in sport and you cannot really do much to change that level	1	2	3	4	5
2. Even if you try, the level you reach in sport will change very little	1	2	3	4	5
3.To be good in sport you need to be naturally gifted	1	2	3	4	5
How do you feel about..					
1. How good you are in sport will always improve if you work at it	1	2	3	4	5
2. If you put enough effort into it, you will always get better at sport	1	2	3	4	5
3.To be successful in sport you need to learn techniques and skills and practice them	1	2	3	4	5

Appendix E

Participation information letter

Pretoria 0002 Republic of South Africa
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FACULTY OF HUMANITIES

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Dear Athlete

INFORMED CONSENT: RESEARCH QUESTIONNAIRE ON GOAL ORIENTATION, ATTRIBUTION AND COPING STRATEGIES FOR SUCCESS AND FAILURE IN COMPETITIVE SPORT.

I _____ ***(please print full names)***, in my capacity as _____ ***(e.g. coach, athlete)*** agree to take part in the proposed research undertaken by Roelie Potgieter as part of a Masters degree in the Department of Biokinetics, Sport and Leisure Sciences of the University of Pretoria.

I agree to complete the research questionnaires of Goal orientation, Attribution and Coping Strategies for Success and Failure Diagnostic Battery and understand that participating in this research:

- Will involve providing information about:
  - my participation in sport
  - my inner self and abilities
  - my feelings when participating in my sport

I also understand:

- Completing the questionnaire will take approximately 15-20 minutes
- That I am going to fill in the five questionnaires as if I am competing in a competition.
- I am under no obligation to participate in the study.
- I may refuse to take part or withdraw from the study.
- My specific answers will be kept confidential and my name will appear nowhere on the completed questionnaire.
- My anonymity will be protected at all times.
- Neither my name nor my coach's name will be identified in any report or presentation, which may arise from the study.
- Only the principal researcher and her supervisor will have access to the information collected during the study.
- That while I may not benefit directly from the study, the information gained may assist both researchers and the coach who gave permission for the research, to better understand the Goal orientation, Attribution and Coping Strategies for Success and Failure in Competitive Sport.
- That a summary of the findings of the study will be given to you, and that if I wish I may upon request obtain a copy of the article in full.

I understand what this study involves and hereby give informed agreement to participate.

_____ _____

Signature Date

If you have any questions or concerns about this study, please contact the researchers.

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