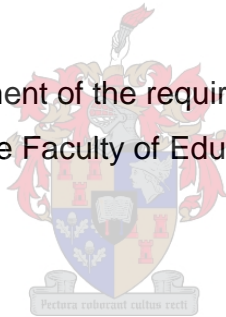


**THE PERCEIVED DEMANDS OF RUGBY SEVENS HELD BY PROFESSIONAL
PLAYERS AND COACHING STAFF**

by

NINETTE KRUYT

Thesis presented in partial fulfilment of the requirements for the degree of Masters
of Science (Sport Science) in the Faculty of Education at Stellenbosch University



STUDY LEADER: DR HEINRICH GROBBELAAR

December 2017

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Abstract

There appears to be a lack of psychological support in rugby sevens, including the absence of psychological skills development programmes and research on this topic. This study aimed to address the glaring gap in this field by laying a foundation for the development of an effective programme to equip players with psychological skills to enhance their performance and psychological well-being. The potential outcome will be advantageous both for individual players and the sport as a whole.

The thesis set out to explore the subjective views of professional players and coaching staff regarding the demands of rugby sevens. A thorough analysis of the physical, technical and tactical, logistical and psychological demands, as well as the specific needs of the players was deemed necessary. According to Taylor (1995) it is essential to establish these demands in order to develop a psychological skills development programme for a specific sport or athlete. The primary aim of this study was, therefore, to analyse the perceived demands of rugby sevens held by professional players and coaching staff.

Twenty-five participants (20 rugby sevens players and five coaching staff members) took part in the study. The 20 players consisted of three sub-groups: SA academy players (n=3), Blitzboks (n=8) and Olympians (n=9). Information was mainly elicited through semi-structured interviews. The coaching staff members were asked 21 open-ended questions while the players were asked 25 open-ended questions. The data was analysed through a thematic content analysis.

This analysis revealed numerous challenges with regards to the physical, technical and tactical and logistical demands of rugby sevens. Due to the setup of the tournaments and matches, the demands of rugby sevens are different to that of other rugby formats. Therefore, a different approach needs to be taken when preparing players for tournaments.

Being exposed to such a demanding sport also places considerable psychological demands on the players. A strong team culture was reported as one of the South African sevens team's strengths and seemingly played a fundamental part in the team's success. However, there seems to be an insufficient focus on the psychological side of the sport. The need to start with psychological skills development at a younger age was voiced, but this would require a framework to guide the process. Throughout a professional career, player well-being should also be prioritised. This includes assistance both on and off the field, and should continue beyond the player's transition into retirement.

Rugby sevens was included in the 2016 Rio Olympic Games, and interest in the sport has subsequently grown globally. Although the South African sevens team expressed that it was a special experience to win Olympic bronze, the perception was that South Africa does not have an Olympic culture yet and, therefore, there is plenty to learn from other countries in that regard.

Using the newly acquired knowledge regarding the demands of rugby sevens, a psychological skills development and well-being programme could be developed and implemented. This should positively contribute to the performance of a rugby sevens team and give them the edge every team strives towards.

Opsomming

Daar blyk 'n leemte te wees aan sielkundige ondersteuning in sewesrugby, asook 'n gebrek aan sielkundige vaardigheids-ontwikkelingsprogramme en navorsing op die tema. Hierdie studie poog om die leemte aan te spreek en sodoende die basis te lê vir die ontwikkeling en implementering van 'n effektiewe program om spelers met die nodige sielkundige vaardighede toe te rus ten einde hul prestasie en hul sielkundige welstand te verbeter. Die moontlike uitkoms van sodanige program sal voordelig wees vir beide die individuele spelers asook die sport in geheel.

Hierdie tesis was daarop gemik om die subjektiewe opinies van professionele spelers en afrigtingspersoneel in te win aangaande die eise wat sewesrugby stel. 'n Deeglike analise van die fisieke, tegniese, logistieke en sielkundige eise, sowel as die spesifieke spelersbehoefte was noodsaaklik geag. Volgens Taylor (1995) is dit noodsaaklik om hierdie eise te bepaal ten einde 'n sielkundige vaardigheids-ontwikkelingsprogram vir 'n spesifieke sportsoort of atleet te ontwikkel. Die primêre doel van die studie was derhalwe om die persepsies van professionele spelers en afrigters aangaande die eise van sewesrugby, te analiseer.

Vyf-en-twintig deelnemers (vyf afrigtingspersoneellede en 20 sewesrugbyspelers) het aan die studie deelgeneem. Die 20 spelers het bestaan uit drie sub-groepe: SA akademie spelers (n=3), Blitzbokke (n=8) en Olimpiese deelnemers (n=9). Inligting is hoofsaaklik ingesamel deur semi-gestruktureerde onderhoude. Die afrigtingspersoneel is 21 oop vrae gevra, terwyl 25 oop vrae aan die spelers gestel is. Die data is deur tematiese inhoud-analise geanaliseer.

Hierdie analise het vele uitdagings in verband met die fisiese, tegniese en logistieke eise van sewesrugby geïdentifiseer. Die eise van sewesrugby verskil van die ander rugby formate, weens die formaat van toernooie en wedstryde. 'n Ander aanslag word dus benodig wat hierdie eise in ag neem wanneer spelers voorberei word vir kompetisies.

Blootstelling aan so 'n veeleisende sport stel ook hoë sielkundige eise aan die spelers. Die sterk spankultuur was gemeld as een van die sterkpunte van die Suid-Afrikaanse span en het 'n belangrike rol gespeel in die sukses van die span. Daar word egter nie genoeg fokus geplaas op die sielkundige deel van die sport nie. Die behoefte aan sielkundige vaardigheidsontwikkeling op 'n jong ouderdom was geopper, maar dit vereis 'n raamwerk wat hierdie proses sal begelei. Spelerwelstand moet regdeur 'n professionele loopbaan geprioritiseer word. Dit sluit hulp in, nie net op die veld nie, maar ook van die veld af, selfs tot na 'n speler se uittrede uit die sport.

Sewesrugby is ingesluit in die 2016 Olimpiese Spele. Dit het daartoe gelei dat belangstelling in die sport wêreldwyd gegroei het. Alhoewel die Suid-Afrikaanse sewesspan aangedui het dat dit 'n spesiale ervaring was om 'n Olimpiese bronsmedalje te wen, bestaan die persepsie dat Suid-Afrika nie werklik 'n Olimpiese kultuur het nie. Derhalwe is daar baie om te leer van ander lande in hierdie opsig.

Met die nuut verworwe kennis oor die eise van sewesrugby kan 'n sielkundige vaardigheids-ontwikkelingsprogram ontwikkel en geïmplementeer word. Dit behoort positief by te dra tot die prestasie van 'n sewesrugbyspan en aan hulle die x-faktor gee waarna alle spanne streef.

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Dedication

This study is dedicated to my hero, Zaldeus Johannes Steenkamp.

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Chapter One

PROBLEM STATEMENT AND AIMS

1.1 BACKGROUND

Globally, the popularity of rugby sevens has increased rapidly during the past few years and it will continue to grow, with the sport having been included in the 2016 Rio Olympic Games (Higham *et al.*, 2012; Lopez *et al.*, 2012; Higham *et al.*, 2013). Due to these factors, Higham *et al.* (2013) argued that there is now a better chance that players would specialise in a specific format of rugby (either 15-a-side or sevens). However, given the excitement of rugby sevens having been included in the summer Olympic Games for the first time since 1924, many top international 15-a-side players attempted to switch to the sevens version in order to take part in Rio 2016.

Fifteen-a-side rugby is a sport with high physical demands including repeated high intensity activities and a high frequency of physical contact encounters (Duthie *et al.*, 2003). Many studies have been conducted on 15-a-side rugby in order to determine the characteristics and demands of the game, however, relatively little research has been conducted into rugby sevens (Higham *et al.*, 2013).

Rugby sevens is played on a field of the same size as the 15-a-side version and has similar laws (Higham *et al.*, 2012; Higham *et al.*, 2013). The main differences are the reduced number of players per team, the duration of matches and the frequency of matches played during tournaments (Higham *et al.*, 2012; Lopez *et al.*, 2012; Higham *et al.*, 2013). In rugby sevens, a team consists of 12 players, with seven on the field and five reserves. A match consists of two, seven minute halves with the exception of a final, where the two halves last ten minutes each (Lopez *et al.*, 2012; Suarez-Arrones *et al.*, 2012). However, due to increases in the number of injuries sustained during final matches lasting 20 minutes, World Rugby has changed the

rule in 2016 to only seven minutes per half. The change took effect in implementation as of January 2017 (Newman, 2016).

In 15-a-side rugby, international matches (generally referred to as test matches) are typically separated by a week, during which the teams would travel and have a chance to adapt to new conditions and prepare for the next match. In this regard rugby sevens is quite different. The sevens World Series is the annual international men's tournament that currently consists of 10 tournaments played over a six-month period. The 10 tournaments are broken up into five different continental tours. Each tour consists of two tournaments separated by one week for traveling and preparation. Each of the tournaments takes place over a two or three-day period (van Rooyen, 2015; World Rugby, 2016). Players don't only have to adapt to the different conditions such as travelling, but also to the high frequency of games (van Rooyen, 2015). The tournaments are structured in such a way that each team plays three group stage matches on the first two days of the tournament and, thereafter, depending on the results might play up to three further play-off matches. Teams typically have a waiting period of three hours between matches. However, no literature could be found in which the sevens players' ability to repeat numerous high intensity efforts over consecutive days has been examined (Higham *et al.*, 2012).

Due to the paucity of published information on rugby sevens, attention will now turn to the available literature in 15-a-side rugby. Researchers have focused extensively on the physical (Bell, 1979; Du Randt *et al.*, 2006; Duthie *et al.*, 2006), physiological (Duthie *et al.*, 2003; Scott *et al.*, 2003; Gill *et al.*, 2006; Austin *et al.*, 2011a; Hendricks, 2012; Higham *et al.*, 2013), psychological (Maynard & Howe, 1989; Kruger, 2003; Neil *et al.*, 2006; Andrew *et al.*, 2007a; Andrew *et al.*, 2007b; Robazza & Bortoli, 2007; Holland *et al.*, 2010; Edwards & Edwards, 2012a; Hendricks, 2012; Di Corrado *et al.*, 2014; Shearer, 2015) and team related factors (Hodge *et al.*, 2014) within 15-man rugby.

In comparison, Higham *et al.* (2013) demonstrated that the body composition of rugby sevens players is similar to that of 15-a-side backline players. Rugby sevens players will typically have a lower fat percentage, since their selection are often based on their speed and endurance abilities (Higham *et al.*, 2013). This should have implications for the physiological requirements and preparation of players moving from the one format to the other (Higham *et al.*, 2012).

Various researchers (Higham *et al.*, 2012; Carreras *et al.*, 2013; Higham *et al.*, 2013) observed that rugby sevens is played at a higher running intensity and volume than that of 15-a-side rugby. Therefore, rugby sevens players should have higher levels of aerobic and anaerobic endurance capacity. The physical abilities of rugby sevens players like acceleration, speed, lower body muscle power and maximal aerobic power tend to be the same or superior to that of 15-a-side rugby players (Higham *et al.*, 2013). Due to having fewer players on the field, a broader skillset is required in rugby sevens irrespective of the player's playing position. To meet the physical demands, all rugby sevens players need to have good ball-handling skills, agility, defensive skills, technical proficiency and strength to secure the ball in contact situations (Higham *et al.*, 2013; Higham *et al.*, 2014).

Furthermore, rugby sevens is played at a high intensity with frequent incomplete stops, which can contribute to accumulated fatigue (Carreras *et al.*, 2013). In addition, due to the frequency of matches played in a rugby sevens tournament, players need to recover faster between matches, from one day to another and from one tournament to the next (Higham *et al.*, 2013). Thus, recovery plays a different role compared to that in 15-a-side rugby. Also, when players get injured during a tournament the workload on the remaining players are increased making them more prone to experience fatigue (van Rooyen, 2015). Consequently, a range of recovery strategies need to be implemented to ensure a high level of performance over consecutive days (Higham *et al.*, 2012). This may include a combination of: wearing compression garments (Gill *et al.*, 2006), using contrast therapy (Gill *et al.*, 2006; Vaile *et al.*, 2008), cryotherapy or different forms of hydrotherapy (Vaile *et al.*, 2008),

as well as proper post-activity nutrition (Beelen *et al.*, 2010). By making use of recovery strategies the accumulated fatigue levels of players over time will decrease (Higham *et al.*, 2012).

Given the high intensity nature of rugby sevens, players need to prepare their bodies for this kind of workload by having more than one high intensity session per day with little recovery time. These sessions should consist of high running loads, changes in speed and numerous maximal sprint efforts (Higham *et al.*, 2012; Carreras *et al.*, 2013; Higham *et al.*, 2013). Professional sevens players' physiological abilities may contribute to the higher intensity during the match as well as faster recovery between matches and tournaments (Higham *et al.*, 2013). In addition to sevens players' physiological abilities, mental preparation is also fundamental to ensure success in the sevens circuit (Van Rooyen, 2015).

Again, there seems to be a paucity of information regarding the psychological factors in rugby sevens. Therefore, attention will be directed towards important findings from the 15-a-side rugby code. Kruger (2003) found that more than two-thirds (67.5%) of the professional rugby players in South Africa perceive psychological skills to be an important performance factor. Only 2.8% were seeing a sport psychological consultant regularly while 38% was not sure what it entailed. Close to half of the players (42%) felt that it was the manager or coaches' responsibility to appoint a sport psychological consultant to assist the team. The individual needs of the players are important factors to take into consideration at all times (MacNamara *et al.*, 2010a).

Krane and Williams (2006) found that numerous psychological characteristics including self-confidence, feeling in control, positive attitudes and commitment play an important role in players achieving their highest level of performance. Furthermore, by receiving proper training to use imagery, goal setting and coping strategies, rugby players can achieve their full potential over time (Hendricks, 2012). Skills such as attentional focus will improve naturally as rugby players become more

mature and experienced (Maynard & Howe, 1989; Di Corrado *et al.*, 2014). Neil *et al.* (2006) revealed that professional players tend to use a number of cognitive strategies including positive self-talk, thought stopping and mental rehearsal. This study also suggested that rugby players should be introduced to relaxation-based programmes to help them cope with anxiety.

Fifteen-a-side rugby players playing at higher competitive levels have more self-confidence than players playing at lower levels. Furthermore, they are better at coping with their personal lives as well as with adversity, possibly due to more exposure to psychological skills training at a younger age (Neil *et al.*, 2006; Andrew *et al.*, 2007b). Studies on 15-a-side rugby players found that the different playing positions have different attentional focus requirements. The halfbacks (scrumhalves and flyhalves) who are the decision makers had the most effective attentional styles (Maynard & Howe, 1989). Andrew *et al.* (2007a) found other positional differences among 15-a-side rugby players. The attentional demands on rugby sevens players are immense, but yet again the available literature on this topic is scarce.

The development of psychological characteristics is currently not addressed in most of the talent development programmes; instead testing protocols mainly focus on current performance (MacNamara *et al.*, 2010a). MacNamara *et al.* (2010b) found that psychological characteristics should be incorporated into talent development programmes due to the role it plays in the pathway that players follow in order to achieve the highest level of performance. However, psychological skills become a determining factor of success when players have the same level of skill and physicality (Hendricks, 2012). MacNamara *et al.* (2010a) found that numerous characteristics including competitiveness, commitment, vision and self-belief play a big role in the development of players as well as with their on-field performance. It is also important to realise that different skills are needed at different stages and performance levels (MacNamara *et al.*, 2010b). Therefore, it is important that the development and use of psychological characteristics should be a priority from an early age (MacNamara *et al.*, 2010a).

1.2 RESEARCH QUESTIONS

In order to develop a psychological skills intervention programme for a specific sport or athlete, the physical, technical, tactical, logistical and psychological demands as well as the specific needs of the players need to be established and considered (Taylor, 1995). In light of this statement and the earlier discussion on important performance variables, the research questions for this study are:

1. What are the perceived physical, technical, tactical and logistical demands of rugby sevens as held by professional players and coaching staff?
2. What are the perceived psychological demands of rugby sevens as held by professional players and coaching staff?
3. What are the specific individual player needs (off-the-field needs) of professional rugby sevens players?

1.3 PRIMARY AIM

The primary aim of the study was to analyse the perceived demands of rugby sevens held by professional players and coaching staff.

1.4 OBJECTIVES

The subsequent objectives of the study were:

1. To explore the perceptions held by professional players and coaching staff about the physical, technical, tactical and logistical demands of rugby sevens.
2. To explore the perceptions held by professional players and coaching staff about the psychological demands of rugby sevens.
3. To explore the specific individual player needs (off-the-field needs) of rugby sevens players.

1.5 MOTIVATION AND POTENTIAL BENEFITS

There seems to be a paucity of research on rugby sevens. Through this study, in-depth and context rich information will be gained that could guide the development of a sport psychological skills development framework specifically for rugby sevens.

At the pace with which rugby sevens is growing, such a programme could contribute to better talent development across the different participation levels within this sport. By analysing the perceived demands of this sport, recommendations can be made to develop important psychological factors within the existing talent identification and development structures.

Chapter Two

LITERATURE REVIEW

This literary review explored the development of sport psychological skills within the existing 'talent development' structures of South African rugby sevens. Establishing the physical, technical, tactical logistical, psychological and individual player needs is central to the development and implementation of psychological skills intervention programmes (Taylor, 1995). With this notion as a point of departure, attention will be given to the origins and development of rugby sevens, followed by highlighting relevant research findings from sevens and 15-a-side rugby.

2.1 ORIGIN AND DEVELOPMENT OF RUGBY SEVENS

The origin of rugby sevens date back to 1883 in Melrose, Scotland. Since then, sevens has expanded to 93 countries (Carreras *et al.*, 2013). During 1999-2000, World Rugby (formerly known as the International Rugby Board) launched the Annual Sevens World Series Tournament. Fifty-five countries have since taken part in the tournament, but only four teams have been able to win the title (Fiji, New Zealand, Samoa and South Africa). For the past four seasons (2012/13 – 2015/16) the South African Blitzboks were runners-up in the tournament, and they also won the bronze medal during the 2016 Rio Olympic Games. During 2016/17 the Blitzboks won five out of the 10 tournaments and were crowned world series champions, winning with a total of 192 log points, followed by England on 164 points.

World Rugby manages and plans the Sevens World Series according to seasonal weather conditions and location. The different tournaments in the series are usually played at venues situated at sea level during the time of year when the temperature is roughly between 15°C and 20°C (van Rooyen, 2015). Since the International Olympic Committee (IOC) announced in 2009 that rugby sevens would be included in the 2016 Rio Olympic Games, interest in the sport has increased tremendously (Fuller *et al.*, 2010; Ross *et al.*, 2014; van Rooyen, 2016). Even though the interest has increased, the amount of research conducted on rugby sevens remains limited.

This creates a need to explore the underexplored areas and to gain information about various factors that can help to improve performance.

Rugby sevens consists of numerous uncontrollable factors that affects the match outcome such as injuries, decisions of match officials, fluctuating body weight and even the crowd's behaviour. Due to so many uncontrollable factors, it is important to give attention to the controllable factors such as the players' physical condition and skill (Meir, 2012). The focus will now turn to the talent identification and talent development practices within rugby sevens.

2.2 TALENT IDENTIFICATION AND DEVELOPMENT

Sport development is an area where everyone from grass roots to the elite level can get involved. There are two paths to this; sport development and sport for development. Sport development aims to create pathways for talent identification and ultimately professional participation. Sport for development aims to enable sport to contribute to specific social outcomes and foster overall well-being in communities and society at large (Schulenkorf *et al.*, 2016).

It is important to realise that talent can be possessed, displayed and developed. Talent can also be divided into natural ability, the investment to practice and the interaction with the socio-cultural environment (Aggerholm, 2015). Currently, talent identification in rugby typically takes place after assessing an individual's performance in a specific age group competition. Scouts look at attitudes and passion when considering whether young athletes will be able to develop into elite athletes (Aggerholm, 2015). However, the influence of factors such as motivation and commitment in skill development is poorly understood (Hodges & Baker, 2011). More specifically, the commitment of the child when faced with adversity should be considered (Button, 2011).

Multiple factors play a role in talent development and, therefore, talent identification needs to consider multidimensional factors. These factors include physical,

psychological, social, as well as environmental factors. It is important to realise when identifying talent that a lack in one of these areas can be compensated by strengths in another area (Button, 2011). Van Gent and Spamer (2005) found that in South Africa at under 13 level die scrumhalves and fly-halves were the players with the best rugby specific skillset. The backline players also performed better than the forwards regarding their physical and motor skills. At the under 16 level the body composition was similar across all the positions. At this age coaches can, therefore, still move players between positions (including moving players between the forwards and backline). It was also suggested that the backline players as well as the scrumhalves and fly-halves need to focus on physical and motor training during this phase. There was a significant difference between the body composition of the under 18 forwards and backline players. This shows that as a player matures a difference can be observed with the forwards being bigger, whereas the scrumhalves and fly-halves were the lightest and smallest team members. When looking at rugby specific skills at this age the players tend to have similar skills, but the level of physical and motor skills depends on the position. It is important to note that as the rugby players mature the gap in the rugby specific, physical and motor skills becomes smaller across all playing positions. This could be due to better conditioning as the players grow older, regardless of their playing position.

Côté *et al.* (2007) found that in America team sport players from smaller towns had a better chance of succeeding in sport compared to the players from bigger cities. This is probably due to access to facilities and better opportunities that players get in smaller towns. In a smaller town, a players' self-efficacy could be higher due to the limited early exposure to competition. The perception of their own talent can eventually lead to more success in their specific sport. The talent development process should develop multiple factors for optimisation. Talent identification and talent development need to be integrated in a programme where the selection should be based on progress and behaviour throughout the whole process (Button, 2011). Mental toughness, self-awareness, the ability to handle pressure and psychological characteristics should be developed in young athletes. This will facilitate

development in a competition-focused environment where children are experiencing pressure. Furthermore, this will assist young athletes to take responsibility for their own development rather than just passively waiting to receive knowledge (Holland *et al.*, 2010). It will also positively contribute to the realisation of their full potential (MacNamara, 2011).

By monitoring development, motivation can also be nurtured. At a young age, it is the enjoyment of taking part in various activities that can motivate an individual to practice for long hours to reach higher levels (Hodges & Baker, 2011). The more time young athletes get to play and compete, the greater the contribution to the development process (Saether & Aspvik, 2016). Getting ready for structured competition is one of the psychological challenges athletes face during the early development period. Most of the time, the motivational aspect is internally driven through friendships and their interest in the sport (Wylleman & Reints, 2010). Competition can help athletes to learn more about themselves and their capabilities (Aggerholm, 2015), but it is important not to overemphasise competition at a young age since this may result in shortcomings in the athletes' abilities at a later stage (Balyi, 2003).

According to Hodges and Baker (2011) the reason for the high dropout rate among children that do not excel from a young age may be attributed to early sport specialisation. It raises the question whether children should specialise in sports such as rugby at a young age. There is evidence that suggests that participating in a variety of sports at a young age might have a positive impact on performance at a later stage. It is, therefore, important that a sport development programme should encourage participation, develop talent and also contribute to the health and well-being of individuals and groups (Sotiriadou *et al.*, 2016).

Holland *et al.* (2010) found that without previous exposure to psychological strategies, personal and team strategies tend to be used by young athletes. These strategies are a combination of traditional (e.g., goal setting, self-talk and imagery)

and non-traditional techniques (e.g., compartmentalisation, observation and stress avoidance). A combination of these strategies should be used as part of an athlete's development programme (Holland *et al.*, 2010). By involving all the parties, that plays a role in an individuals' development, in the setting of clear long-term goals, will encourage them to help and support throughout. Clear expectations and directions must be introduced during the initial stage (fundamental stage). The integration between the different stages of the development pathway is also important. A wide variety of skills must be learnt and should have a specific psychological underpinning (Martindale & Mortimer, 2011). It is important to realise that psychological characteristics play an important role throughout development and not only at a professional level (MacNamara, 2011). The approach must be player-centred and individuality should always be taken into account (Martindale & Mortimer, 2011).

Holland *et al.* (2010) noted that young 15-a-side rugby players thought that mental qualities such as enjoyment, responsibility to self, adaptability, squad spirit, learner self-awareness, determination, confidence, optimal performance state, game sense, appropriate attention focus and mental toughness should be included in development programmes. These different qualities are not just necessary during competition but also to improve training and overall lifestyle. These players also stated that a combination of personal performance strategies, supportive climate, team strategies and reflection on action should be used to develop the previously mentioned mental qualities.

An organised and balanced lifestyle is especially important for talent development (Martindale & Mortimer, 2011). Good nutrition and hydration, in conjunction with training, recovery and social support can contribute to physical fitness and emotional stability. Different development models can be used for talent development. The choice of model will depend on the format of the sport (i.e., whether it is an early or late specialisation sport).

2.3 DEVELOPMENT MODELS

2.3.1 LONG TERM ATHLETE DEVELOPMENT MODEL

There are numerous factors that play a role in talent development; therefore, it is important to take a holistic approach on athlete development. The long-term athlete development (LTAD) model created by Balyi is a good framework to use when coaching children, but should not be seen as a fixed model (Ford *et al.*, 2011). According to Balyi (2003) there are two different development models for sport. One model is applicable to early specialisation sports such as gymnastics, while the other is for late specialisation sports such as rugby. The early specialisation model consists of four stages: train to train, train to compete, train to win and retirement.

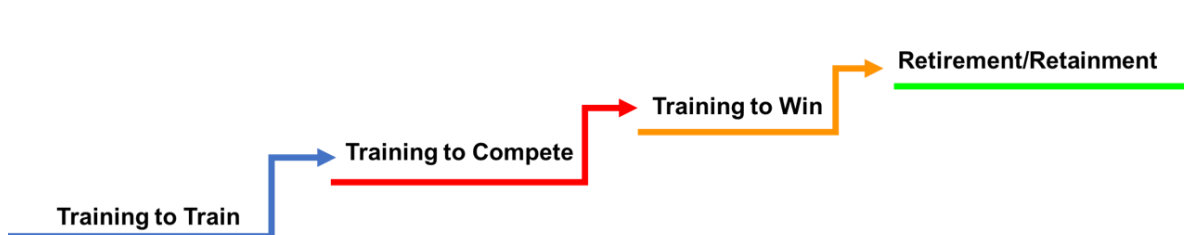


Figure 2.1: Balyi's Long Term athlete development programme for early specialising sports

The late specialisation model consists of six stages of development. These stages are the fundamental stage, learning to train, training to train, training to compete, training to win and retirement.

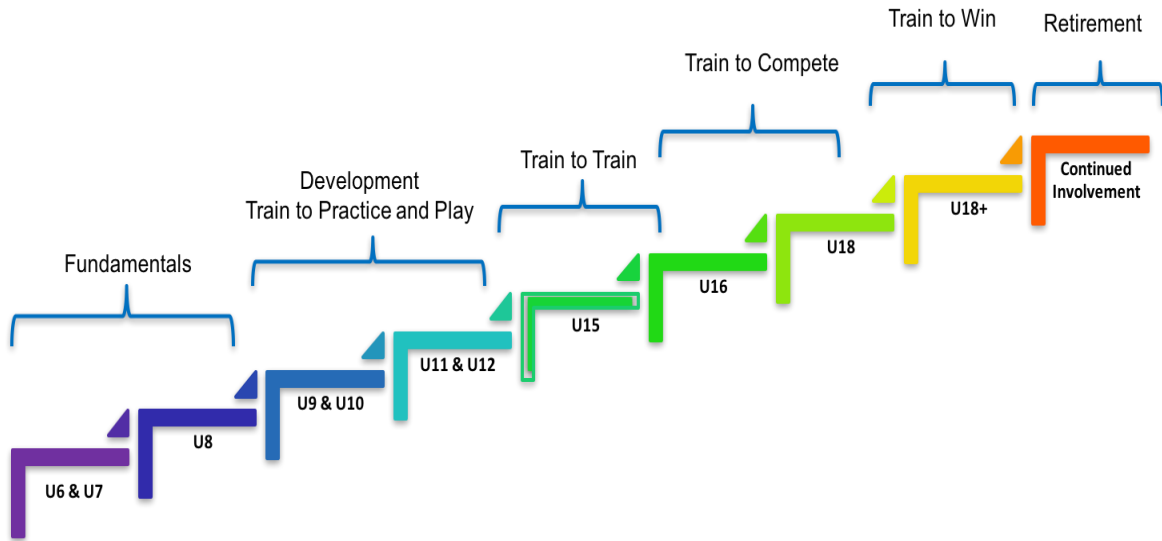


Figure 2.2: Balyi's Long Term athlete development programme for late specialising sports

The fundamental stage (age 6-9) aims to teach children the fundamental movement skills in a fun and structured manner. The fundamental movement skills should be mastered before sport specific skills should be introduced. Children should be encouraged to take part in numerous sports which can help them to develop agility, balance, coordination and speed.

The learning to train stage (age 9-12) is very important for the development of motor skills. This phase is ideal to develop general sport skills that are the cornerstone of athletic development. Not making full use of this time period to develop the motor skills could compromise an athlete to reach his/her full potential. Basic flexibility should be introduced in this stage. The ratio of training to competition during this stage should be approximately 70:30.

During the 'train to train' stage (age 12-16) the aerobic capacity of an athlete is developed. Towards the end of this phase the focus moves towards developing specific sport skills. The ideal time ('window of opportunity') to develop aerobic capacity is after the onset of the major growth spurt. At this stage skill, speed and

strength should also be developed further. Maintaining flexibility should also be a priority with the growth of bones, muscle and tendons that occur. It is important to note that the relative age effect may impact on the trainability of the young athlete. Early, average and late developers will, therefore, need to focus on different aspects at different times of training. This could be difficult since the current focus with regards to development is based on chronological age. The topics of relative age effect and maturation and growth will be discussed in more detail later in this chapter. The training to competition ratio for this stage should be roughly 60:40.

The training to compete stage (age 16-18) focuses on optimising the fitness, sports specific and performance skill. Competition starts to play an important role during this stage. Fifty percent of the time is used to develop technical and tactical skills and improving fitness, while the remaining 50% focus on competition specific training and competing. Position specific skills training should receive greater priority. Athletes who have mastered basic and sport specific skills should learn to perform these skills under various conditions. This should be done by creating a training environment similar to that experienced during competitions. Physical, technical, tactical and even psychological needs should be addressed at the individual level during this stage.

The training to win stage (18 years and older) is where everything that has been learned needs to be maximised. Fitness, individual skills, as well as performance need to be optimised. In this phase, the focus moves away from developing specific aspects (physical, technical, tactical and psychological) to optimising performance. Training during this phase is planned to help athletes to peak during competitions. In this stage, the ratio between training and competition (including competition specific training) is 25:75.

The last stage of this long-term athlete development model is the retirement stage. The focus of this stage is to keep ex-athletes involved in sport. This can be as a

coach, being part of the media, officiating or even in a sport administrative capacity. The retirement stage will be discussed in greater detail in section 2.4.2.

South Africa currently follows the suggested model by Balyi (2003) for the grass root development (children age 5-12). For the past four years the major focus to develop was on the five to nine year old rugby players in schools from rural areas. Currently, there is no development programme to specifically develop rugby sevens players.

There are also other development programme models such as Côté's development of sport participation model. Côté *et al.* (2007) suggested that a talent development model should consist of four phases: sampling phase, specialising phase, investment phase and recreational phase.

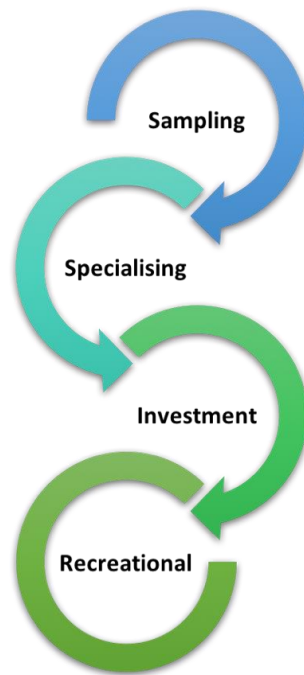


Figure 2.3: Côté's (2007) development of sport participation model

During the sampling phase children should just play sport for fun. Children should also be encouraged to take part in multiple sport codes. This should be followed by the specialising phase where children should not focus on more than two sports.

Hereafter the investment phase will follow where children will only specialise in one sport. Lastly, in the recreational phase participation should be for good health and in multiple codes. Here achievement would not be the aim, but rather to stay active (Côté *et al.*, 2007).

In South Africa, the South African Sports Confederation and Olympic Committee (SASCOC) proposed a model that contains the same stages as that of Balyi's model that was discussed earlier in this chapter (SASCOC, 2017).

2.3.2 SOUTH AFRICA RUGBY UNION SEVENS MODEL

The talent identification process for rugby players in South Africa starts at the age of 16. The South African Rugby Sevens Academy scouts identify players at the national competitions for their respective age groups. Players that are identified for two consecutive years (i.e., under 16 and under 17) will be approached to join the South African Rugby Sevens Academy. At this stage, the players will be playing 15-a-side rugby and most of them will have to make a decision of either pursuing a career in 15-a-side rugby or specialising in sevens. The academy does not have an age restriction and players can also be identified and asked to join at a later stage after being noticed during the Varsity Cup (Universities tournament), club competitions, Currie Cup, Super Rugby or even Springbok rugby. Any player that wants to play for the national sevens team (popularly referred to as the Blitzboks), has to firstly compete for the South African Sevens Academy before being considered for the Blitzboks team. This includes players that have been competing at the highest international level, such as representing the South African 15-man side. When a player gets injured while playing for the Blitzboks, the player will go back into the academy and compete there before being eligible to be included with the Blitzboks for a tournament (see Figure 2.4).

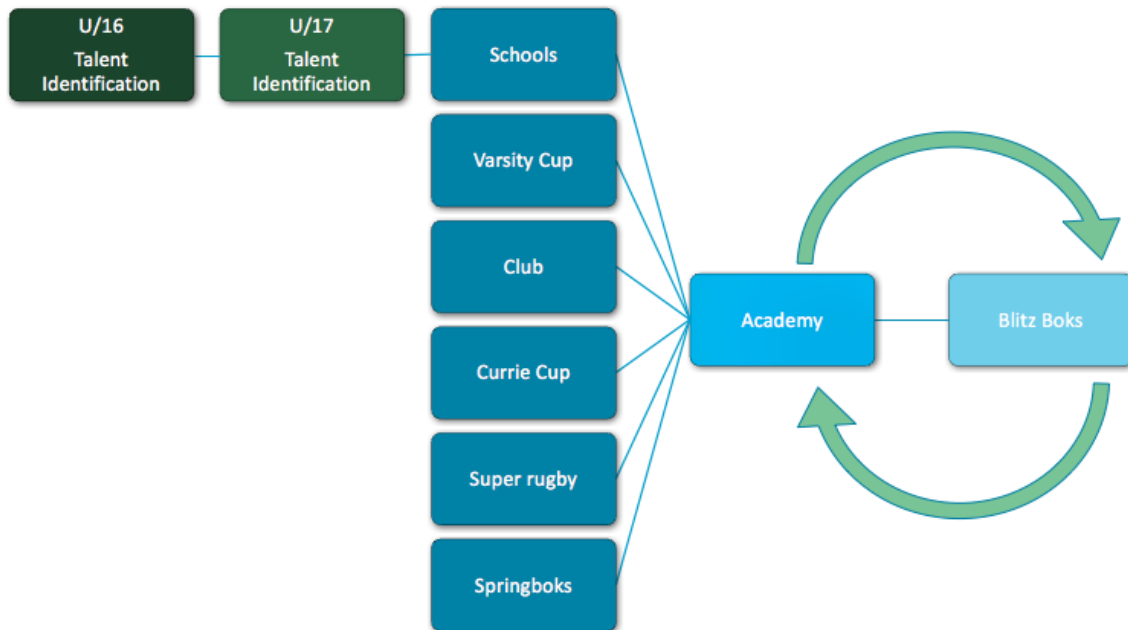


Figure 2.4: Schematic illustration of the South African sevens structure

2.4 TRANSITIONS THROUGHOUT THE DEVELOPMENTAL PATHWAY

2.4.1 AGE GROUPS AND LEVEL OF COMPETING

Sporting career transitions are turning phases in the sport development pathway. Regardless of the sport, participants will go through a number of transitions. These transitions are associated with stress, uncertainty about what lies ahead and when things will change. The first transition will be from participating for fun to specialising in a specific sport. This is followed by the transition of junior to senior levels of participation. This tends to be the hardest transition and most players fail to cope with the increased training and competition demands. Therefore, there is a big dropout between junior and senior levels of participation. The small group that manage this transition successfully will progress to participate on the elite level. At this age, social factors play a big role and even though players are positive about successfully negotiating this transition their uncertainty may be high. Psychological support plays an important role in this transition. The last transition within the sport will be from being an amateur to becoming a professional athlete. It is possible to

anticipate when each of these transitions will occur within a certain timeframe (Stambulova *et al.*, 2009).

In team sports like rugby, players will only start to specialise during adolescence and players will only reach their peak between the ages of 25 and 35. There are also transitions that are not predictable such as career termination. This could be due to injury or changing coaches, teams or sponsors. It is important to note that it is not always possible to prepare for these types of transitions (Stambulova *et al.*, 2009).

Other factors such as psychological, psychosocial, vocational and academic challenges may also be experienced and players may not necessarily be adequately prepared for it (Wylleman *et al.*, 2004; Stambulova *et al.*, 2009). Successfully coping with the challenges of these transitions will allow a player to have a long and successful sport career and should help with their adjustment to a life after retirement from sport. By failing to cope with the various challenges these transitions bring, may cause players to end their careers prematurely and could have negative consequences for their life after sport (drug/alcohol abuse). Since being able to cope with transitions play a major role in long-term sport success, the support structure and staff that works with the players should make it a priority to prepare players for the possible challenges that they may face. There are different factors that determines how well players cope with transitions. These include previous experiences, the support they get and their motivation (Stambulova *et al.*, 2009).

Players should take an overall holistic approach (Wylleman *et al.*, 2004; Stambulova *et al.*, 2009), as this may help a player to cope during the different transitions. Players should try to balance the demands of their sport with the demands of their daily lives. It is important for them to manage their time and to plan ahead (Stambulova *et al.*, 2009). Coaches, managers and any staff working with players must realise that gender and culture can influence how well players cope with the different challenges. Interventions should consider these differences, aiming to guide athletes through transitional difficulties (Wylleman *et al.*, 2004).

2.4.2 STRESS FOLLOWING RETIREMENT

To combat retirement and the stress due to change, clear goals in relation to the athlete's skills could assist the athlete in smooth transition (from a performance career to retiring from it). Education and personal development should, therefore, not be neglected whilst the athlete is involved in their performance career. Instead, it should become part of recovery and time away from sport, as it could also help an athlete to recover emotionally and avoid burnout, thereby adding to their general well-being. However, balance should be maintained to avoid accumulation of stress due to too many activities (Martindale & Mortimer, 2011).

Inadequate interpersonal skills are among one of the numerous challenges faced by athletes when retiring from elite sport. This comes into play where they might experience difficulty to find a job in the corporate world, whereas their peers of the same age may already be well established in their careers. They will also have to start from the bottom and work their way up from there. This might have financial implications in some cases to such an extent that athletes have to turn to their families for help. Retiring athletes, therefore, need to have internal motivation to make the transition successfully (Wylleman & Reints, 2010).

Gouttebarga (2015) found that six months after retirement almost half of the rugby players (48%) in his study reported two or more mental health issues. Alcohol abuse was the most prevalent under retired South African rugby players (34%). This was significantly higher than retired French rugby players (12%). Thirty-one percent of retired South African rugby players were suffering from some form of stress. This is 8% higher than French rugby players and 9% higher than retired rugby players from Netherlands. Sleeping disorders (29%) and struggles with anxiety or depression (26%) was also highlighted as problems experienced by the retired South African players.

2.4.3 RELATIVE AGE EFFECT

As mentioned earlier the relative age of children can play a significant role in their athletic development. The relative age effect is the effect of age difference within a specific age group, over short and long periods (Lewis *et al.*, 2015). This is the consequence of the deferent pace of growth and maturation that occur within the same age group (Lemez *et al.*, 2016). Children born in the first few months of the year are favoured in the sport environment since they are more physically developed and, therefore, they tend to be overrepresented in age group teams. In South Africa where rugby is a popular sport and children have to compete for a place on a team, the relative age effect is evident in school rugby teams that participate on a high level (Lewis *et al.*, 2015). To give children equal opportunities, they participate in sports according to the age group in which they fall. Research have shown by grouping children according to birth date does not take physical and psychological factors into account and may, therefore, be deemed as biased (Grobler *et al.*, 2016).

Lewis *et al.* (2015) observed that at the age of 16, rugby players born early in the year are 11 times more likely to be representing the rugby team for their age group than players born later in the season. Grobler *et al.* (2016) found that relative age effect was evident in the representation of high school rugby players in the top 100 rugby schools in South Africa. At the under 14 level, 33.09% of the players that represented the community rugby squads were born in the first three months of the year while only 19.96% were born during the last three months of the same year. At the under 16 level, 30.89% of the players were born in the first three months and only 19.75% in the last three months. The same applies to Canada and New Zealand, since Lemez *et al.* (2016) noted that during the developmental phases, children that were born in the beginning of the year were picked over children born in the later part of the year. Older, bigger, stronger and faster children are usually selected by rugby coaches who focus mostly on winning. This becomes more evident as the players get older and progress along the development pathway (Lewis *et al.*, 2015).

The number of rugby players tend to decline as the children get older. This can be due to factors such as the preference of coaches to select bigger and faster players. On the higher end levels (i.e., provincial and national), the coaches' emphasis is not only on bigger and faster players, but also on players with better skill levels (Lewis *et al.*, 2015). When it comes to talent development programmes, the focus needs to be shifted to a player's long-term success at the elite level instead of the immediate success. However, this might be challenging for aspiring coaches who aim to achieve short term success (Lewis *et al.*, 2015).

To help prevent the prevalence of the relative age effect, selection should be based on the players' technical and tactical ability and not only on their physical maturity. This could contribute to a lower drop-out rate of young rugby players. The relative age effect should be taken into consideration to prevent the loss of talented rugby players that could have represented their country at a professional level (Grobler *et al.*, 2016).

2.4.4 GROWTH AND MATURATION

Du Randt *et al.* (2011) found that 69% of the provincial under 13 rugby players who participated in the national competition used for talent identification and development in South Africa (the Craven Week), no longer represented a provincial team at the age of 16. Furthermore, only 24% of the players that participated in this representative tournament at under 13 level still participated at the under 18 level. The big dropout rate could be due to the changes in body size, muscle strength and endurance, speed and muscle power and aerobic capacity that occur since the onset of puberty and maturation (Du Randt *et al.*, 2011; Van den Berg *et al.*, 2012).

It is generally assumed that children participating in age groups are competing against peers that have matured to a similar skill level. The problem with this system is that children born in the same year can be on different levels of maturity (Mann & van Ginneken, 2017). An evident bias has been detected in the selection of early maturing children in a number of sports, including rugby (Howard *et al.*, 2016; Mann

& van Ginneken, 2017). In rugby, early maturing children are seen as more talented due to physical aspects such as body composition being further developed. Physiological aspects such as speed, power and momentum will also be superior and, therefore, favoured by scouts (Howard *et al.*, 2016).

To take the level of maturity into consideration 'bio-banding' is now being experimented with in professional sports. Bio-banding refers to grouping players together by not looking at chronological age but rather at their biological age (level of physical maturity) (Doward, 2015; Lansley, 2016). It is important to note that this does not mean that the smaller children play against each other, but rather that the more mature children will compete together and the less mature children competing against each other (Moore, 2015; Lansley, 2016). The concept has been experimented with as far back as 1908 in New Zealand. At that time schools grouped children according to their body weight to ensure that early developers and late developers participate separately. Recently it was identified that early developers get more support from a young age, since scouts will spot them earlier due to their superior skillset (Doward, 2015).

With late developers excelling in professional sports (for example the likes of Lionel Messi and Harry Kane in soccer), the industry became more aware of the possibility of losing out on great talent if maturation was not taken into consideration (Doward, 2015; Moore, 2015; Howard *et al.*, 2016). In 2015 the English Premier League held their first bio-banding tournament for children between the ages of 11 and 14 (Doward, 2015). The children get banded by making use of the Khamis-Roche method, based on a child's weight and height, as well as the weight and height of both their parents to calculate their level of maturity. Children that fall into the same percentile of maturity are grouped together and compete against each other to eliminate the bias (Moore, 2015; Lansley, 2016). By making use of this method, differences in physical maturation are accounted for.

The development of psychological skills in children should also be taken into

account. Van den Berg *et al.* (2012) noted that there may be differences between the psychological skills of early developing and average developing rugby players between the ages of 15 and 18 years. The difference in their psychological skill levels became less evident as the gap between biological and chronological ages decreased. By the time the athletes turned 18, the difference between early and later developers were no longer evident. Initially, early developers tend to have more self-confidence and pride compared to the later maturing players (van den Berg *et al.*, 2012). It is generally thought that biological maturity also influences emotional maturity. Athletes should be both psychologically and physically mature in order to perform on an elite level (Button, 2011).

2.4.5 EARLY SPORT SPECIALISATION

To be successful at the highest level of sport, it is not required that athletes should specialise in a single sport from a young age. Athletes that specialise at a young age will not experience the benefits of unstructured play. It can also have a negative effect on them both physically, resulting in overuse injuries, and mentally being at greater risk for burning out (La Prade *et al.*, 2016). With early specialisation in rugby it is possible that an individual may not reach their full potential, since the exposure to other sports can help improve the overall sport skill (Ford *et al.*, 2011). Athletes should, therefore, be encouraged to only specialise in a single sport after puberty. Until then athletes should develop a diverse skillset through participating in a variety of sports (La Prade *et al.*, 2016). However, it was found that early specialisation in rugby did not play a fundamental role in the development of elite level rugby players (Cobley & Baker, 2005).

When young athletes start to specialise (during the train to compete stage), the time they have available for extracurricular activities will decrease. At this stage athletes will experience an increase in academic demands, which also needs to be considered. This age is also associated with the physical and emotional transition between being a child and an adult (Holland *et al.*, 2010). Skills such as self-awareness and being responsible for themselves will play an important role in the

transitional phase where sport and life demands on youth athletes are increased. The specialisation stage seems to present the ideal 'window of opportunity' for developing psychological skills such as goal setting, relaxation, self-talk and visualisation (Holland *et al.*, 2010).

2.4.6 WINDOWS OF OPPORTUNITY

A 'window of opportunity' is a term that refers to a stage where a person is sensitive to the development of a specific aspect. By making use of the appropriate training volume, frequency and intensity physical development could be accelerated by utilising the 'window of opportunity' associated with natural growth and maturation (Balyi, 2003; Ford *et al.*, 2011).

If the ideal 'window of opportunity' has not been used effectively, it does not mean that the athlete will no longer be able to develop that specific skill or ability at a later stage (Ford *et al.*, 2011). The energy systems of the body will always be trainable to react to speed, stamina, suppleness, strength and skills training (Balyi, 2003). It is important to note that it is still unclear how much of a role the 'window of opportunity' plays (Ford *et al.*, 2011).

Coaches can use 'window of opportunities' as a guide on what to focus on during a specific developmental phase. Children who are exposed to fundamental movement skills and fundamental sports skills will benefit from it at a later stage. Coaches should be aware of the training that will enhance all fitness components and that this should continue through childhood and adolescence. Doing so will help all individuals to develop to their full potential, irrespective of the rate at which they develop (Ford *et al.*, 2011).

2.5 FACTORS AFFECTING PERFORMANCE IN RUGBY SEVENS

2.5.1 BODY COMPOSITION

Rugby players require a specific body composition (Rienzi & Malkin, 1999). Coaches and selectors take the size and the physique of players into account when making

selections (Quarrie *et al.*, 1995). Deficiencies in a player's anthropometric profile could expose weakness in certain aspects of the game, even more so in rugby sevens (Rienzi & Malkin, 1999; Meir, 2012).

When comparing the body composition of 15-a-side and rugby sevens players, the demands of the different positions will be reflected in their physique and physical characteristics. The specific anthropometric requirements of 15-a-side rugby players are affected by the combination of all out sprinting, static pauses, high power output, jumping for the ball, gaining possession of the ball in lineouts or scrums or intercepting passes (Rienzi & Malkin, 1999; Meir, 2012). Forwards in 15-a-side rugby will typically be taller, heavier and have a larger neck circumference than backline players (Quarrie *et al.*, 1995). In 15-a-side rugby the forwards' body composition differs significantly from that of the backline players. The forwards have greater muscle mass and fat than the backline players (Rienzi & Malkin, 1999). It is important that forwards should have a greater body mass to allow them to obtain higher momentum, than the backline players when running, which is important for making physical contact. As a result, it is more important for forwards to have a high body mass than to be very fast, whereas backline players require greater speed (Quarrie *et al.*, 1995). In both codes, the backline players tend to be shorter and lighter than forward players.

Rugby sevens players' body composition predominantly consists of lean body mass (Ross *et al.*, 2014). Bell (1979) stated that when discussing body weight, it is important to indicate the amounts of total body fat and lean body mass. Lean body mass is calculated by subtracting the fat mass from the body weight (Duthie *et al.*, 2006). Lean body mass is preferred rather than fat mass, especially in sevens, where the forwards have to be more mobile than their counterparts playing 15-a-side rugby (Rienzi & Malkin, 1999). Therefore, it is important to specify the type of mass, since an increase of a player's skeletal muscle can result in a decrease in the amount of high intensity activity (Rienzi & Malkin, 1999; Duthie *et al.*, 2006; Smart *et al.*, 2014). Excess muscle mass correlates negatively with performance due to the high intensity

of rugby sevens (Rienzi & Malkin, 1999). Since it is expected of backline players to sprint often and have a high work output they will benefit from carrying less body mass (Meir, 2012).

Due to the role that the above-mentioned components play on performance, the focus should be on the relationship between total body fat and lean body mass. Even though forwards might require more total body fat than the backline, excess fat will have a negative effect on their performance. The development of lean body mass should be the main priority, in order to increase speed, strength and power (Bell, 1979). Different training and dietary strategies are used (especially in preparation for competitions) to help gain lean mass while decreasing the total fat mass. During the competition phase, body composition can change due to a number of factors such as travelling, injury, the amount of training, amount of match time, dietary practices or illness (Duthie *et al.*, 2006). Although anthropometric features and work rate play a big role in rugby sevens, these are not distinguishing factors in determining the eventual performance of a team (Rienzi & Malkin, 1999).

2.5.2 PHYSIOLOGICAL DEMANDS

It is important to realise that the physiological demands in rugby sevens are significantly different from that of other rugby codes, such as 15-a-side rugby (Rienzi & Malkin, 1999; Fuller *et al.*, 2010). In 15-a-side rugby, muscle strength, speed, agility, anaerobic and aerobic power is needed – just to mention a few (Di Corrado *et al.*, 2014). Specific skills are also required for each positional role which may place unique physiological demands on the individual player (Rienzi & Malkin, 1999; Smart *et al.*, 2014; Tee *et al.*, 2016).

In 15-a-side rugby, a combination of endurance conditioning, high intensity interval training, game-based training and skills training are necessary. However, it is still unclear how these specific forms of training are preparing the players to deal with the demands of the game (Tee *et al.*, 2016). During the past 20 years the demands of 15-a-side rugby has changed as a result of becoming a professional sport (Austin

et al., 2011b). The frequency of high intensity running and sprinting has increased. Players cover more distance during a match and there is less time standing still, walking or even jogging. The work-rest ratio also changed for all the playing positions. Training should, therefore, reflect the competition intensities (Austin *et al.*, 2011a; Austin *et al.*, 2011b). When players are working on speed they should not only spend time on sprinting less than 20 meters, but also do longer sprints with distances varying between 30 and 60 meters (Austin *et al.*, 2011a; Suarez-Arrones *et al.*, 2012). When training at high intensity, the drills have to be functional and rugby specific in order to improve tackling, rucking and mauling (Austin *et al.*, 2011b).

Some players take part in both 15-a-side rugby as well as rugby sevens, especially during the development stages. Even on a professional level some players continue to play both codes, but with rugby sevens growing as a sport chances are that more players will start to specialise in rugby sevens (Fuller *et al.*, 2010; Ross *et al.*, 2014).

Rugby sevens has higher running demands, including numerous bouts of high intensity running, followed by short recovery periods (Fuller *et al.*, 2010; Meir, 2012; Suarez-Arrones *et al.*, 2012; Ross *et al.*, 2014). The speed at which rugby sevens is played, as well as the complexity of the sports' demands serves as major attractions to the game (Meir, 2012). Developing aerobic fitness is, therefore, paramount (Suarez-Arrones *et al.*, 2012).

In the past, time-motion analysis for rugby sevens was performed by making use of video analysis (Rienzi & Malkin, 1999). More recently, GPS has become popular to capture and analyse training intensities (Higham *et al.*, 2012; Suarez-Arrones *et al.*, 2012). Higham *et al.* (2012) found that rugby sevens players run on average between 113 and 120 meters per minute. International rugby sevens players sprint more frequently (39% more) and cover more distance (27% more) during international competition than when competing in local competitions. This can be due to higher physical demands as the competition level increases (Higham *et al.*, 2012).

While preparing for a sevens tournament, the training sessions should consist of high intensity sessions with high volumes of speed (sprints), agility, passing and kicking (Meir, 2012; Smart *et al.*, 2014). The work-to-rest ratio in training should be similar to that of the competition (Meir, 2012; Suarez-Arrones *et al.*, 2012). Suarez-Arrones *et al.* (2012) suggested that the work-to-rest ratio should be 2:1 in training. According to Meir (2012), there should also be more than one of these sessions per day.

Due to the high frequency of the matches the players are at a greater risk of injury (Meir, 2012). Players with tight hip flexors were found to be at a greater risk of injury than those who did not struggle with thigh hip flexors (Rizi *et al.*, 2016). The risk of injury is also greater for rugby sevens than that of 15-a-side rugby, with most of the injuries occurring during contact. This could either be from being tackled, making the tackle or a collision (Fuller *et al.*, 2010; Meir, 2012). Most of the injuries are to the lower body (Fuller *et al.*, 2010; Meir, 2012; Rizi *et al.*, 2016). Rizi *et al.* (2016) and Meir (2012) reported that ankle ligament injuries are most prevalent (48.4%) under university rugby sevens players. Due to the higher speed sevens is being played at, the forces are higher during collisions resulting in a greater risk of injury (Fuller *et al.*, 2010; Meir, 2012). The higher the level of participation, the more frequently players will experience extreme impacts. This is probably due to the bigger total mass and lean mass of participants playing on a more professional level (Clarke *et al.*, 2017a).

Training programmes have an influence on hormone levels as well as on the physical performance of sevens players (Bouaziz *et al.*, 2016). It is, therefore, important to monitor the players before and during tournaments as player monitoring is important for injury prevention and preparation. At the tournament itself, body weight, hydration, wellness and recovery should be monitored on a daily basis to assess the level of fatigue experienced (Meir, 2012). Bouaziz *et al.* (2016) noted that monitoring plays an important role in preventing overtraining. Monitoring training loads and training strain can help to prevent a decrease in sevens players' performance

(Bouaziz *et al.*, 2016). After training for a match, multiple recovery strategies need to be used, such as: cool down exercises, pool recovery, proper nutrition and hydration, supplements, ice baths and off time where players need to stay in their room and relax. To help with recovery, rugby sevens players should consider wearing compression garments while travelling, sightseeing, playing and resting (Meir, 2012). Bosch *et al.* (2015) found that sevens players that consumed a combination of carbohydrate and casein hydrolysate drink experienced less delayed onset of muscle soreness than seven's players that were only supplemented with a carbohydrate drink. The intake of the two different post training supplements did not have any influence on their heart rate recovery.

2.5.3 TECHNICAL AND TACTICAL DEMANDS

With sevens evolving all the time, technical differences could play a big role in the outcome of a match (Barkell *et al.*, 2016). There should, therefore, be a strong emphasis on developing players' technical skills. Fewer players on the field imply that passes between players need to travel a greater distance than in 15-a-side rugby. This also puts additional pressure on players to defend more space (Meir, 2012).

Possession in rugby sevens is a significant requirement to gain points by scoring a try or kicking (Higham *et al.*, 2014; Barkell *et al.*, 2016). Winning teams score significantly more tries than losing teams. There is not a big difference in the amount of attacking opportunities and ball possession between successful and unsuccessful rugby sevens teams. This indicates that the winning team does not need more opportunities to be successful. The decisions made with the available opportunities play an important role. Therefore, other performance indicators may influence the success of a team (Barkell *et al.*, 2016).

Winning teams performed more restarts than losing teams in sevens. This is due to the rule in sevens that the team that have scored a try performs the next restart. When looking at the restart statistics, winning teams had a higher number of

uncontested restarts. These kinds of restarts will consist of a long kick where the opposition gain possession without being challenged. This will indicate that the focus of the successful team was rather on gaining field territory than possession of the ball. After the restart, the successful team will make use of resolute defence and force the opposition into making mistakes (Barkell *et al.*, 2016). The more successful teams' ability to turn possession over at this phase of play was significantly greater than that of the losing teams (Higham *et al.*, 2014; Barkell *et al.*, 2016).

Set pieces are also an opportunity to change possession in rugby sevens. The number of lineouts for winning and losing teams was not significantly different. The winning teams had more scrums than losing teams. This can be due to ineffective passing from losing teams as well as effective tackling from winning teams, which results in more scrums being awarded. The attacking team would prefer a scrum rather than an immediate turnover of possession, where there could be counter attack opportunities. In the case of a penalty a quick tap was used most of the time (Barkell *et al.*, 2016). Teams that receive more free kicks and penalties subsequently have a better chance to score points (Higham *et al.*, 2014).

Successful teams also had more line breaks than their unsuccessful counterparts. The amount of line breaks relates positively to the number of tries being scored, however, the amount of possession does not seem to influence the number of line breaks. When progressing to the knockout stages no significant differences were found in gaining possession in open play between successful and unsuccessful teams (Barkell *et al.*, 2016).

2.5.4 LOGISTICAL DEMANDS

Travelling can cause fatigue due to stress with the preparation for the flight, the flight itself as well as adapting to the new environment. When travelling by air, fatigue can be caused by boredom, sitting in a bad body position for a long period, lack of sleep and exposure to dry cabin air. While airborne, the dryness in the air can cause sore lips and dehydration (Waterhouse *et al.*, 2000).

Players should fly in comfortable clothing. With the lack of cabin space, players are advised to walk around and do static stretches in or between flights to prevent muscle cramps (Waterhouse *et al.*, 2000). It is also important to stick to the normal eating habits during travel periods. To help players sleep while travelling they should avoid alcohol and stay hydrated by drinking enough water and only eat when they are hungry (Meir, 2002). Players should only take naps or sleep on a flight during night time according to the destination they are flying to. Some players make use of sleeping tablets when travelling. However, the influence that it can have on physical performance has not been adequately assessed (Waterhouse *et al.*, 2000).

When travelling, players do not only have to adapt to the new environment, altitude and weather, but also to different time zones. When travelling across time zones the body clock of the players will not be synchronised to the local time of the new destination (Reilly *et al.*, 1997; Youngstedt & O'Connor, 1999; Waterhouse *et al.*, 2000; Meir, 2002). This can cause disruptions in the circadian system, which could have a negative impact on the player's performance (Youngstedt & O'Connor, 1999). Due to the disruptions in the circadian system players may experience jet lag (Reilly *et al.*, 1997; Waterhouse *et al.*, 2000). This temporary mismatch can include feelings of fatigue during the day, insomnia at night, lack of concentration and motivation, confusion, headaches and irritability (Reilly *et al.*, 1997; Waterhouse *et al.*, 2000). It is important that the sleep-wake up cycle must be adapted before full training sessions are attempted or the competition starts (Reilly *et al.*, 1997).

The severity of the symptoms can be influenced by the age and level of fitness of the athletes (Reilly, as cited by Meir, 2002). The symptoms will last longer when travelling in an eastern direction and will become more severe as more time zones are crossed. The body clock adapts easier to a lengthening of the day (more than 24 hours) than to a shortening of the day (less than 24 hours) (Reilly *et al.*, 1997). Melatonin has been used for its hypnotic functions that can help players to sleep and reduce jet lag. The influence of melatonin on performance has also not been established (Waterhouse *et al.*, 2000).

Meir (2002) gave practical guidelines to minimise the effect of jet lag on players. Having a positive attitude and a passive mind, just going through the motions of travel may help. By getting the players to change their watches to the local time of the point of arrival as soon as they depart, will help them to adapt to the new sleeping and eating patterns. Exercise can help to combat dozziness and, therefore, can be useful in overcoming the initial fatigue (Reilly *et al.*, 1997). Stimulants such as caffeine can be helpful in the morning, though it should be avoided at night time, since it can inhibit sleep. Alcohol should also be avoided at night time due to its diuretic function (Reilly *et al.*, 1997; Waterhouse *et al.*, 2000).

Lack of sleep can also affect a player's mood state, which could influence performance (Reilly *et al.*, 1997; Youngstedt & O'Connor, 1999). Meir (2002) suggested that players should switch their phones off when sleeping to ensure that they are not disturbed.

2.6 PSYCHOLOGICAL FACTORS

2.6.1 GROUP FACTORS

To build a team that's not just successful but also work well together, numerous factors need to be considered (Yukelson, 1997). Some factors need to be dealt with individually, such as honest communication and individual accountability, while other factors within the team, such as team vision and team culture. To build the team is an ongoing learning process guided by mutual goals and continuous reflection on possible ways to improve the teams' ability to work together (Yukelson, 1997).

2.6.2 COHESION

The term 'team cohesion' refers to more than just a team's ability to work together; it refers to the team's purpose. A team's cohesion plays an important role in a team's success (Widmeyer *et al.*, 1993; Carron *et al.*, 2000; Kozub & Button, 2000). It is important to monitor the sense of cohesion throughout a season. If players feel part of a unity working towards the same goals in the beginning of a season, they will see it as important to keep the team climate positive throughout the season (McLaren *et*

al., 2017). Teams that consist of very talented players but a low level of cohesion will not necessarily be a team that does well. Strong cohesion does not only benefit the team as a whole, but also the individuals within the team. Strong cohesion gives players a sense of security that helps to improve the confidence of the team. In a positive environment where team members support each other, instead of being negative and critical, cohesion will improve. Team cohesion can further be improved by setting team goals (Robbins & Finley, 1997), clarifying roles and responsibilities (Janssen, 1999), communication, hard work, stability (Potgieter, 2006), success (Widmeyer *et al.*, 1993; Kozub & Button, 2000) and cooperation (Hall, 1985).

2.6.3 COOPERATION

The term 'cooperation' refers to the ability to work together as a team. By enhancing the cooperation, the cohesion of the team will also enhance (Potgieter, 2006). A sense of unity will influence the cooperation of a team. When players from the same team are not working towards the same goals there will be a lack in cooperation. This can be caused by a system that revolves around talented players, which will cause lot of internal competition. Even though limited internal competition can be positive, too much thereof will cause players to form smaller groups within the system that will cause tension within the team. The cooperation of players can therefore be influenced by the motivational climate in the team (McLaren *et al.*, 2017). To enhance the cooperation in a team Hall (1985) proposes that coaches should reward collective team effort rather than focusing on individual performances.

2.6.4 MOTIVATIONAL CLIMATE

It is important that coaches create the environment where, from a young age, players are forced to make decisions instead of instructing them exactly what to do. Helping players develop decision making skills plays a big role in rugby sevens. Matches comprise dynamic environments to which players must constantly adapt. This also holds true for 15-a-side rugby. However, the demands on players to make quick and appropriate decisions are greater in sevens due to its highly dynamic nature, space available, faster pace of matches and their shorter duration (Light *et al.*, 2015b).

Hodge *et al.* (2014) observed that among the New Zealand All Blacks a motivational climate was created by a coaching approach that offered choice, encouraged initiative and used performance feedback. By offering choice, the players took ownership and were accountable for decision-making. A sense of responsibility was created, as well as leadership by encouraging initiative. The feedback did not only focus on the weaknesses, but also on improving further on the strengths. The leadership was transformed by focusing on the following seven areas: Firstly, individual consideration focusing on empowerment and ownership; secondly, inspirational motivation of becoming better people and not just better rugby players; thirdly, intellectual stimulation by ensuring enjoyment and fun. The fourth area was fostering acceptance of group goals again focusing on ownership and accountability, but also in the planning of the campaign. This was followed by high performance expectations by looking at one's own challenges and also about the legacy that will be left. Lastly, appropriate role modelling where coaches would change roles to understand each other's roles better as well as grasping their own role and responsibilities. These are some of the components that can contribute to a motivational climate in a team (Hodge *et al.*, 2014).

2.6.5 PSYCHOLOGICAL SKILLS

Psychological skills (including goal setting, imagery and self-confidence to name a few) have been found to affect performance (Kruger, 2010). A rugby player's psychological skill levels depend on numerous factors. Studies show a relationship between their cognitive perception and psychological skill levels, influenced or changed by certain events or through psychological intervention. It is possible that rugby players reach a certain level of competition due to psychological skills that have been developed at an earlier stage (Kruger *et al.*, 2010). Players' perceptions of their opponents can play a role in the outcome of a match (Kruger *et al.*, 2010). Rugby players that see their opponents as better prepared physically, as well as mentally, might struggle to compete successfully.

2.6.5.1 GOAL SETTING

Goal setting is a useful tool for rugby players to improve their on-field behaviour and also plays an important role in motivation (Mellalieu *et al.*, 2006). It is a tool that can be used to improve a number of factors such as self-efficacy and confidence as well as the overall performance. It provides players with direction and feedback on the journey to accomplish long term goals (Burton, 1993). Senior rugby players that set individual goals improved in ball carries, tackles made, successful kicking and turnovers won throughout a rugby season (Mellalieu *et al.*, 2006).

2.6.5.2 IMAGERY

Imagery is used to create the same effect on a nervous system that a real event would have, by imagining the scenario beforehand (Holmes & Collins, 2001). Players need to believe in the process and should practise regularly to ensure effectiveness. When making use of imagery it is important to make use of all of the senses to recreate an actual experience. The experience could include both internal and external perspective of the given situation (Holmes & Collins, 2001). Evans (2003) found that after an imagery intervention an elite rugby player reported more control over his anxiety as well as more self-confidence before matches. Imagery interventions can help players with motivation levels, activation and more vivid images when visualising.

2.6.5.3 ANXIETY AND STRESS MANAGEMENT

In rugby sevens, the players often experience higher levels of somatic and cognitive anxiety before the first match of the day versus the second match of the day. The anxiety experienced prior to the first game had a potentially negative effect on the first game. However, their levels of self-confidence did not change significantly (Ismail & Amer, 2016). Saether and Aspvik (2016) found that young 15-a-side rugby players that do not get a lot of match time, experience more stress about evaluation, performance and their future than players who play more matches. As players get more experienced their ability to focus their attention also increases (Robazza & Bortoli, 2007; Di Corrado *et al.*, 2014).

At the under-18 national level, 15-a-side rugby players reported making physical or mental mistakes, criticism, injury and observing an opponent playing well as the main causes of stress (Nicholls & Polman, 2007). Making a physical mistake was identified as the number one stressor, closely followed by criticism. Though the stressors experienced differ between training days and match days (Nicholls *et al.*, 2009), the latter heightens the pressure experienced by players (Nicholls & Polman, 2007). Senior rugby players reported that on a match day observing an opponent cheat, a wrong call by an official, distraction and opponents performing well were the main stressors they had to deal with (Nicholls *et al.*, 2009).

The most common coping strategy players used on match days was blocking out negative thoughts (Nicholls & Polman, 2007; Nicholls *et al.*, 2009). It was suggested that rugby players should make use of focus-refocus, visualisation and concentration to help them deal with the situations causing stress (Nicholls & Polman, 2007). On non-match days increased concentration was the most frequently used strategy during training sessions (Nicholls *et al.*, 2009). Players reportedly coped better on training days than on match days. The higher levels of emotion experienced by the players, the lower the level of coping (Nicholls *et al.*, 2009). Overall it is important to take individuality into account with regards to emotional intensity, coping effectiveness and experiencing stress (Nicholls *et al.*, 2009).

When a player experiences anxiety it could cause negative thoughts, potentially resulting in lower self-esteem and self-confidence, as well as fear of failure (Ismail & Amer, 2016). Symptoms such as increased muscle tension, difficulty to breathe, increased heartbeat and sweating are consequences of anxiety (Ismail & Amer, 2016). In a competition like the World Cup, players experience external stressors, for example expectation built up by the public or the media. A team will respond positively to these kinds of stressors if they have a strong sense of collective team value. It is, therefore, important to identify and understand the stressors and the role it can play on the team dynamics (Shearer, 2015). Coaches and players are encouraged to make use of psychological skills training that can assist with

managing and restructuring competitive anxiety (Ismail & Amer, 2016).

2.6.5.4 SELF-CONFIDENCE

Woodman and Hardy (2003) found that self-confidence played a bigger role in performance than cognitive anxiety. Self-confidence can be defined as the belief in one's own abilities to succeed (Holland *et al.*, 2010). This form of self-belief is seen as very important in the sporting domain and needs to be developed (Hays *et al.*, 2009). According to Neil *et al.* (2006) and Hays *et al.* (2009) elite athletes tend to have more self-confidence than athletes participating at lower levels. This adds to the finding that successful athletes have a higher level of self-confidence than that of less successful athletes. One of the suggested reasons for this finding is the amount of pressure elite athletes have to deal with (Woodman & Hardy, 2003). Even the top athletes' self-confidences fluctuate from time to time (Hays *et al.*, 2009). It was found that pre-competition self-confidence levels of elite athletes play a significant role in their performance (Woodman & Hardy, 2003). Athletes who experience a high level of sport confidence prior to a competition were more successful than athletes who experienced a lower level of confidence. This was linked to the finding that self-confident athletes tend to put more effort into their sport (Hays *et al.*, 2009).

2.6.5.5 CONCENTRATION

Concentration refers to the ability to focus correctly for the task at hand. To concentrate effectively is a very important aspect of performance (Greenlees *et al.*, 2006). Concentration can be disrupted due to anxiety that is caused by negative thoughts (McCarthy *et al.*, 2012). To enhance concentration athletes should improve their ability to focus. This can be done by practising attentional focus, simulation training, planning for potential distractions and ensuring that certain routines are followed (Potgieter, 2006). In young athletes anger plays a significant role in lack of focus and performance. It is, therefore, important to monitor the prevalence of anger and introduce methods that can be used to help with the refocus process. In adult athletes, the ability to concentrate is influenced by the level of happiness.

Interventions' main focus should in this case be to enhance happiness (McCarthy *et al.*, 2012). When athletes feel overwhelmed by negative thoughts or distractions they should be able to stop their thoughts and redirect them. The process of thought stopping consist of identifying the thought, stopping the thought by making use of cue words such as 'stop' or 'delete', replacing the thought and refocusing on something relevant at that given time (Evans, 2003). The level of experience can also contribute to an athlete's ability to concentrate in challenging situations (McCarthy *et al.*, 2012).

2.6.5.6 COMBINATION OF SKILLS/TECHNIQUES

Elite rugby players make use of a combination of mental rehearsal, positive self-talk and thought stopping to manage anxiety being experienced in competition (Neil *et al.*, 2006). It is useful to compare different strategies with each other, paying attention to the influence of the frequency of the sessions (Neil *et al.*, 2006).

2.7 THE DEVELOPMENT OF PSYCHOLOGICAL SKILLS

2.7.1 ADVERSITY

Athletes face adversity when they experience challenges in their sporting careers. Setbacks should be used to encourage learning and reflection throughout the development pathway (Sarkar *et al.*, 2015). Savage *et al.* (2017) found that elite athletes only reported on adversities seven years after taking part in their specific sport. This is possibly due to the influence the adversity can have on the future of the athlete. Most of the adversities that elite athletes remembered from their childhood were sport related, with only selected incidents related to illness. As athletes devote more time to a sport, their motivation to overcome adversities experienced also increases. Handling adversities was influenced by personal experiences and not just by making use of psychological characteristics to overcome the issue (Savage *et al.*, 2017). It is stated that adversities are not used to acquire new skills but rather to refine the skills that the athlete already possess.

Sarkar *et al.*'s (2015) study on Olympic gold medallists, found that adversity experiences during childhood played a fundamental role in their psychological and

performance development. This finding supports the theory that adversity is needed for development into elite athletes. Testing players and adding pressure to training sessions could enhance their ability to handle challenges (Sarkar *et al.*, 2015; Savage *et al.*, 2017). This can be done by making use of structured trauma where a player can be included in a team that might challenge the athlete on a technical and tactical level. Players should make use of the previously acquired psychological skills to overcome this kind of adversity. Assistance should be available and afterwards players should be debriefed on how to handle such adversities (Savage *et al.*, 2017).

2.7.2 PSYCHOLOGICAL SKILLS TRAINING PROGRAMMES

Di Corrado *et al.* (2014) found that young elite rugby players perceive confidence, mental toughness, game sense and the ability to focus attention to be important skills for their development. Psychological characteristics such as resilience, self-confidence, creativity and selflessness can be developed by playing team sports. These characteristics are fundamental in achieving optimal performance at the youth level and it also fosters learning values, social skills, morals and psycho-social traits that are very importance not only for sport but also for life (Light *et al.*, 2015a). Athletes should be encouraged to take responsibility for their own and the team's well-being. This should be combined with life balance, lifestyle, respect, social skills and peer support to improve life beyond just sport performance (Holland *et al.*, 2010). Psychological skills training programmes can help to promote personal well-being and performance among athletes (Holland *et al.*, 2010). Psychological skills training interventions used to only focus on a single skill, for example mental or cognitive arousal, imagery, concentration, self-confidence, goal setting or attention focus. However, in the last 20 years such programmes have evolved and are now addresses a combination of psychological skills (Davidson & Edwards, 2014).

Athletes need psychological skills to optimise concentration and emotional control (Sharp *et al.*, 2013). Psychological skill training programmes consist of different techniques that can be used to improve natural occurring psychological skills (Edwards & Edwards, 2012b; Davidson & Edwards, 2014). Psychological skills, like

any other skill, can be learned and trained progressively over time. Psychological skill training programmes need to be different depending of the age, level, sport type and psychological skills required (Edwards & Edwards, 2012a). In South Africa only elite teams get exposed to psychological skill training programmes, whereas in countries that are economically more developed, such programmes are more readily accessible (Edwards & Edwards; 2012b). Psychological skills training programmes can help players to enhance their performance by approaching pre-competition anxiety in a positive way that will eliminate the negative influence of anxiety on their performance (Mamassis & Doganis, 2004).

Youth rugby players reported that prior to being exposed to a psychological skills training programme, they were not aware of what psychological skills training was. In the same study the athletes admitted that prior to being exposed to such a programme they did not think about the mental aspects of their performance (Sharp *et al.*, 2013). After completing the programme, the participants expressed a need to increase the frequency of the sessions as well as the duration of the sessions. It was suggested that fun activities should become part of a psychological skills training programme especially at high school level (Davidson & Edwards, 2014).

It is also important to understand how the support network of athletes may affect their perceptions about psychological skills training. Coaches play a big role in how athletes will perceive such a programme. The support of the programme can increase when coaches are involved with or attend the programme themselves (Sharp *et al.*, 2013). Coaches perceived psychological skills training as making a positive contribution to development programmes (Sharp *et al.*, 2013). The coaches voiced that it is important for athletes to learn how to deal with competition and the pressure that comes with it. They believed that a psychological skills training programme could help the players. Well-planned psychological skills training programmes informing athletes about psychological skills, training skills and techniques, improving team cohesion and increasing openness, self-regulation and honesty were perceived as effective (Sharp *et al.*, 2013).

Edwards and Edwards (2012b) found that after implementing a psychological skills training programme on provincial rugby players, their perception of their own psychological skills was enhanced and that it improved their psychological well-being. Players reported an increase in imagery ability, mental preparation and self-confidence. An improvement in motivation, the ability to relax as well as more facilitative perceptions about anxiety was also reported (Edwards & Edwards, 2012b; Davidson & Edwards, 2014). The individual performance as well as that of the team also improved after completing the psychological skills training programme (Davidson & Edwards, 2014). Numerous players stated that although the psychological skills training programme was new and unusual in the beginning, it helped to build their self-confidence and to relax and focus better (Edwards & Edwards, 2012b; Davidson & Edwards, 2014). There is still a perception that psychological skills training is only necessary for players that have personal or game related problems (Davidson & Edwards, 2014).

Laureano *et al.* (2014) investigated the development of coping self-efficacy for first year rugby players at a University, to deal with various stressors such as personal, academic and sport challenges. After implementing an experiential learning programme, the rugby players dealt better with the various stressors they experienced. Their self-appraisals and support-appraisal also increased significantly after the intervention. The improvement in coping self-efficacy also had a positive effect on the psychological well-being of the players.

2.8 POTENTIAL NEGATIVE CONSEQUENCES OF ELITE SPORT PARTICIPATION

2.8.1 CLINICAL DISORDERS

Athletes are less probable to struggle with mental illness than the average population (Hill *et al.*, 2015). In sport, it is a very important that clinical problems should be identified, diagnosed and addressed as early as possible. Eating disorders, anxiety and depression tend to have a negative influence on the development of young athletes. It is very important to include clinical expertise in the talent development

process to help identify such clinical problems. This emphasises the importance of identifying clinical problems at an early stage to ensure that the right interventions can be used to help throughout the development process (Hill *et al.*, 2015).

The athletes' background, the training environment and problems that relates to adolescence were identified as risk factors for developing clinical problems at a later stage. It is, therefore, suggested that parents should be aware of the problems that can be faced during the developmental process and about their role in their child's talent development and psychological well-being. Coaches and support staff should also be aware of the warning signs of clinical problems and interventions that should be taken once such signs are identified (Hill *et al.*, 2015).

The lack of understanding of clinical problems and the general lack of awareness thereof, is a growing concern, according to Hill *et al.* (2015). A combination of symptoms accompanied with a number of problems need to be identified to raise the question if a diagnosis of mental disorder can be made. The cause of mental disorders is often difficult to identify due to a lack of tangible symptoms (Gouttebauge, 2015).

Almost half of the elite Australian athletes that took part in a study met the criteria for having at least one mental problem. Twenty percent of the athletes had significant symptoms of depression, while 25% had symptoms of eating disorders. It is important to note that 25% of the participants of this study were struggling with injury at the time of the study (Gulliver *et al.*, 2015).

2.8.2 PSYCHOLOGICAL IMPACT OF INJURY

With the physical and psychological demands on athletes, the risk for injury is high. Sport psychological consultants play an important role in the prevention of injury, as well as in the rehabilitation and recovery of injured athletes (Frey, 1991; Potgieter, 2006).

Johnson and Ivarsson (2011) found there are certain psychological predictors that play a role in the prevalence of injury in young soccer players. Injured players had a significantly higher level of somatic anxiety than non-injured players (Williams & Andersons, 1998; Johnson & Ivarsson, 2011). According to Johnson and Ivarsson (2011), a low level of mistrust can lead an athlete into high risk situations that can result in injury. The combination of high somatic anxiety and low mistrust were the reason for 11% of the injuries in their study. The study also found that the stress caused by a negative life event can contribute to the occurrence of injury. An athlete with a personality that is prone to experience stress will have more difficulty coping with negative life events. The lack of coping mechanisms or coping skills could contribute to more stress in such a situation. The age of the athletes will also influence their stress experience. In younger athletes' stress can be caused due to pressure from parents or leaving their home while older athletes are more concerned about building a sporting career (Johnson & Ivarsson, 2011).

The combination of the mentioned personality traits (high somatic anxiety, low mistrust and stress sensitivity), ineffective coping and the stress caused by negative life events can successfully predict 67.4% of the injuries (Johnson & Ivarsson, 2011). Even though injuries can be predicted it is not always possible to prevent injuries from happening.

When injuries occur, it is expected of athletes to cope well, since professional athletes are goal oriented and highly motivated individuals by nature. The emotional impact of an injury, however, can be so severe that it can result in depression, anxiety and loss of self-esteem. Some athletes tend to relate their self-worth to their performance and, therefore, a lack of performance can cause athletes to experience a loss of identity (Chan & Grossman, 1988).

Injured athletes also tend to score higher in depression symptoms than the non-injured athletes. This emphasises the necessity of providing the appropriate clinical assistance to injured athletes. With the high rate of depression observed, it was

suggested that topics like depression should be discussed with athletes while they are still young. Other problems, such as social anxiety was also identified and should be addressed (Gulliver *et al.*, 2015).

Injured athletes should be aware of the status of their injuries. Encouragement, social support and the maintenance of relationships plays a fundamental role in the rehabilitation process (Potgieter, 2006). Injury type and personal control determine if athletes attended rehabilitation sessions. Athletes that make use of problem-focused coping tend to take personal control and attend rehabilitation sessions frequently, which could contribute to the recovery process. Problem-focused coping, social support and positive feedback about the injury play a fundamental role in the injured athletes' sport involvement (Hagger *et al.*, 2005).

When rugby players have to retire due to injury or life events, players are more likely to be unhappy with their professional career. In this case players will have a higher risk of developing mental problems (Gouttebauge, 2015).

2.8.3 BURNOUT AND OVERTRAINING

Raedeke (1997) argued that burnout is multidimensional and the characteristics should be aligned with the main responsibilities of being an athlete. Burnout is the body's response to accumulated chronic stress. It is important to know why an athlete is participating in sport. If it is because the athlete is forced to participate and not because the athlete wants to do it, burnout could develop. From a commitment perspective, it is clear that if athletes feel trapped in the sport, they have high chances of burning out (Raedeke, 1997).

Elite athletes have a great sense of determination, which is important to help them persevere through hard training conditions to ensure adequate preparation for competitions. Even though putting in the effort, some athletes do not achieve the goals they set for themselves. These setbacks can create a sense of frustration. A number of setbacks can cause an athletes' determination to decrease due to

experiencing a form of physical or psychological fatigue. When fatigue is experienced with its negative effect and an increased self-focus, the determination to perform on a certain level can lead to burnout. It is important to regulate the amount of value players attach to their achievements, since this, in combination with other variables, can play a role in the onset and development of burnout among athletes (Lemyre *et al.*, 2008).

Most of the athletes suffering from burnout are high achieving athletes. The situations that might lead to burnout are usually not clear during the beginning stages, since athletes usually overcome challenges easily. When an athlete values winning or achieving certain goals as very important, it can be the base of the problem. It is important then to protect them from the psychological impact of struggling to achieve goals. If precaution is not made athletes will struggle with psychological, emotional and behavioural disconnection from the sport as the challenges arise and achievement becomes harder (Lemyre *et al.*, 2008).

Raedeke (1997) reported that burnout in athletes can be identified by three indicators. Firstly, athletes that suffer from burnout experience emotional and physical fatigue, due to the strenuous demands of training and competition. Secondly, athletes struggle to achieve their goals, resulting in a struggle to feel a sense of achievement. Thirdly, the sport loses value to the athlete and athletes are no longer interested to perform. This is due to the feeling that determination to perform leads to little reward.

A burnout questionnaire completed by professional rugby players revealed that intrinsic motivation was not associated with burnout while a lack of motivation correlated positively with burnout (Cresswell & Eklund, 2005). Lemyre *et al.* (2008) reported that athletes do not suffer from burnout just because of a lack of motivation. A maladaptive motivational profile probably plays a big role in the susceptibility to burnout. If athletes have perfectionist qualities, they have a fear of making mistakes and do not believe their own abilities are adequate. They have the need to achieve

certain goals to feel a sense of self-validation. These trends increase their chances of burning out (Lemyre *et al.*, 2008).

The amateur rugby players stated that exhaustion was the biggest reason for their reduced accomplishment. Exhaustion did not play such a big role for the professional players since they were part of a more controlled environment with more professional support. For professional rugby players, their careers and finances can be influenced by injury and failure to meet performance goals, which can lead to feelings of reduced accomplishment (Cresswell & Eklund, 2005). Players that experience a lack of motivation and self-determination were not as prone to burn out in comparison to players with a high level of intrinsic motivation (Cresswell & Eklund, 2005).

2.9 SUMMARY

To summarise, sevens originated in 1883 and has evolved since then with particular growth in interest, due to the recent inclusion of the sport in the summer Olympic Games in Rio 2016. The need for quality players at the professional level appears to grow, but the most effective development pathways are yet to be fully explored. Literature has indicated that it is important not to identify talent too early and not to put too much focus on specialisation in a single sport, but rather to nurture the love for sport from a young age. In South Africa, we are currently making use of Balyi's Long Term Athlete Development model that takes a holistic approach in the development of athletes / rugby players. Factors such as maturity, 'relative age effect' and windows of opportunity also play an important role in optimising the development of young athletes.

Career transitions of athletes are also significant, having an all-encompassing impact on athletes' lives. As athletes move into their professional careers, they will be exposed to a new set of demands on a physical and psychological level. With sevens being a highly competitive sport, body composition plays an important role. Athletes must be capable to endure the physical demands that differ from any other sport – even in 15-a-side rugby. Competition conditions should be simulated during training

sessions and should consider the high intensity and speed of sevens. With less players on the field, the technical skills of sevens players need to be superior to that of 15-a-side rugby players in many cases. This includes skills like kicking and passing, as well as tactical aspects such as ball possession and gaining territory.

The logistical demands on sevens players also differs to 15-a-side rugby players due to the quick turnaround between matches and tournaments. As in any team sport, group factors such as cohesion, cooperation and team climate plays an important role in the success of a team. Psychological skills are used to help the team to cope under pressure both on the group and individual levels. These skills should be acquired by exposing athletes to adversity from a young age or by making use of a psychological skills training programmes. Throughout the process of looking after athletes' psychological health, it was found to be important to take into account the role that injury and overtraining can play in the athlete's professional career.

It can be concluded that even though a lot of research in different domains in sport has been done, there is limited information available on rugby sevens and the specific factors that could help improve players psychologically from a young age.

Chapter Three

RESEARCH METHODOLOGY

3.1 INTRODUCTION

As mentioned in chapter one, there has been an increased interest in rugby sevens recently. As rather limited research has been done on rugby sevens, a study which analyses the demands of the sport, covering a variety of spectrums, could contribute to better talent development across the different participation levels.

The primary purpose of this study was to analyse the perceived demands of rugby sevens held by professional players and coaching staff. In order to achieve this, the following three objectives were set out in chapter one to guide the research process:

1. To explore the perceptions held by professional players and coaching staff about the physical, technical, tactical and logistical demands of rugby sevens.
2. To explore the perceptions held by professional players and coaching staff about the psychological demands of rugby sevens.
3. To explore the specific individual player (off-the-field) needs of rugby sevens players.

This chapter will outline the research methodology used to achieve the objectives of this study. This will include discussing the study design that was used, the participants that was included in the study, the procedures that were followed, the interviews and data analysis that took place as well as the data verification.

3.2 STUDY DESIGN

The study was exploratory in nature, and used a qualitative approach to analyse participants' subjective views. According to Hiatt (1986), qualitative research methods enable a better understanding of the perspectives and experiences of participants, allowing for further interpretation of their related reality. A qualitative approach contributed to the study's justifiability and plausibility. This method was

subsequently more effective in gaining raw feedback than quantitative studies using surveys. As advised by Durrheim (2006), the study took place in a natural setting with which the participants were familiar and that was convenient and comfortable to them. These aspects added to the trustworthiness of the data.

3.3 PROCEDURE

It is important that research is conducted in a logical manner to ensure that it conforms to scientific rigour and general credibility (Merriam, 2009). In this study, the researcher decided on a specific topic (in this case the perceived demands of rugby sevens held by professional players and coaching staff). This was followed by planning the process that was followed to conduct the research.

Studies that include human participants such as professional athletes require ethical clearance. In this study, preliminary permission was obtained from the coach of the sevens academy as well as the coach of the South African national sevens team. Once the preliminary permission was acquired the proposal was presented to a Masters and Doctoral committee, and together with an online ethical application was submitted to the University of Stellenbosch for approval. The study was cleared by a Departmental Ethics Screening Committee and ratified by the Research Ethics Committee: Human Research (Humanities) of Stellenbosch University (proposal number: SU-HSD-002671).

A request for clearance was sent to the South African Rugby Union's (SARU) Internal Research Risk Committee. After reviewing the research proposal that was presented to the Departmental Ethics Screening Committee of the University of Stellenbosch they requested minor changes to accommodate the rugby sevens season. They approved the study and provided a letter of support (see Appendix E). This letter enabled the researcher to approach the coaches once again and enquire about player and coaching staff availability.

After informing the coaches of the inclusion criteria for the study, the participants were identified and approached. All the coaching staff members were given the opportunity to take part in the study as well.

The study was first discussed at a management meeting followed by a team meeting. Hereafter the researcher personally approached the potential participants (either telephonically or during a face to face meeting). The potential participants received the required information on the study in written format. They were informed that all information gathered through the interviews would be treated confidentially and, therefore, would not have an influence on their selection or any team related decisions. It was also emphasised that the results would be reported anonymously and that the participants would have the opportunity to review and approve the thesis before submitting the study for examination and before submitting any articles for publication. Participants were made aware of their right to withdraw from the study at any stage without having to provide a reason. Participation was voluntary and all participants signed informed consent forms.

As soon as the consent forms were signed, arrangements were made to conduct the interviews at a date and time that suited both the interviewer and the participant. Additionally, players filled out a demographic questionnaire on arrival for the interview.

Conducting semi-structured interviews produced information from both the players and the coaching staff members regarding the following: the perceived demands of rugby sevens in terms of physical, technical, tactical, logistical and psychological demands, as well as the specific player needs. These interviews were conducted by the researcher and only the interviewee and interviewer were present during the interviews. The participants were informed that the interviews were recorded.

3.3.1 PARTICIPANTS

The participants included 20 of the 27 originally contracted South African professional rugby sevens players for the 2016/2017 season. These participants were all older than 18 years and were purposefully selected from the following categories:

1. Members of the South African Rugby sevens Academy,
2. Members of the South African National Rugby sevens team,
3. Members of Team South Africa at the 2016 Rio Olympic Games.

Participants were not excluded from the study if they got injured during the season.

Five staff members (coaches and management staff) within the respective South African rugby sevens structures were also interviewed. Even though 25 participants are seen as a relative small sample, for the purpose of this study it was an appropriate amount. In qualitative research, smaller samples are used to gain in-depth context rich information.

3.3.2 DEMOGRAPHICS

The participants (N=25) were divided in two different groups: coaching staff (n=5) and players (n=20). The players consisted of three sub-groups: academy players, Blitzboks and Olympians. The academy players (n=3) had not received any caps for the South African national rugby sevens team yet, but they have played internationally for the South African rugby sevens academy. These players were the youngest with an average age of 20.67 years. The players in the Blitzboks category (n=8) have represented South Africa on international level as part of the South African national rugby sevens team. This group had the biggest age range, with a difference of 10 years between the youngest and oldest player, and had an average age of 26.5 years. The last sub-group was the Olympians (n=9). These players won bronze for team South Africa at the Rio Olympic Games in 2016. The average age

of these players (25.89 years) was slightly less than that of the players in the Blitzboks group. They also had slightly fewer caps than the Blitzboks.

Table 3.1: The coaching staff's age

	Age			
Total (5)	Min	Max	Average	SD
Coaching staff	31	41	37.60	3.50

Table 3.2: The players' age and rugby playing experience

	Age				Caps for the Blitzboks			
Total (20)	Min	Max	Average	SD	Min	Max	Average	SD
(3) Academy	20	21	20.67	0.47	0	0	0	0
(8) Blitzboks	23	33	26.50	3.04	2	68	26.88	23.91
(9) Olympians	23	29	25.89	2.47	7	56	26.44	16.09

3.3.3 PLACE OF STUDY

Since the setting in which research is conducted can influence the quality of the data, a venue was chosen that all the participants were comfortable and familiar with. All interviews took place at the Stellenbosch Academy of Sport (SAS), as this is the training venue for the South African sevens teams and was convenient for all the participants. To ensure the best interaction, a suitable venue at SAS was chosen with the least possible distractions. This helped in the process of gaining trustworthy qualitative data.

3.3.4 INTERVIEWS

Interviews were conducted with individuals from the following groups: specialist rugby sevens players and sevens coaching staff members (coaches, managers and medical staff). All the interviews took place after the Olympic sevens squad was announced. This was taken into consideration when data was analysed since this could have played a role in participant's views and what they were willing to share.

The interviews were semi-structured (see Appendix D) which allowed the researcher to ask the same questions to all the participants, but which also allowed for further exploration of information elicited from the participants. The questions were all open-ended to encourage the participants to give their own views and opinions (Durrheim, 2006). Specific probes were identified before the interviews, which the researcher could use to probe the participants into discussing their subjective views.

Table 3.3: Duration of interviews

	Duration (Range of time)	Average
Coaching staff	28 min 32 sec – 39 min 16 sec	34 minutes
Academy players	22 min 47 sec – 38 min 23 sec	28.5 minutes
Blitzboks	25 min 26 sec – 52 min 18 sec	37 minutes
Olympians	23 min 33 sec – 104 min 36 sec	50 minutes

The semi-structured interviews on average lasted about 40 minutes. The interview schedule for the coaching staff members consisted of 21 open-ended questions (see Appendix D2). The average interviews with the coaching staff members lasted on average 34 minutes. The shortest interview lasted 28 minutes and 32 seconds while the longest interview lasted 39 minutes and 16 seconds.

All the interviews with the players were conducted making use of the same interview schedule, consisting of 25 questions (see Appendix D1). Three of the player interviews were with Academy sevens players and lasted 28.5 minutes on average. The shortest interview lasted 22 minutes and 47 seconds while the longest interview lasted 38 minutes and 23 seconds.

Eight of the interviews were with Blitzboks. These interviews lasted 37 minutes on average per interview. The shortest interview lasted 25 minutes and 26 seconds while the longest interview lasted 52 minutes and 18 seconds. The last group of players were nine of the Bronze medal winners of the 2016 Rio Olympic Games. On

average the interviews lasted for 50 minutes. The shortest interview lasted 23 minutes and 33 seconds while the longest interview lasted 104 minutes and 36 seconds. These interviews were conducted after the Olympic Games, as per instruction by SARU.

Throughout the interviewing process a registered psychologist was available in the case of any psychological risk. At the time of the study he was the sport psychological consultant to the South African rugby sevens team, and the South African Rugby Union insisted that players have to be referred to him should the need arise. All of the participants were familiar with him and either had his number or was provided with his contact number. There was one instance where the researcher felt that it was needed to bring sensitive information under his attention. This was done with the consent of the participant. The psychologist ensured the researcher that he was aware of the situation and that steps had already been taken to assist the participant. He also ensured the researcher that he would follow up on the information and will make specific one-on-one time for the player. The researcher was set at ease after the psychologist saw the participant and confirmed that everything was under control.

Once most of the interviews had been conducted, the transcription process was initiated. The researcher transcribed the majority of the interviews herself. She was assisted by a research assistant who transcribed specifically selected interviews deemed not to have contained any sensitive information. The researcher picked the interviews that the research assistant transcribed to ensure that participants would not be exposed. The recordings were renamed before giving the research assistant access to them. This was done to ensure confidentiality. Prior to the transcriptions being done it was also agreed that the researcher will only have access to these recordings while busy with the transcriptions as soon as a transcription was done the research assistant deleted any copy of the recording that she received.

Once the transcriptions had been completed the researcher checked the transcripts by listening to the interviews again to ensure that all the interviews were transcribed verbatim. This process continued until the researcher was satisfied with all the transcripts. All the interviews were completed and the recordings transcribed before the analysis commenced.

3.3.5 DATA ANALYSIS

Thematic content analysis was used to analyse the data. This method was defined by Braun and Clarke (2006) as identifying, organising and describing the different themes discovered from data. It is further broken down into becoming familiar with the collected data, coding the data, identifying themes, reviewing the themes, finalising definitions and names of themes and finally reporting on the findings.

In this study, the data was firstly coded and grouped together to form the different themes. With more interviews being analysed different themes and sub-themes were categorised and patterns were identified. Once all the interviews had been analysed the themes, sub-themes and patterns were reviewed and categorised. This process continued until data saturation was reached, meaning findings became repetitive and no new information was gained. This part of the study was subjectively done by the researcher. The researcher's views could have influenced the grouping and themes identified. In the planning of the study it was foreseen that the need for the development of a psychological skills development programme could arise. To ensure that possible preconceived ideas would not influence the outcome of the study, the researcher approached the interviews with an open mind, allowing participants to freely express their subjective views. In order to assure that the researcher made no ungrounded assumptions, participants were re-approached and inquired to ensure that their opinion were justly interpreted.

The final findings consist of 12 figures and numerous quotes to supply more insight to the themes and sub-themes. The results of the data analysis are discussed in

chapter 4. Participants were given the opportunity to view the final thesis and if they wanted any information obtained through the study to be excluded it was removed.

3.3.6 DATA VERIFICATION

In qualitative studies, it is important that the data are trustworthy. According to Denzin and Lincoln (2011) the trustworthiness of a study depends on its credibility, transferability, dependability and confirmability. The credibility of a study depends on the ability of the researcher to objectively report accurately on the participants' views (Merriam, 2009). By making use of different strategies like triangulation and member checking can help to increase the credibility of a study (Babbie & Mouton, 2001). Triangulation involves using different methods of gaining information and checking for consistency within the data (Cresswell, 2005). In this study, the participants filled out a demographic questionnaire prior to the start of the interview. The information gained through the questionnaire helped to cross check the data gained through the interviews. Member checking involves ensuring that everything a participant said is interpreted correctly (Merriam, 2009). In this study, this was done in two ways; during the interviews, the researcher firstly ensured that she understood what the participant was expressing by checking with them throughout the interview if she understood them correctly. Secondly, following the interviews and once she started with the analysis process the researcher kept in contact with the participants, enabling her to verify anything that was unclear.

Babbie and Mouton (2001) describe transferability as the ability to gain the same results by making use of a study's methodology in another context. In this case the study is most likely not entirely transferable. This is due to making use of qualitative data and including specialised participants in a unique setup. Numerous factors such as the rugby culture in South Africa, the team setup, the team culture, the Olympic year and the current state of rugby in South Africa could have played a role on the participants in this study's views. It would, therefore, not be wise to generalise the current findings to other countries or levels of participation.

In a study with a qualitative design, the results must portray some level of consistency to the collected data even though there are different ways to interpret data (Babbie & Mouton, 2001). This will contribute to a study's dependability. This is done by explaining the research process in detail and by keeping records of all the documentation and data (e.g., questionnaires, interviews, transcripts and all the phases in the data analysis process).

Lastly, confirmability refers to the ability to link the findings of the study to the initial purpose (Babbie & Mouton, 2001). The researcher should check the study throughout to ensure that prejudice or personal opinion do not influence the study. In this study, this was done by getting the interview schedules reviewed by the supervisor before any of the data collection took place. The supervisor also reviewed the data analysis process and gave feedback to add to the confirmability of the study.

This chapter elaborated on the study design and procedure that was followed in this study. Within the procedure the participants and their demographics, interviews, data analysis and data verification were discussed. The next chapter will be focusing on the results. Themes and some of the sub-themes will be discussed and direct quotes from the interviews will also be cited.

Chapter Four

RESULTS

The primary aim of the study was to analyse the perceived physical, technical, tactical, logistical and psychological demands of rugby sevens held by professional players and coaching staff. This chapter will showcase the superordinate themes, themes and sub-themes created through the thematic content analysis.

Prior to the interviews, the participants filled out a questionnaire that covered personal information as well as their perception about various psychological factors in rugby sevens. In section 4.1 this information will be showcased to provide background on the participant's views. Thereafter, sections 4.2 to 4.13 will showcase the findings of the analysis of the interviews.

4.1 PERCEPTIONS ABOUT THE PSYCHOLOGICAL ASPECT IN RUGBY SEVENS

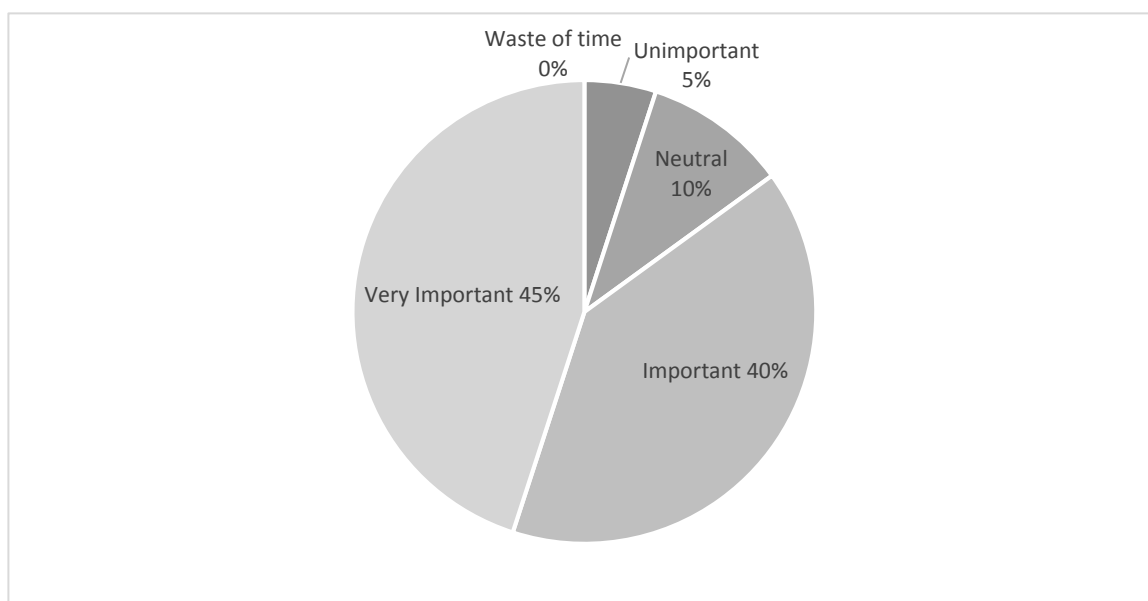


Figure 4.1: Perceived importance of psychological skills development to optimise performance held by players (n=20)

None of the participants perceived psychological skill development as a waste of time, although 5% of the participants expressed that it does not play an important role. A small percentage (10%) of the participants held a neutral perception while the majority of the participants (85%) acknowledged the importance of psychological skill development to optimise performance.

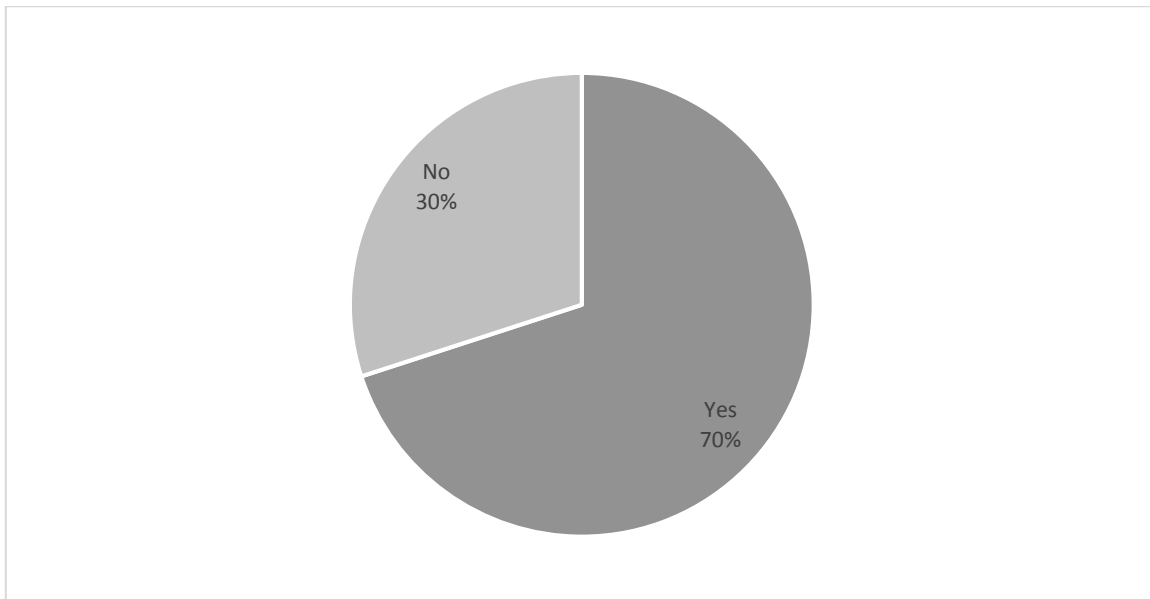


Figure 4.2: Previous consultation(s) with a sport psychological consultant on an individual level (n=20)

Six of the participants (30%) have not previously consulted with a sport psychological consultant on an individual level, while 14 (70%) of the participants have had one-on-one sessions before.

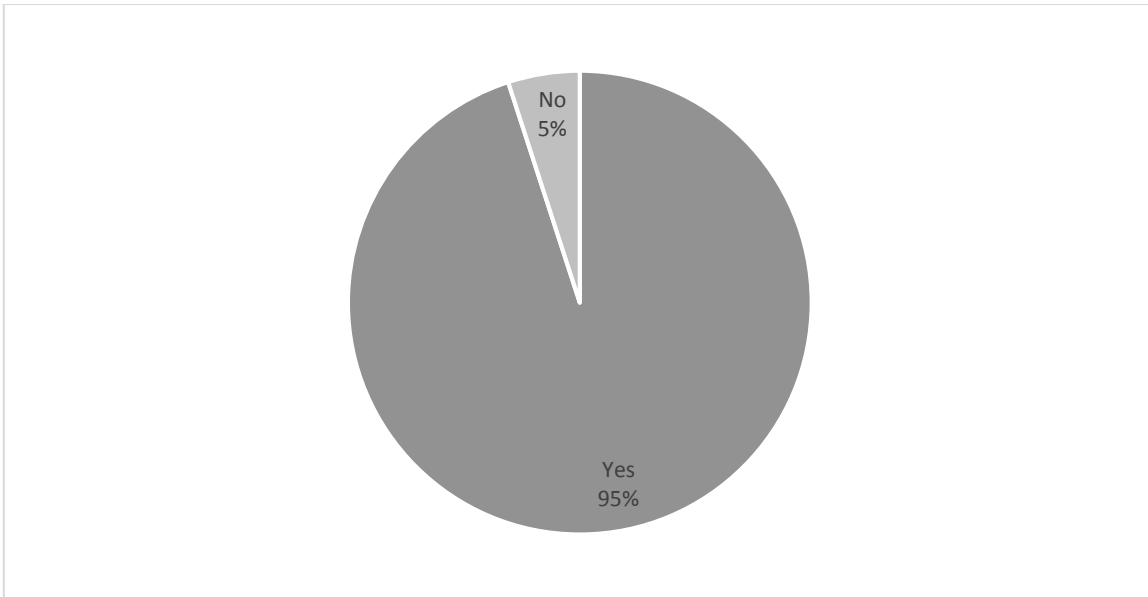


Figure 4.3: Previous consultation with a sport psychological consultant in a team context (n=20)

Only one of the participants (5%) has not been part of a team session with a sport psychological consultant. The other 19 participants (95%) have attended at least one team session.

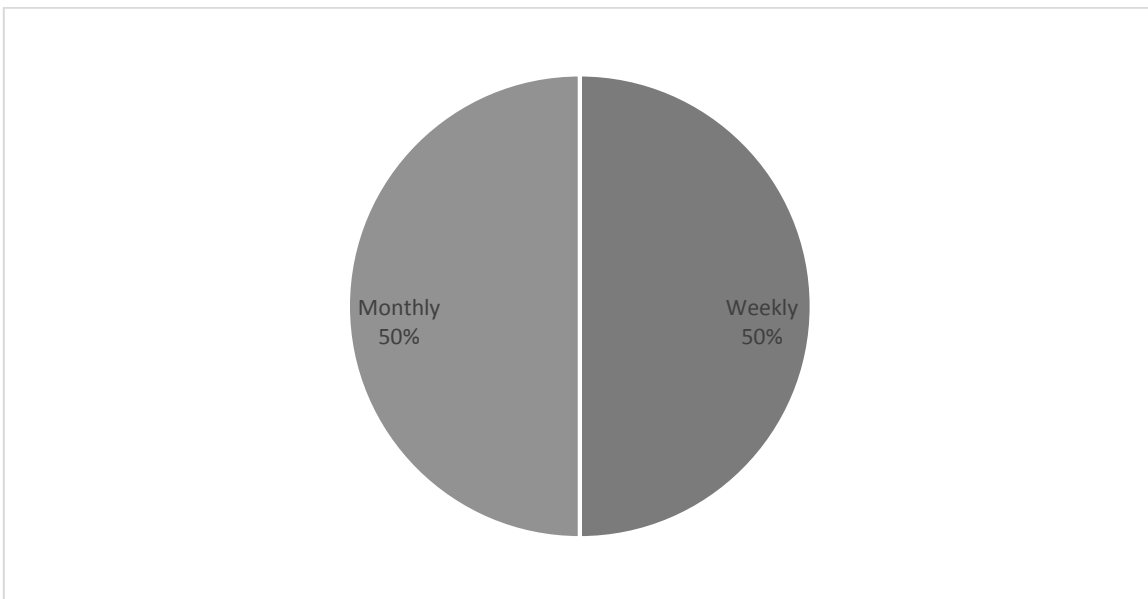


Figure 4.4: Frequency of psychological training in a team context (n=20)

Ten participants (50%) received psychological training weekly in a team context, while the rest of the participants (50%) received the same training only once a month.

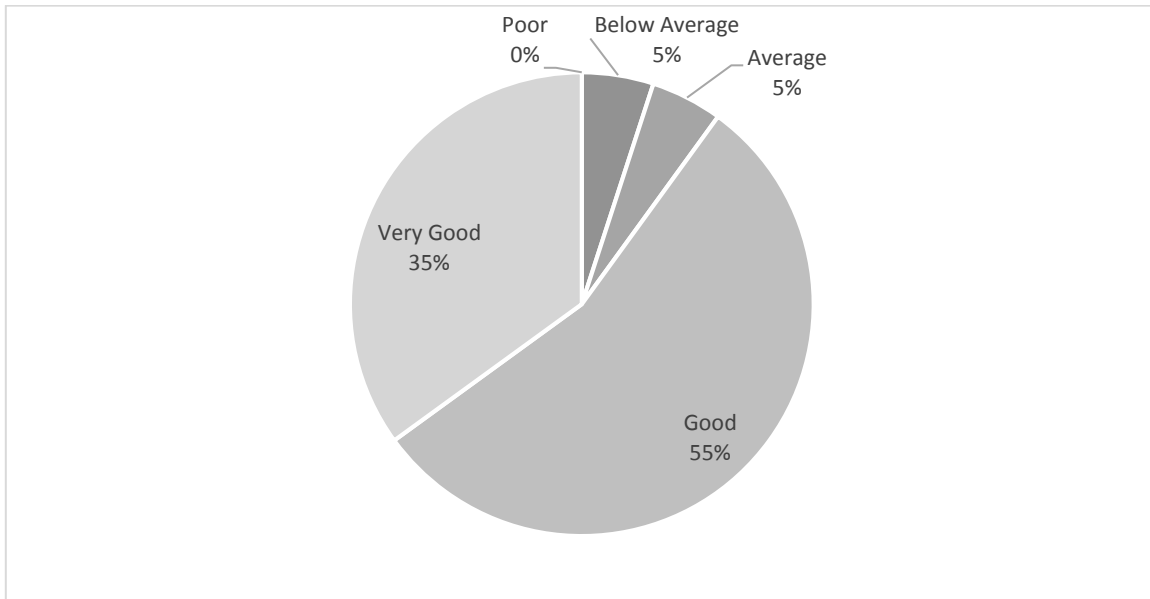


Figure 4.5: Perceived ability to prepare psychologically for training sessions (n=20)

None of the participants perceived their ability to prepare psychologically for a training session as poor. One participant felt that their preparation was below average and another one felt that it was average. Seven of the participants (35%) rated their preparation as very good, while the majority (55%) stated that their preparation was good.

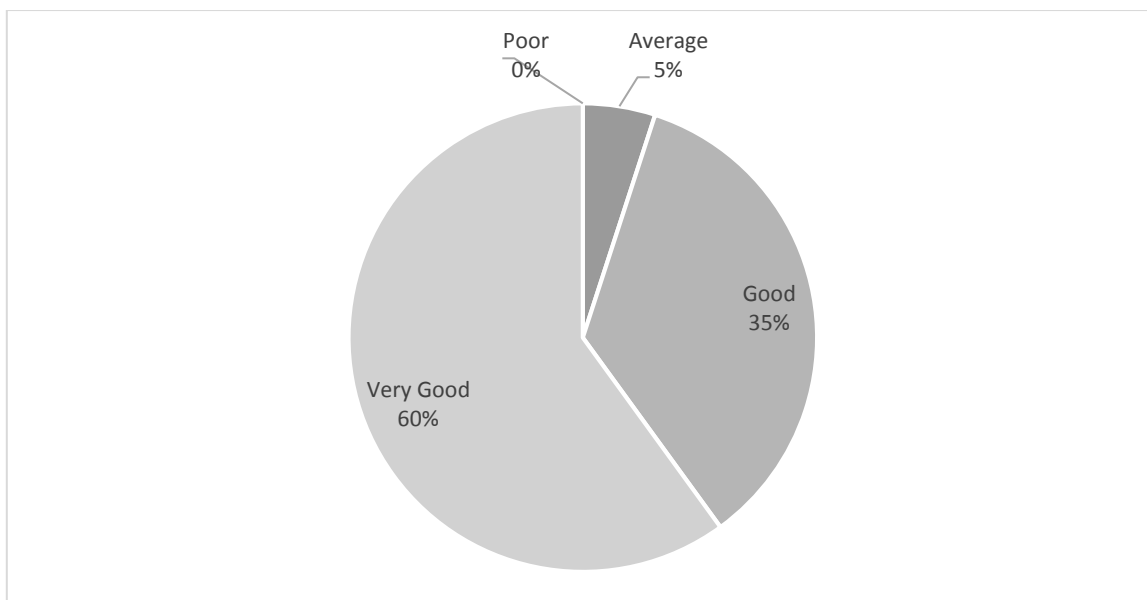


Figure 4.6: Perceived ability to prepare psychologically for competitions (n=20)

When asked about the level of preparation for a competition, none of the participants perceived their ability as poor. One of the participants (5%) rated it as average, while seven (35%) felt their preparation was good. It is interesting to note that 12 (60%) of the participants indicated they were very well prepared. In comparison to preparation for training, an increase of 25% of participants feel very well prepared for competition.

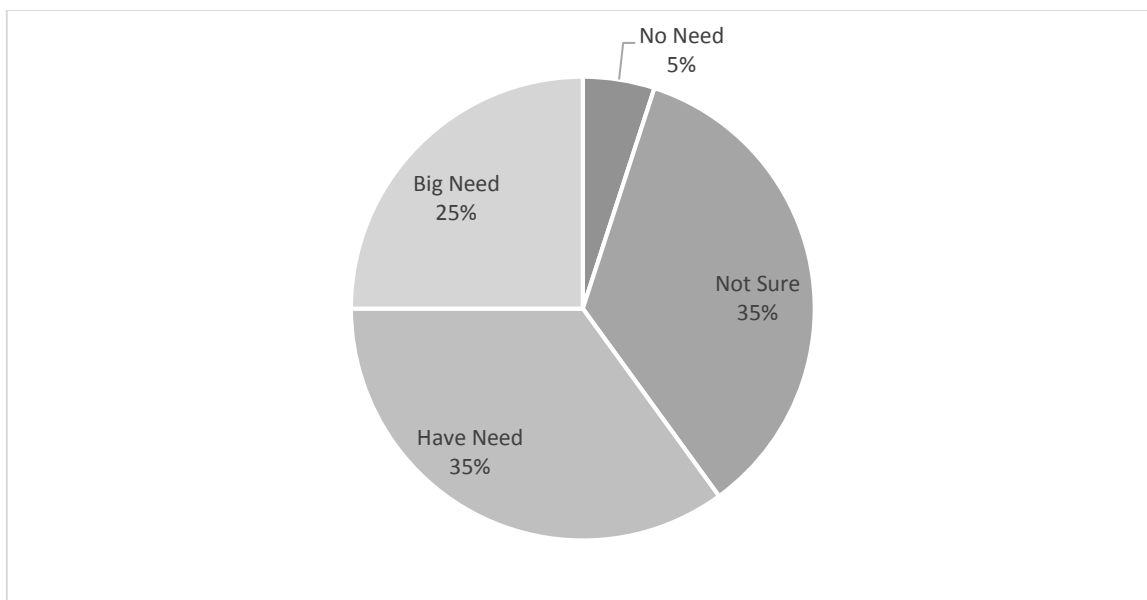


Figure 4.7: Expressed need for psychological skills programme to optimise development (n=20)

Only one of the participants had no need for a psychological skills programme. Seven of the participants (35%) expressed being unsure, while the same number of participants felt a need for such a programme. A quarter of the participants (25%) expressed a big need for such a programme to optimise development.

Figures 4.8 to 4.19 illustrate the seven superordinate themes, as well as the various themes and sub-themes identified through the thematic content analysis.

4.2 PHYSICAL DEMANDS OF RUGBY SEVENS

The physical demands of rugby sevens were identified. Different codes, found in the interviews, were grouped together according to different themes. These themes and some of the most important sub-themes will be reported and highlighted through the use of direct quotes from the participants. This includes tournaments, 7s vs 15s, conditioning, monitoring, injuries, challenges and areas of improvement (see Figure 4.8).

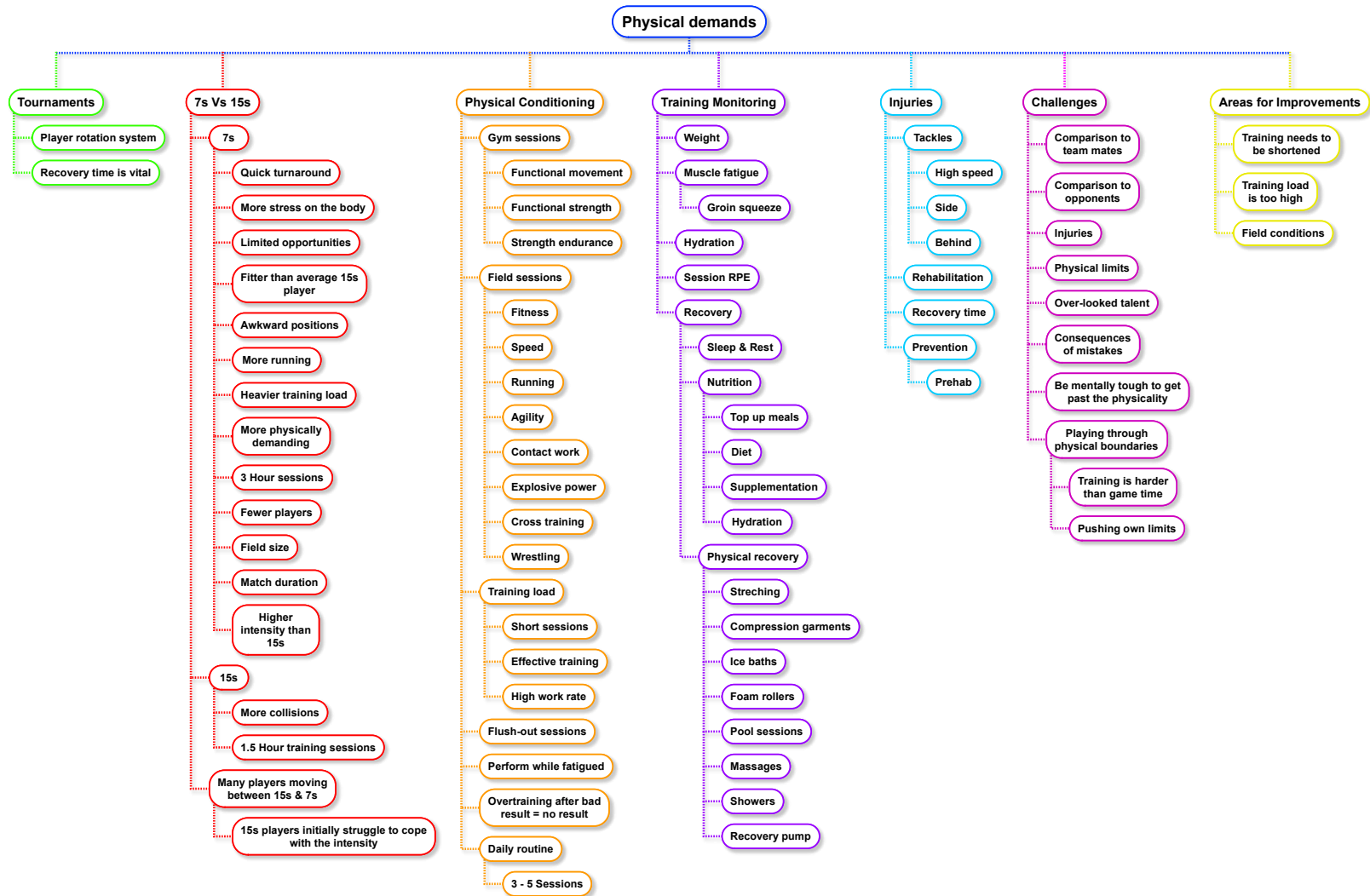


Figure 4.8: Perceptions about the physical demands of rugby sevens held by players and coaching staff

4.2.1 TOURNAMENTS

Tournaments are a big part of rugby sevens since the annually contested Sevens World Series consists of 10 tournaments over six months. Most tournaments last two days and each team play up to six matches per tournament. In 2016 the top seven's teams also took part in the Rio Olympic Games. Therefore, it is important to understand the demands that come with exposing players to the frequency and intensity of what could be as many as 66 matches in one season.

[When you are] ... playing six games over one weekend, you basically have six warm-ups. After every warm-up, when your muscles cool down, you're a bit stiff. Then [you have] to pick yourself up after that first game and then ... do that again the same day and then go back and sleep. The next morning you wake up and feel like you ran in front of a train and then you know there are three more games to come ... On the pitch, I think it's much more one-on-one compared to fifteens where there are four guys to sort out a breakdown. In sevens you only have one guy to sort out the breakdown, otherwise you don't have attackers or defenders on the outsides. So, I think the physical on the field is that one-on-one contact and you must do your job. Otherwise there will be seven points against you. – Player Participant (PP)19

In order to accommodate the Olympics, the series started on 4 December 2015 and completed on 22 May 2016. In comparison to previous seasons it was more condensed and also included more tournaments than previously. The previous season (2014/2015) started in October and ended in May and only consisted out of nine tournaments. The condensed circuit had an impact on planning and the players' overall experience. A rotation system was implemented that gave players the opportunity to play two tournaments and rest for the following two tournaments. This was implemented to allow players to be physically and psychologically recovered before they have to take part in another tournament. It also enabled more players to be ready to compete at the 2016 Rio Olympic Games.

I knew it was gonna be difficult in the sense of you[re] gonna get rotated and the season is cramped. So, I don't think that the rotation was ultimately bad for us players, because it was so cramped, so you haven't played all the games ...
– PP20

... traveling-wise ... obviously you try and rotate the players and get them to play four tournaments and miss two – to try and get them mentally and physically ready for the next two and then also a lot of recovery work from our strength and conditioning guy (name of staff member) where it is supplements, or a good stretch session, or a pool session, or an ice bath session ... So, there is a lot of recovery protocols that they follow and try to see how the guys can be better after a long flight. Especially when we're on tour, we don't kill the guys training-wise. We try to use our time really wisely and get them refreshed and ready for the next tournament ... So, it is all about that recovery and mak[ing] sure that they are mentally and physically ready to play again ... – Sevens Staff (SS)5

Sevens players need to be managed well to ensure that they recover sufficiently before traveling to the next tournament. The setup of the tournaments is just one of the factors that add to the physical challenge of rugby sevens. When comparing sevens and 15-a-side rugby, numerous other demands were also identified.

4.2.2 DIFFERENCES BETWEEN 7S VS 15S

... fifteens is more of a collision ... much more collision, where in sevens there are collisions, but it's also very dynamic, so you've gotta make a tackle, get up and steal the ball. If not, then you have to get into the defence line and guys shift the ball ... where you were now in a defensive mode and now you have to switch on again to be in attacking mode that is also ... And uh, I think also the recovery time between games is not a lot. That is what makes it also much more challenging, because you get a lot of bumps and bruises in, in the games ... you have two hours where you have to either recover and we do video

analysis ... that is also draining mentally. So now you, you have to listen, your body is sore and you can lose focus so quickly ... it's really hard on the body. That also has a contribution in terms of physical toughness, because there's not a lot of time to recover before your next game ... – PP14

Since the format of sevens and 15-a-side rugby are so different, a typical training day is also quite different. In rugby sevens players attend more sessions to prepare them physically and psychologically for the frequency and intensity of matches.

... you have to roll out and loosen up what you still need to do and then strapping starts. Strapping, team meeting, team meeting then a field session or you'll start off with a skill based thing like SAQ [speed, agility and quickness], then you'll move to defence then you'll move from defence you'll have a top-up. Then you have an attack session ... Then you have a unit skill-based thing or the unit skills come in the afternoon. Then you have lunch, then you have gym and then you might have a unit skills-thing and then you have massages or whatever. So that's on a more tough day. That's like three or four or five sessions in there ... You wake up in the morning and you think like joooh can you do this? But then first thing you get here. The guys normally pick each other up; they always tease and joke and then get each other going. So, I think it's just more, the mental preparation for yourself ... the psychological aspect of it is quite huge. – PP1

With sevens being included in the 2016 Olympic games some of the current 15-a-side rugby players joined the sevens structure for the opportunity to take part in the Olympic Games. The 15-a-side players found it rather hard to adapt to the demands of sevens.

... it's very difficult to judge fifteens players coming into sevens ... you have to look at characteristics more than how they play on the sevens field, because

they don't know the game so, it's very difficult to understand whether he's going to be a good player right away or not ... – PP12

If you are not mentally strong up there, you're not gonna make it long here and a lot of guys that have played that are current Springboks now said they will never come play sevens again, or even try to play, cause it's just physically and psychologically too demanding. – PP1

It is not only on the field that players experience rugby sevens different to 15-a-side rugby. In South Africa, most schools and clubs only play 15-a-side rugby and because of that, sevens players will often be scouted whilst playing 15-a-side rugby.

... it's obviously different to fifteens; our scouting works, (sighs) totally different so, we, use centres and big wingers for props and hookers you know so uh, not totally the same uhm, and then definitely a, a high work rate. Uh, haha sevens – the work rate, the pace of the game – is just on a different level than fifteens so you can't just pick any, select any player. You've gotta have a quick learning curve, definitely ... they've gotta be athletes. They've gotta be able to run. Obviously, as I've said, the intensity is much higher ... – SS1

With most of the sevens players coming from a 15-a-side rugby background, things have to be in place to help the players adapt to the new intensity and frequency of rugby sevens matches.

... we started with the integration phase with the youngsters, so, the 18, 19 years olds that come in will join the Academy first and they'll go through a 12-week conditioning phase uhm, where we do their medical conditioning before we actually release them onto a sevens pitch. Uhm, the problem is when you invite senior players from fifteens. Most of the guys can't finish one week of training because of the running load and uh, the two or three field sessions a day. So uh, the intensity is much higher but uh, saying that if you integrate, if

you do your integration correctly after one or two months, the players ha, return to fifteens on a totally different level. – SS1

As mentioned before, conditioning plays a very important role in preparing players for rugby sevens.

4.2.3 PHYSICAL CONDITIONING

I mean the training is gruelling. So obviously, it is mental, but at the end of the day, it is physical, because if you run, you run. So, you train for three hours a day on average where in fifteens in season you train maybe an hour and a half a day, you know. So ja, I mean the training is very demanding ... – PP13

In rugby sevens it is very important that players should be able to excel while they are under pressure.

So, they need to be able to run, pass, catch. Decision making under pressure [is a big challenge as] ... the stresses emotionally and physically that they're exposed to are higher than in any other sport that I've ever come across – especially 15s. Their ability to function in really tough surroundings in terms of short turnarounds between games ... not knowing your opposition ... having to prepare for that specific opposition in a very short period of time, is something that makes the sevens environment really, really unique. It's an environment where you are stretched absolutely to your maximum on all levels. – SS3

To ensure that the players are physically prepared and well-conditioned takes meticulous planning.

... at a level and intensity which is required when performing and competing and obviously (name of staff member) who puts the conditioning together and management of loads and uhm and, you know, preparing them physically in terms of strength and then obviously the conditioning component that comes

with it. I think the two of those together come together to a great mix, which is definitely one of the reasons why this team is acknowledged as one of the fittest and best conditioned teams on the circuit. – SS3

Conditioning is a lot more than looking at training loads on the field and in a gym. It is very important to monitor how different players' bodies react to different bouts of training.

4.2.4 TRAINING MONITORING

... so a normal sevens day and a hard day looks like: you come in the morning, you have to get on a scale, you have to do a [adductor] squeeze test to see where you, how you recovered through the night, you fill in, on a app based platform, you fill in uh, how did you, what did you sleep like, what did you eat, how do you feel, what's sore, what's not sore, squeeze test ratings, so you fill in his whole well-being questionnaire. – PP1

... we have a system in place where every morning you have to answer, or fill in like a, a little form, it's not a form but it's like uh, on your phone, it's an app, fill in like a, a little digital form uh, on recovery, what, what recovery steps did you take or what, what did you do and you get scores for that like uh, getting in the pool would be like twenty points and you get scores for that and you need to make at least a hundred. So, everything, there is everything that you need in terms of recovery here, so you need to make sure that you just do it. – PP20

An important part of monitoring is making sure that enough is in place to promote recovery which will add to the well-being of the players. The amount of time players put into recovery is also monitored to help with a better understanding of how their bodies are taking the strain of the weekly workload.

Recovery ... for me it's from person to person, so some of the guys like to ice bath, some of the guys like to wear their compression garments, some of the guys like to take a nap after a hard training session, protein shakes, whatever.

So, I'm a firm believer [that] ... at the beginning of your career you will quickly realise what works and what doesn't work for you so ... as long as you are doing something and that will work for you, I don't really care what you are doing ... lately they have ... , I think it's a compression suite almost, so a lymph system, with, that the guys get into ... – PP19

But we do our basic stuff where we use a, name of nutritional supplement and ice baths and uh, some of the guys do get rub downs if, if there are enough beds and some of the guys uh, sleep you know like they say sleep is the best form of recovery ... – PP14

By making use of different recovery strategies, players can prevent injury to a certain extend. Unfortunately, recovery strategies will not prevent all injuries from happening.

4.2.5 INJURIES

I've just recovered form a shoulder injury but unfortunately, I could not train as much, so I fractured my collarbone in four places. So, it took, actually, quite a time to recover, but I made a full recovery. – PP8

I've been batted with injuries over the last two years. Struggling just [to] find my feet, getting back to playing good rugby and then just getting injured. And I have to start from the board up again, so the thing is don't think the coaches have seen my full potential yet and I know what I can bring to the game. – PP6

Injuries have a different effect on different players. The challenge is to keep players motivated and positive throughout their injuries and the recovery process. Even though injuries are physical it can play a major role in the psychological state of a player. Sevens truly tests a player's mental toughness and perseverance.

If you're not mentally strong enough, you will be not keen for the second game or you will think you're tired or you're injured, but if you are mentally strong you will push through it and then you can play the rest of the tournament. – PP2

... then after that I had challenges of injuries and I came back strong, you know. I think not playing plays a very big role but it's what you do when you're not playing that defines who you are and your character. – PP3

As mentioned in chapter two, most of the injuries sustained in rugby sevens are joint related.

... you are playing against the same guys with the same speed. A lot of the tackles are at full pace from the side or from behind and that is where injuries occur, you know, your knees and your ankles. A lot of those tackles [come] from behind where they pull you down with your jersey ... – SS1

Injuries are not the only challenge that players face. Being part of one of the best teams in the world can add to the physical and skill challenges these players have to deal with.

4.2.6 CHALLENGES

... it's a challenge for yourself, but it's also a nice challenge if you see where you are. You can measure yourself with the best in the world; you can measure yourself with your teammates who are normally the best in the world as well. So, the physical, the physiological demand is quite high but if you can deal with it, I think you have a pretty good chance of getting up there. – PP1

Even basic skills like passing or running are more challenging in rugby sevens than in similar sports like 15-a-side rugby.

... [for] example ... passing a rugby ball ... that skill ... you need it more in sevens because there are only seven guys on the field and uhm, in fifteens it's different. The guys [are], literally, like three to five meters away from you. In sevens it's, it goes up to 15 meters ... – PP10

... the speed of the game, you know, like the fact that if you, there's very, the room for error is tiny. Like, one mistake and you probably lose a game, you know, 'cause it's one of those games, like, if you are playing a good team, if you've got the ball, you must score ... – PP12

With a sevens match only being 14 minutes long and with only seven players on the field, decision making plays a big role in minimising errors and subsequently in the outcome of the match.

... I think the small decisions you have to make when you're tired, uhm, they, they push you to limits ... you never knew you can, you can reach but it's that vision you have to keep when it gets tough and ... if it's possible in the moment to, to pick up the intensity and do the things right that you have to. There aren't seconds in a sevens game; there's split seconds and you have to take every, every single opportunity that, the game throws at you and if you don't take your opportunities you, you can lose a game ... – PP16

With all the challenges that the players are experiencing, it is important to take a look at the areas that the players feel need further attention to improve the current system.

4.2.7 AREAS FOR IMPROVEMENT

I think sometimes we have, like, long hours of training on the field, and sometimes the field is not nice to, to train on and that's why the injuries are coming ... especially on the hamstrings and lower backs and that kinda stuff,

but I think sometimes it can be a bit shorter cause we know, every, every training is like high intensity for us so, ha, we can't just ease into it. – PP9

The duration of training adds to the training load which can cause injuries or muscle strains if the training load is too high.

I just think that the hammies (hamstring muscles) and the lower backs, don't agree with that so, just the load sometimes is a bit, a bit too much for us. – PP9

The physical demands of sevens are different than that of 15-a-side rugby, such as high training load and timeous nature of skills coaching. The tournament structure, including short turnaround times and multiple matches on a weekend, require effective conditioning and player monitoring.

4.3 TECHNICAL AND TACTICAL DEMANDS OF RUGBY SEVENS

The technical and tactical demands of rugby sevens were identified and categorised into different themes. The different themes, as well as some of the sub-themes, will be elaborated on by making use of direct quotes of the participants. Some of the most important themes include consequences of mistakes, skills, video analysis, technical demands for sevens and challenges (Figure 4.9).

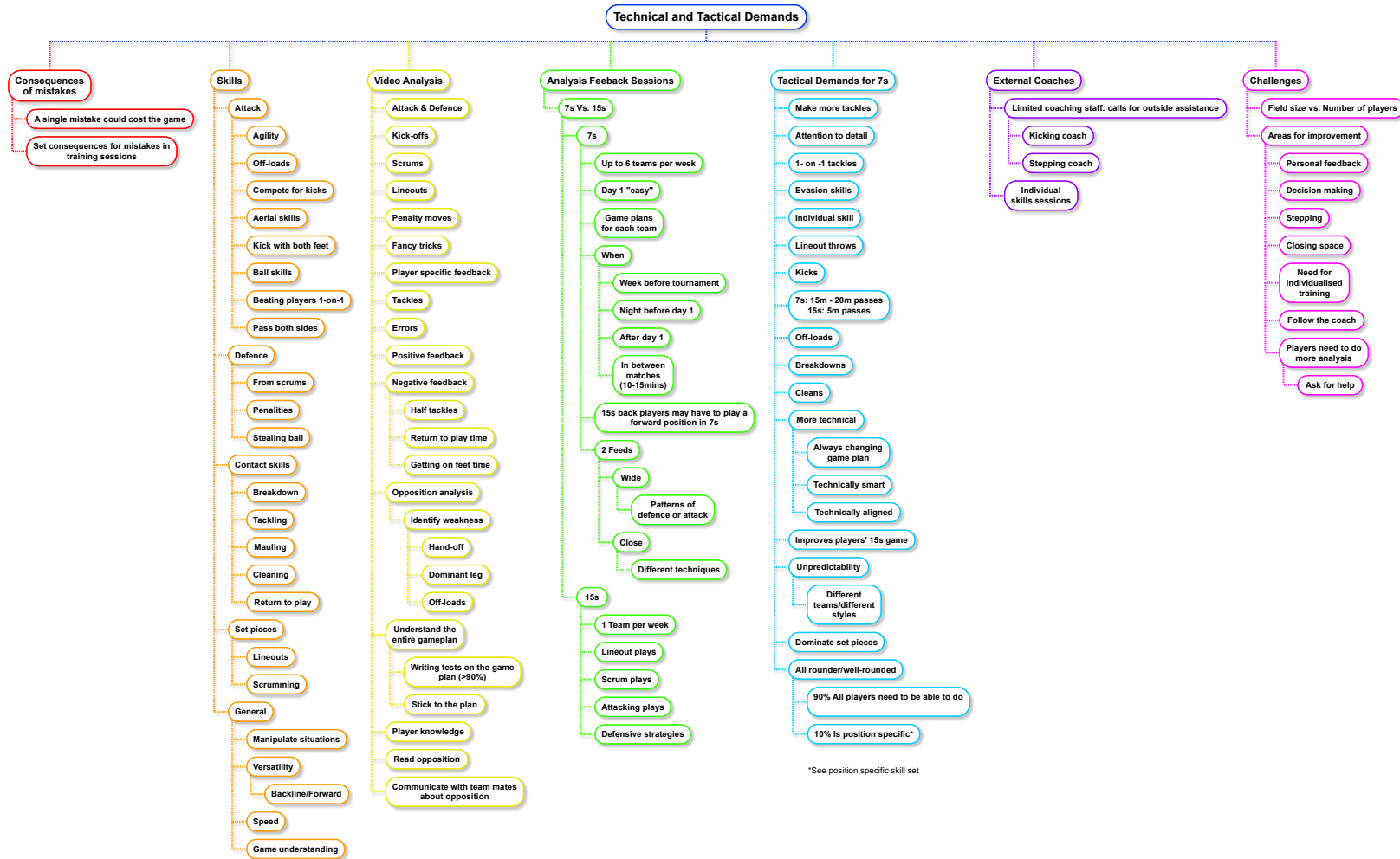


Figure 4.9: Perceptions about the technical and tactical demands of rugby sevens held by players and coaching staff

4.3.1 CONSEQUENCES OF MISTAKES

... 'sevens' means there are only seven guys on the field. So, the chance of you making a mistake is so much bigger and if you make a mistake usually the outcome is much worse. – PP6

With rugby sevens, the chance of making a mistake is not only higher but due to the short duration of the game and the limited number of players on the field the consequences could be worse than in 15-a-side rugby.

... make one small mistake that will cost you the game at the end of the day. – PP20

... the room for error is tiny, like one mistake and you probably lose a game ... – PP14

To minimise the chance of mistakes there is an emphasis on the skills that players require to be a good rugby sevens player.

4.3.2 SKILLS

... obviously you need to have a good skillset. An all rounded skillset. You can't be only good in one aspect of the game. I think it's most important to be a sevens player. You're gonna find yourself in positions where you have to be a defender, a top tackler, you have to be a playmaker and you need to fill every single position. And I think that's what makes it really hard; it's not position specific. A good rounded set of skills and a good work ethic and a good attitude I think is what defines a sevens player. – PP11

... a little bit of everything hey ... you just learn such a mixed bag of skills and you, and you have to, it's not, it's not that you need or it's not that you want to, you have to, you need to survive in this game, because you need to tackle, you need to steal [the ball], you need to chase back, you need to cover offload lines,

you need to compete for kicks, you need to catch a high ball, everybody needs to catch a high ball, not just the fullback in the team and, everyone, everybody needs to know how to get in there and their aerial skills have to be fantastic. Kick offs are an enormous part of, of rugby sevens because it's like if you score and instead of receiving the kick, you kick off now and if you can score, kick off and get the ball back. The opposition never touches the ball. It becomes your ball game, [when] attacking, you need to know how to be deceptive, you need to know how to beat players one-on-one, every single player from the props to the wings everybody knows how to beat, has to know how to beat somebody who, you know, with their skillset, not everybody has a good step so you learn a different skillset ... – PP12

Skills wise, uhm, obviously a good passing game, the space is much bigger in sevens than in fifteens so a good passing game, the ability to, to, to see space on the field, uhm, I'm a firm believer there's guys that create space and guys that running into space and if you can combine that in a sevens team I think there was actually a New Zealand journalist that wrote the way you have to pick your side is guys that, that give you momentum, guys that can attack the gaps and then the finishers. – PP19

... you'll need to be able to pass both ways, left right you know, fifteen to twenty meters ... – PP14

... so, you also need to adapt quickly from game to game, you know, because you play different teams that defend different styles. – PP14

With only seven players on the field, players need to be adaptable. In sevens all the players, irrespective of their position, are expected to excel in attack and defence. All the players are required to be able to do almost anything on the field. There are only a few position specific aspects that is only a certain position's responsibility.

Everyone has to be able to do everything. I think there is probably about 10% of things that someone will do. So, your sweepers will throw, your props are not gonna throw in ... Uhm but things like catching, passing, uhm, taking up space, cleaning, uhm those are generic that everyone has to do and do equally well because irrespective [of] which position you find yourself in, when you carry the ball you need to be able to beat the defender ... So, I think probably 90% of the things specifically in sevens, everyone needs to do, but there is obviously about 10%, but that is a thumb suck of a value that are unique to each specific position. – SS3

Well, for me a good sevens player is an all-round player ... good in attack and also good in defence and good in their contact skills ... Not just the system in defence but the one-on-one tackles in defence as well. We have a lot bigger space to cover ... So, whether it is taking the ball in contact or whether it is cleaning they are really good all-round players and that make them good sevens players. So obviously there is position specific attributes that we looking at as well, but I think just in general you need a player that is an all-round good attacker, but also good defence and contact skills. – SS5

To enable players as well as coaching staff to observe their own skill and the skill of other team's video analysis takes place very regularly.

4.3.3 VIDEO ANALYSIS AND FEEDBACK

... you are already coding everything, from tackles to errors to line errors, line defence errors to positive stuff, negative stuff, everything that's a half tackle or not returning to play quick enough, not getting up on your feet so you have specific bars or, or codes or whatever for everything so it's a, it's a lot of technical data. That's just the video analysis, that's excluding the GPS data and all the other stuff that comes into play ... the next thing for sevens will probably be to code players of the opposition, because then you would know weaknesses ... I think personal coding, but that will come down to individual

based uh, video sessions where you have to just analyse your opponents. I think there's a spec for that though ... it's just like a massive chess game, one coach sits and pull his pawns up there and see which one can dominate which ones. – PP1

In a team setup, it is important that everyone is on the same page. In South Africa, the sevens team frequently get tested on the game-plan.

... we normally write tests a lot when travelling and I thought I was done with school, but nah, we're not done. We normally write tests about our game plan and any player that gets less than ninety percent uhm, causes the whole team to write again the next day so we, we do that and keep ourselves honest, technically uh, so that we know that we're all on the same page. – PP20

To help everyone in getting on the same page teams are provided with different video feeds that they can use to help improve the analysis of their own team as well as their opposition.

I think all the teams are doing good analyses. They've got access to two different feeds. They have got a nice and close feed where you can look at close things like tackle technique and cleaning techniques and then also a wider angle where you can look at the patterns of defence and attacks. – SS5

As one can gather there is a lot of detail with regards to the analysis of technique and skills. All the information gained from the analysis needs to feed back to the team to help them to improve their preparation.

Man, the technicalities of it is pretty huge, because you play six teams on a weekend ... so we have to, for day one you can easily prepare, because you can work out game plans for each specific team ... but then the night before (the second day) you have to do analysis on that team and then in between the

quarter final and the semi-final, you don't know who're you gonna get then, so then you have to do analysis all over so you have to have a constant database of how teams play. You code in between matches [to] give that feedback, how they kick off, how they scrum, how they do lineouts, how they do penalty moves and all that stuff, what fancy tricks they pull here and there, which players to look out for ... so the whole week you have a video session for your first three games and then on day two you have dedicated team video sessions for each match which is normally 10/15 minutes and then you chat, what you're gonna do your game plan; then this, that then ... players to remember which plays you're gonna play first, which move you're gonna do first against this, that, so it's quite a challenge. – PP1

There is a lot of thinking and planning that goes into the preparation for the matches, not just by the players but by the coach as well.

4.3.4 TACTICAL DEMANDS FOR RUGBY SEVENS

... our coach or we believe sevens is a people's chess game, you know. So, their coach, say if I was an Australian coach, [try] to out think how we're gonna play or how our coach is thinking, you know, so we ... sevens it's a very technical game in terms of how you wanna defend, how you wanna, defend from scrums, lineouts, penalties and how you wanna manipulate ... very technical uh, especially when it comes to set pieces ... I think uh, from our side, our team ... for each team you've got a different style how we play because they've got different ways that they defend and attack. We've got different defence systems from, for different teams and people just think we just play, you know, but there are, there are certain stuff that we need to do ... – PP14

... so you play Australia first day, first game and then you play, like Australia plays England that play, probably like, a Russian pattern defence so you can prep for that, but then comes day two, which you are not sure who you are playing you know more or less, know you, whom might, who you might cross

over which you more or less can work out between two teams, the stronger, but then its sevens at the end of the day, so you don't really know one team can upset the other team so then it's a problem. – PP1

With all the mentioned technical demands, it is important to prepare a team as well as possible. To help with this process the South African rugby sevens team makes use of experts to address certain aspects of the game.

4.3.5 EXTERNAL COACHES

... a really good coach helped us a lot with our feet and to manipulate space and working into space. – PP19

We've got for instance; we've got the (name of provincial team) stepping coach with us. He comes in like three, four times a week. So that is actually to teach the guys, like, you know, to step off both feet, to create space on their outside – stuff like that. And then we have defence sessions like four times a week as well. It is quite intense, you know, training the weak shoulder and stuff like that. So, the opportunities are there for us, you know, to better ourselves, I think it's just whether you are gonna make use of the opportunities or not. – PP8

Even though players get the opportunity to better themselves with the help of outside coaches, there are still different challenges that players need to overcome.

4.3.6 CHALLENGES

... you must have the vision, cause, fifteens, not a lot of players see where the spaces are on the field and for us sevens players we can see where, where the spaces are on the field and other than that you must, you, you have to uh, be good in defence or you must make like the one-on-one tackles, evasion and I think run wise, haha, you must, you must run so, sevens is all about the space on the field and to be quick on the field ... – PP9

The format of rugby sevens is one of the big challenges. A coach can only assist to a certain extent in this regard; the onus lies with the players to ensure that they do what is expected of them.

I think that our coach is really doing his utmost best to give us as much detail as possible, but I think from our side as players we can also improve that, to make sure that once we go out onto the field we know what to expect from the individuals you know that is gonna separate us from the rest of the world, you know? – PP14

The opportunity needs to be created to allow players to improve on their weaknesses. However, it stays a challenge to accommodate all the players' different needs without taking valuable time away from the team's preparation.

... we've spent less time on the field as a team because we make more room for those individual skill sessions. – PP12

As mentioned before, decision making under pressure plays a big role in the success of a rugby sevens team. This is another aspect that players need to get exposed to, to help them to become better. Once again this could be incorporated in the training, but it will be important that the player implements what they have learned in match situations.

I think [with] decision making with the ball we have people in that, help us with our stepping and our decision making on the ball. But at this moment I think we are quite good at it and we have phenomenal players that's on our inside and our outside too, to do the job, just the small technical things to, on, on our defence line is just to close the space from the outside and stay on the outside shoulder of your defender and that comes down to, the system that coach actually gives us to, implement on the pitch and if you can't stay, stick with the system the, the system won't look after you. – PP16

Video analysis aids the preparation of seven players for the handling of increased pressure in comparison to 15-a-side rugby. The demands such as more tackles, mastering a variety of skills and consequences of mistakes are also more intense for sevens players. A more detailed glance at the technical factors will be displayed in the next figure, showcasing different technical abilities required for specific sevens playing positions.

4.4 THE POSITION-SPECIFIC TECHNICAL DEMANDS

Figure 4.10 summarises the findings from the interviews with the 25 participants. It is noted that when comparing sevens to 15-a-side rugby players, it is quite different in roles of specific positions as well as the physical body type of players.

The forwards of the future are big ball running backs ... – SS2

You know in fifteens your role is very defined, you know? So, if you're a prop, your KPI's [key performance indicators], if you can take it like that, are scrumming, cleaning. You don't really carry ball, whereas in sevens obviously you have your position specific skills that you need to be able to do but once it is open play everybody performs the same role. – SS2



Figure 4.10: Perceptions about the **position-specific technical demands** in rugby sevens held by players and coaching staff

4.5 LOGISTICAL DEMANDS OF RUGBY SEVENS

Earlier in this chapter it was mentioned that the rugby sevens session includes a series of tournaments that involves a lot of traveling. The effect that the logistical demands have on the players, their current experience and improvements that could be made to enhance their experience were explored (Figure 4.16). These themes and essential sub-themes will be explained through the quoted words of the interviewees.

4.5.1 TOURNAMENTS ON THE SEVENS CIRCUIT

As mentioned earlier, the sevens season includes a series of 10 tournaments. These tournaments take place in 10 different countries and are paired so that two tournaments take place over two consecutive weekends, before a two-week break. With this structure in place, teams have to travel frequently and if not managed properly the logistical demands could have a negative impact on the performance of a team.

It's a more mentally draining sport, and a lot of people might not look at it like that, but uh, uhm if you think about it, like, it's not like fifteens. [In] fifteens you have a build up for one week and then you play your Saturday match and if you win or lose then you have another week to prepare for the next one where in sevens you have normally a five, back in the past it was like a five/six week uh, pre-season before every two tournaments and then now the landscape has changed dramatically. So, you have two and a half weeks off between tournaments and then you have to go play weekend in weekend out. – PP1

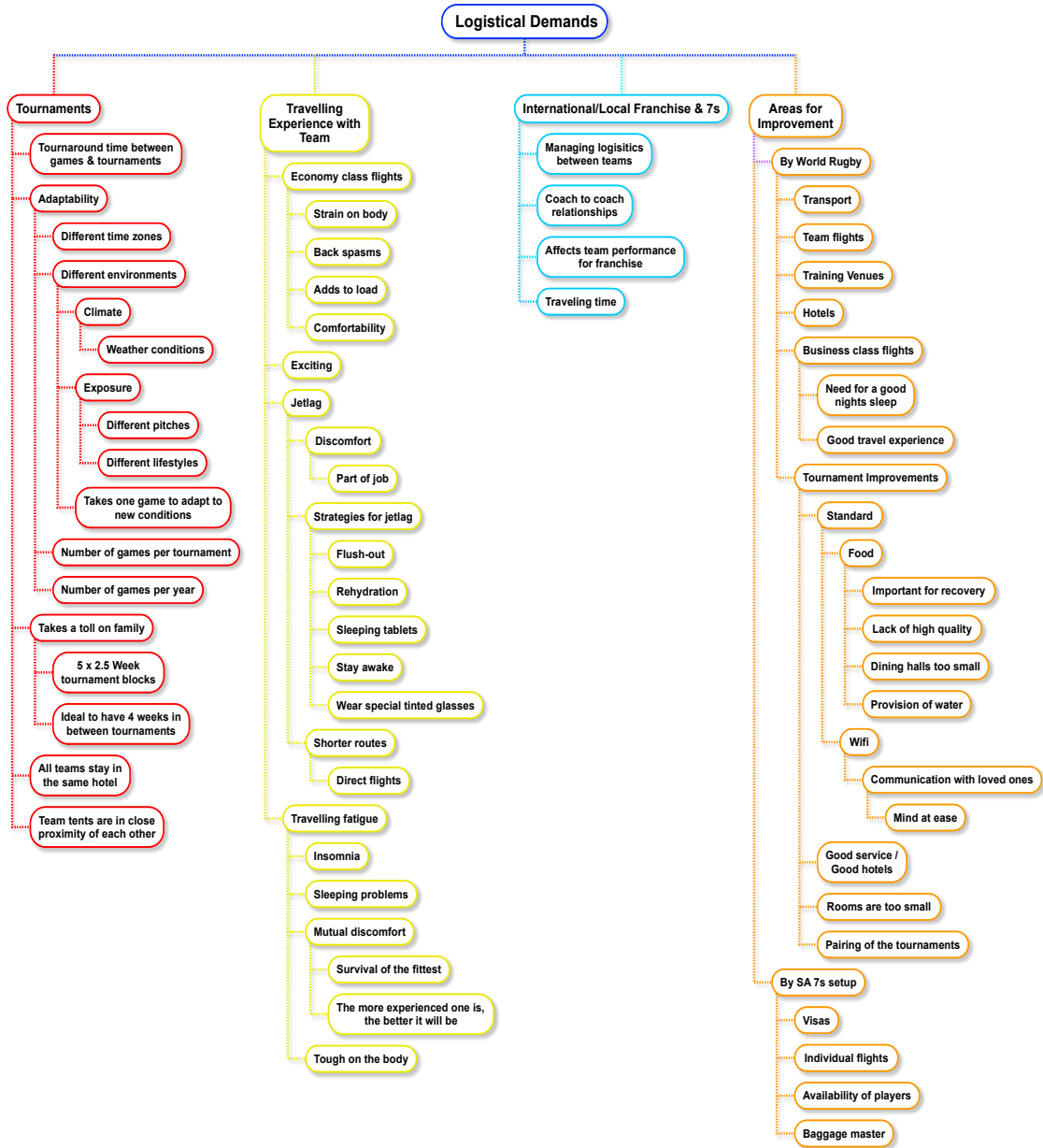


Figure 4.11: Perceptions about the logistical demands of rugby sevens held by players and coaching staff

So, uh, two weekends in a row so and then you play six matches on a, on a weekend so, which you can either play ... your first pool game and win it and your second game you lose or you win ... lose two games and then you have to pick yourself up for the third game which you might still have a chance to go through to the next cup, quarter finals or whatever. So it's, it's quite mentally draining and psychologically draining ... have an hour and a half off and then you have to start that same procedure again for the next game and then, and then you have day one that's finished and then you go to day two and then you have to ... heal all your injuries ... and then get back day two again, same procedure uh, ... build up stretches in the morning, warm-up, get rid of all your niggles, uh, play the game, come back, rest, get something to eat and then start with the whole mental preparation again, all over, video sessions everything so it's, it's quite draining over a whole weekend and that, to keep that up for two weeks so you basically have a day off ... but otherwise then it's just the same process for two weeks straight and then come back and then start all over again ... – PP1

... the scheduling of the tournaments, they really cramped things up. Uh, in the past it was, uhm, nine tournaments over seven months and now it's 10 tournaments over five months which was very interesting. Uhm, so you, you are literally away for like two and a half weeks then back home for two and a half weeks, then gone for two and a half weeks and that's weird, it uh, doesn't normally happen, happen like that because, first thing, when you get home it takes you three or four days to recover anyway. Then you get into camp for like a week and a half then you're off again and that takes a toll on like families ... – PP12

... your turnaround times between tournaments have been reduced drastically. So, you pretty much have two and a half weeks overseas, two and a half weeks at home, two and a half weeks ... those demands are just ridiculous. In terms of logistics, the biggest issue you've got is the getting of visas, booking of

flights, the availability of players because your turnaround times in terms of treatment of players and uhm you know getting them back to good health ... – SS3

So, the logistical demands were very different this year. Like you said, I think everything was a bit compressed. Uhm and they added another tournament in so just added to everything. – SS2

With rugby sevens players being away from home often it is important to ensure that the traveling experience is as good as possible. Factors like jet lag and travel fatigue has to be taken into consideration when planning is done for a tournament.

4.5.2 TRAVELLING EXPERIENCE WITH THE TEAM

... it's one of those things where you just have to deal with it ... the longer you are there, the more you deal with it, the better you get at it ... the more fun you make it for yourself, the more fun it is for your team and the better your chances of performing on the weekend, even if you think everything suck ... we have put measures in place where you, like, try to keep guys awake for, for long the first night especially keep them up till late ... to force them into a sleeping pattern and you pump them full of sleeping pills so they can sleep that first night and the second night you keep up with that routine ... It's not ideal, you have these people that say that jet lag lasts 'so' one day, a week for every day that you, or hour that you're out of the time zone, but there are ways of combatting that and it's like I said teams just have to perform on the weekend, so there's pretty much no excuses because everybody goes through the same thing. – PP1

But the teams handling it the best mentally and just go out and play the game. Just take it as it come and then I think they will be the team that will be, at the end will be the best, because they handle everything well. – PP15

... I think obviously going from different ... times zones can be tough on the body, especially sleep, sleeping pattern wise, but luckily we do get there in a week, sometime in the week so a little in advance so we still have the first two or three days to really get our bodies ready, or our bodies to (adapt to) the new surroundings and then we have you know, flush out days ... so it's not too bad. Obviously, it is tough, especially this year we had a much shorter year uh, squashed into six months pretty much the, the World Series so here for two weeks, gone for two weeks, here for three weeks gone for two more weeks ... You know external as well, you know, the family life or, you know, some of the guys are married, uhm, with a family that kind of stuff so it was tough in that regard, but obviously management takes care of us ... – PP17

... physically tired and drained, not like we've just gone for a run now, feeling tired, like when your body feels [...] when you wake up, when you, you just wanna sleep for 12 hours a day, uhm, it doesn't matter what your drive's like, it's not gonna push you to do well, cause you just feel like you're abused at the end of the day. That's it, you feel like you've just been run into the ground. – PP12

Even though all teams that take part in the circuit have to travel, it is still hard on the players' bodies. There are a few ways that players currently feel the travelling experience can be improved on.

The travelling should be improved, and this something we spoke a lot uhm, to World Rugby and IRPA (International Rugby Players' Association) the player association, uhm, for the guys maybe to fly business class and sometimes you know it's difficult to, especially when you fly from one tournament to another tournament and 16 guys need to fly with one or two or three planes, there's only limited business class seats available but then at least, uhm, emergency exits where there's a bit more, uhm, leg room for your legs and ja, just try and make us comfortable as possible and the layovers on certain airlines,

sometimes that's, a bit tough, but like I said everybody must do that at the end of the day. – PP19

One of the factors that help to adapt to the different environments is experience. It is, therefore, important in a team to ensure that the more experienced players look after the new players and help them to find their feet and fall into a routine with them.

It is a bit of a stress when you've gotta go to a new environment and you've never been there. You don't know what the hotel is like, you don't know what the food is like, you don't know what the training field is like, you don't know what the distance is like, you don't know how the transport is gonna work. So that can cause a bit of uncertainty, but, uhm, no, the boys, you will always put new players with experienced players – in their room so they can help them and guide them and that kind of stuff. – SS3

For the coaching staff of the sevens team there are different stressors that play a role in traveling, like access to players and getting them released from their provincial franchises. It is, therefore, very important for the coaching staff to have a good relationship with local and international franchises.

4.5.3 INTERNATIONAL/LOCAL FRANCHISE AND SEVENS

So, it is about identifying those players, getting together specific agreements that can, where you have agreements with franchises where you have players available for tournaments and that you leverage what sevens can contribute to 15s rugby and franchise rugby in general. So that you play a part in helping them do better, they play a part in helping us doing better by making their players available and that it is all done in terms of making South African rugby in general better. So, I think those kinds of relationships and strategic partnerships in terms of player development for the greater good of SA rugby, I think that is something that could get ever better. – SS3

The relationship with franchises can be improved, this could help the sevens team to have a bigger group of players available for selection. Other areas that also need improvement include World Rugby's pro-activeness and quality control with regard to the tournaments.

4.5.4 AREAS FOR IMPROVEMENT

I think they can probably be more proactive. I think if they arrive at a tournament and they walk into the dining hall and they see that the dishing up area is 4m by 4m and six teams need to eat there and most teams eat at a similar time of day, I think they can use their common sense and not wait of the teams to come up with a solution, but almost talk to organisers and say, "Listen, keep this here," but you need another dishing area over here etc. If they eat the food and they see it's bland and they see it's the same food two, three days in a row and there is no variation that they could actually be proactive and go communicate that, if they could see that there is a problem with the provision of water or the logic that the tournament is applying in terms of provision of water or energy dinks etc. is flawed. – SS3

... some tournaments have a problem with, with the food or the dining some problems have, some tournaments have problem with the rooms that's too small or the beds that's too small ... – PP19

I think there is a lot of ways you can improve because we are also not flying business class. We are flying longer routes where there are shorter routes to fly. And compared to the Super Rugby teams and international teams they are all flying business class, although it's just one flight they have to fly where we have to fly 10 times a year and we only fly economy. Ja, so I think there are a lot of ways they can improve. At least give us business class or organise shorter routes for us to fly. – PP15.

Logistical demands complicate issues of discomfort and recovery time due to intercontinental travelling, flying economic class, as well as during tournaments. An appeal to World Rugby to enhance the food quality, provide spacious accommodation and internet access is worthwhile.

4.6 PSYCHOLOGICAL DEMANDS IN RUGBY SEVENS

Sevens players are under pressure due to the high demands of rugby sevens. Therefore, the psychological state of players plays an important role in the success of a team. Different themes pertaining to these psychological demands were identified. The identified themes include mental toughness, mental strategies and mental disorders (Figure 4.12). These themes and some of the important subthemes were explored through citing direct quotes from the participants.

4.6.1 MENTAL TOUGHNESS

It is important to promote mental toughness in sevens. This can be done by exposing players to training situations that is similar to that experienced during matches. The more players get exposed to a certain difficult situation, the easier it will be for the player to think clearly and handle the situation as desired.

... mentally is a product of how many times you see things on the field. So if you, if you are in a situation and you haven't seen it before, you start to get very nervous, 'cause you don't know how to handle it or how you're going to react to the situation but, but if you've seen a situation a couple times in your life, you are able to be a lot more calm. If you can keep implementing those situations – that's the difficult part. – PP12

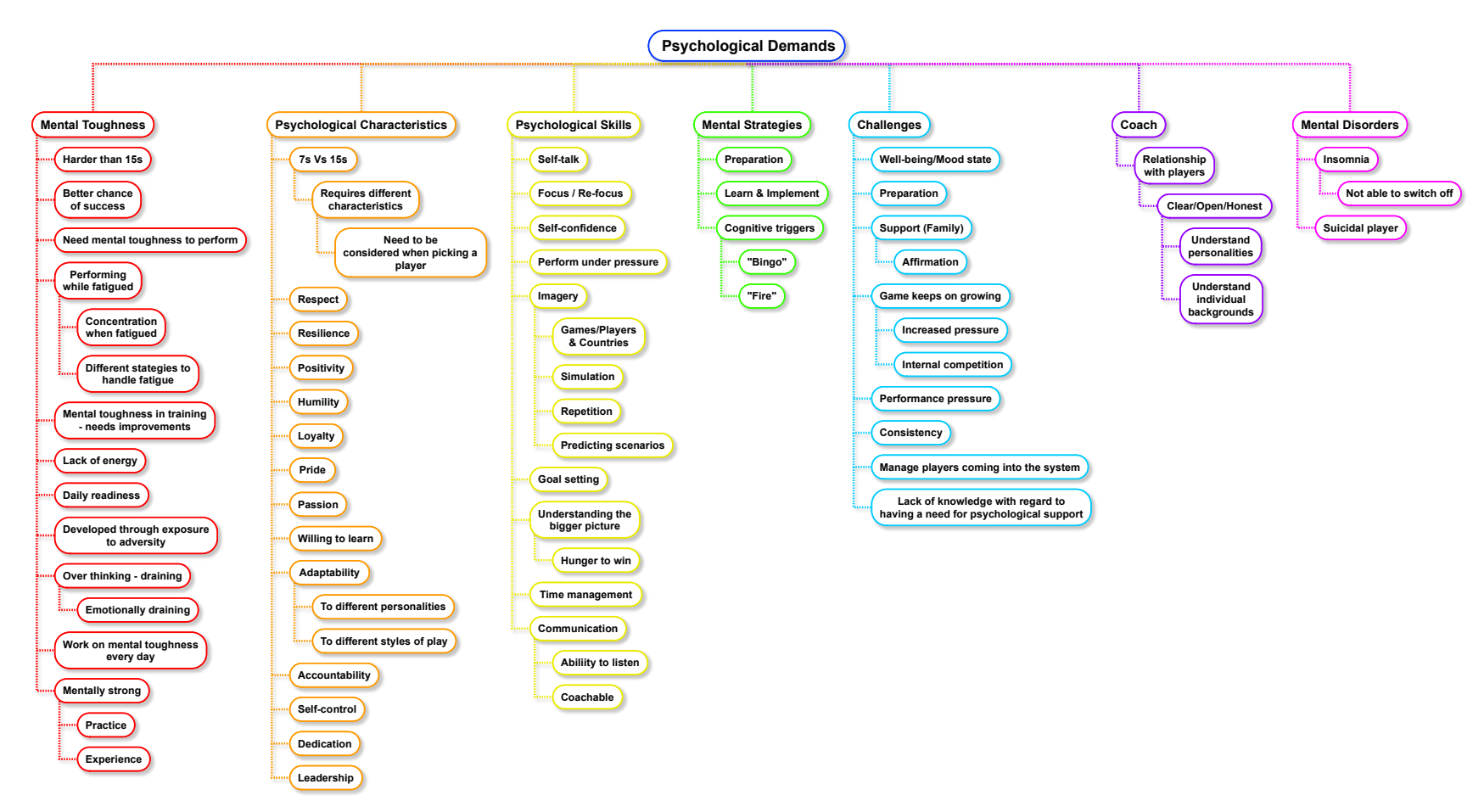


Figure 4.12: Perceptions about the psychological demands of rugby sevens held by players and coaching staff

I think it is very important. I think in general rugby is more mental than it is physical, you know. Obviously if you are not physically then you are not gonna do so well generally speaking. You get those odd guys that are like five feet and they weigh like 60(kg) and they can play test rugby, for example, but I think rugby is more mental than physical. So, the importance of addressing mental or psychological aspects of your sport is very important. – PP13

Even though the psychological aspect of sevens needs to be addressed, players need to be able to stop themselves from overthinking and should try to control what they spend their energy on.

... to channel the energy in the right channel, to focus on the, on the right stuff you know, like hm, uhm, my mental challenge is, is to stop thinking about the game. Haha you know like sometimes I just overthink the game, I really play the game a lot over in my mind in terms of, like how we are gonna play, but if the defence does this then we need to do that, then we need to do this, you know. Like if it's before the game and, okay, we're gonna play against them, this is how we need to, I think uh, I burn myself sometimes out a lot you know, when I'm doing that, so which means uh, that is also mentally draining, you know. So uh, if I can use that energy in the right channels to make sure that I, that I can go out there and still perform at my best. – PP14

Players and coaching staff reported that they see the psychological aspect as fundamental to the success of a sevens team. Unfortunately, this view is seemingly not shared among all the parties involved with the national teams in South Africa.

I think in South Africa we underestimate the mental side of sport. I think it's got a big role to play ... We'd rather spend 90% of our day on the field training and 10% on the mental side of the game. And I think you almost need to do it the other way around. Mental is a massive part of any sport – not just sevens... Uhm and I believe that the mental side is the difference between winning and

losing. I think, because for us, having a routine going into a tournament for one tournament made us successful and we did exactly that same the next tournament. It's different, we get different results ... It's all mental on how the guys will pitch up mentally on the day and how they will perform. And I think that confidence is playing a massive role in sports and is something that we can utilise a lot more in South Africa ... We believe in the physical stuff and training and everything but we don't believe in mental side so much, and I think it is definitely something that we can utilise a lot more. – SS5

... they always say 90% mental 10% physical. I really do believe that. So just in terms of, I think we have fallen short a couple of times this season, and it was maybe just in my opinion from a mental aspect where we fell short. – SS2

It is clear that psychological factors play a vital role in the success of a sevens team; certain psychological characteristics have been identified as crucial in being a great sevens player.

4.6.2 PSYCHOLOGICAL CHARACTERISTICS

I think for me if you have discipline that is the most important thing, because if you don't have discipline you will just think of yourself and not care about the other guys around you. And the other thing, the second one, I think, is its work ethic, so you must work hard ... – PP18

But I think for our system, very disciplined in all your processes, and in the team environment as well as disciplined in how you actually control yourself. I think if you are not gonna fit into the system, the system is not gonna allow you to get the opportunity to perform. – PP11

... all these guys are just grafters, pure work horses, and uh, I think that is probably the back bone of our setup I think that is probably the best attribute. If you're scared of work then sevens is not the game for you uhm, so I think that's

probably the, the biggest factor that a sevens player must need and then from there on just pure, how can I put it? You have to be psychological quite strong because you're gonna get to know yourself quite well when some of the training sessions is really physical and really hard. So uhm, ja I think your mental toughness should be up there, but I think work ethic is probably the most important thing. – PP1

If you think you are working hard, you are not working hard enough ... uhm ... and a lot of discipline comes with it ... – PP6

Part of the hard work in sevens is making sure that players work individually on their psychological skills and psychological preparation to enable them to stay focused even while being under immense pressure. Players should be encouraged to find psychological tools that they find effective, they should then practise these different skills to help them perform better on the field. These skills include visualisation and focus/re-focus.

4.6.3 PSYCHOLOGICAL SKILLS

The night before I would visualise the game. How I'm gonna play, who I'm gonna play against ... visualise it, play it through in my head and, ja, that's that – PP2

... before I go to sleep I have got a habit of seeing something happen before it happens in the game maybe. So, if it does happen I know what to do, you know what I mean? So that's kind of trial and error. – PP13

I think a lack in focus could also eventually cause a lack in confidence, because you are making mistakes and you are not performing to the utmost which is gonna show later on the field. So, I think when you come into a period and you're focused on the weekend, I think the first session is always very important, because it is where you are gonna set your base and you're gonna

set your statement. I think every week it's important for you to come with a new attitude, a new mentally refreshed mind ... – PP11

Although individuals make use of different psychological skills, since rugby sevens is a team sport the team as a whole should work on specific mental strategies. These strategies are especially useful in match situations.

4.6.4 MENTAL STRATEGIES

I think mentally it's a big thing in sevens rugby, to get better at it uhm, I've never, never believed in it uh, I always uhm, will get my own head ready for whatever lies ahead, but these days you get so mentally drained that you need someone to actually give you key points or trigger points to get yourself up for training sessions. – PP16

... preparing well mentally, it's, it plays a massive role you know to make sure that you are in, in the right space and uh, to make sure that you get out there and uh, give the, give your utmost best ... – PP14

... it's about predicting scenarios, how am I going to behave or how am I going to act if I'm faced with this, what am I going to do, if that happens how am I going to behave, if I'm exposed to this what's my decision making going to be? Uhm and all those kinds of things just mean that when you get into a, in that kind of scenario in real time and there's pressure and you're tired that there's one less thing that you have to think about, because you actually have thought about it and now actually just have to execute it, so you think okay, well I've prepared for this, this has happened, uhm, this is what I decided I'm going to do, and you do it. – SS3

I believe the role of the psychologist would be to empower the athlete not necessary that the athlete becomes dependent on him, but to empower them with coping mechanisms so they can, if a stressful situation arises, what do I

do with it? This is in my toolbox I am going to use meditation, I am going to use a systematic approach to break down what this problem is and work out a resolution to it. So, I think it is all about empowering the athlete – SS4

The psychologist involved with a team should consider the various challenges when empowering sevens teams with different mental strategies.

4.6.5 CHALLENGES

Due to the physical demands and intensity of sevens, players find it challenging to keep themselves motivated throughout a tournament. This is where the psychological aspect plays a big role.

... that's almost like a mental challenging thing like to, to get into a warm shower and realise listen if you feel that way and you're really conditioned imagine how the teams must feel that is not as conditioned as you are and so, so then you make that mental, mental shift in your head and on the pitch ... – PP19

... the game doesn't start on the day you play. It starts on the Monday when you start training and or the few weeks before it and to get yourself mentally ready four weeks before the tournament starts is, is a tough thing and if you implement it as soon as possible it uhm, you will, your body will react better to it. – PP16

It is important that players are psychologically ready for the tournaments. In some cases, it might be easy for experienced players who know their own strengths, weaknesses as well as their psychological needs. In some cases, players need assistance to identify these needs. It is important that there is someone available to help them through the process of identifying such needs.

I dunno, like I haven't really assessed that but I think if I can chat to someone who would be able to spot that then it would be much better for me. – PP7

In South Africa, the sevens setup consists of players with a variety of talent, experience and backgrounds. One of the challenges is to create a winning culture, where players keep perspective amidst achieving success.

So that for me is massive in South Africa and I think we don't have a winning culture yet. I think winning is still a something out of this world for us and we think 'wow we are successful now' and we still get arrogant and a bit ahead of ourselves and I think that definitely is one side of it. I firmly believe that balance in your life off the field, I think you need to be a good person. – SS5

To enable the sport psychological consultant within a team structure to influence the players and create a strong team culture, players need to be able to trust the sport psychological consultant.

4.6.6 PSYCHOLOGICAL COACH

They have to be able to trust you in the first instance for them to open up to you. If they don't, can't, if they don't trust you they're not gonna open up so you're not gonna get the biggest picture and then whatever you work on has to be confidential ... – PP1

Even though trust can help the players to open up, the sport psychological consultant should understand or at least try to understand all the differences within the team.

... I think also just understanding the whole team psychology is important to understand how everyone's levels are different and everyone's issues are obviously different and to understand that if someone is going through a certain aspect I think it is more of an open mind policy and an open-door policy that

everyone is on the same page and everyone understands whatever someone is going through. I think it is crucial ... – PP11

Uhm, man, challenging thing, to get everybody on the same page uhm, you know sometimes, guys, we are different and people... – PP19

Once these two factors (trust and understanding) have been dealt with the sport psychological consultant will be able to start to build a relationship with the players.

... like other things, your relationship with the coach you know, if you don't have like a clear, open, honest, relationship with the coach you're not gonna know, maybe you feel your position's in jeopardy, uhm, which means you have to do things right and you feel like even at practice, where, which should be a place for you to express yourself. – PP12

You'll go to the coach or you'll go to your teammate and say, "Listen, can we have a ten-minute chat? I want to discuss something with you ..." – PP19

The team psychologist addresses numerous factors on a team, as well as on an individual level. In some cases, the psychologist also has to work with clinical mental disorders.

4.6.7 MENTAL DISORDERS

... it gets that hectic sometimes, you know and it's –it goes far deeper. Like sometimes you even sit there and you're like, "Well, what if I wasn't even here? Then I wouldn't have to play rugby then." Do you know what that I mean when I say I'm not here? Like dead. – PP12

It is important that once mental disorders have been identified, players should immediately get help. Mental disorders should be seen as serious and monitored to help a player overcome it. If a mental disorder is not taken care of, it can have severe

consequences. For optimal functioning, sevens players need to be equipped with mental skills and strategies to deal with the sport's high pressure demands. A sport psychological consultant will be of great use – also with the diagnosis and treatment of mental disorders.

4.7 PSYCHOLOGICAL TOPICS THAT SHOULD BE INCLUDED IN A PSYCHOLOGICAL SKILLS DEVELOPMENT PROGRAMME FOR RUGBY SEVENS

Just like sport skills, psychological skills also need to be developed. Within rugby sevens there are numerous psychological skills that can assist players with improving their performance. Various psychological topics were identified that should be included in a psychological skills development programme (Figure 4.13). These different topics and some of the sub-themes will be elaborated on through direct quotes from the participants.

4.7.1 COMPARTMENTALISATION

In any professional environment, it is required that professionals should not be distracted from their task at hand. For sevens players, it is important to be able to focus on rugby without worrying about external factors when training or on tour.

... We all have external factors, like family, something might happen uh, you need to be able to get over that, you need to try and separate the family from the rugby, 'cause you don't wanna, you know, have that ... affecting your job at the end of the day and also affect your education at the end of the day so, you need to have those tools to how you can, you know, get over the family problems or, you know, be mentally strong to say, "Right, I need to see, you know, separate family from, or friends from rugby, or girlfriends from rugby", that kinda stuff. – PP17

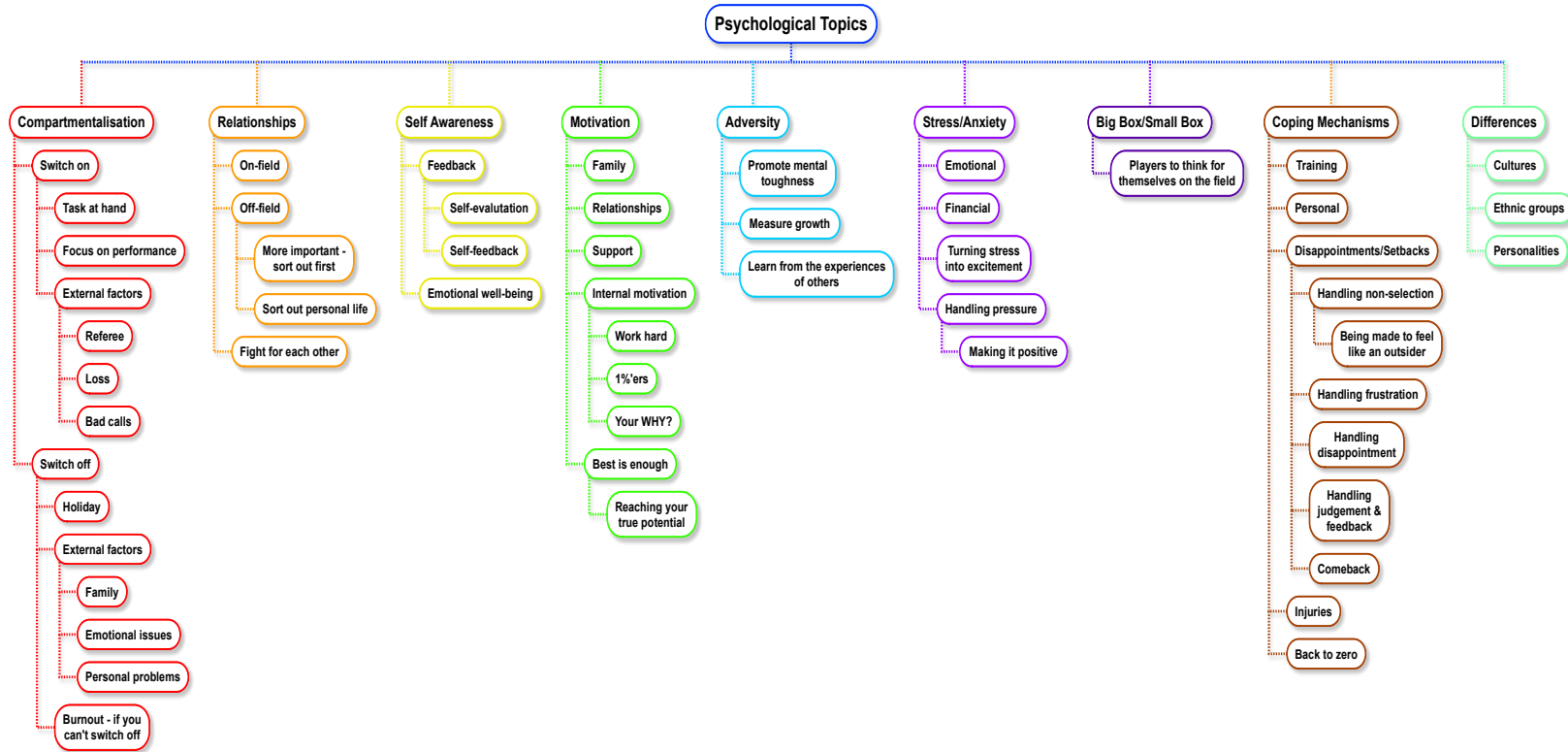


Figure 4.13: Perceptions held by held by players and coaching staff regarding important psychological topics that should be addressed in rugby sevens

I think also external factors, family, emotional issues, are always gonna be there. I think to cut out all the baggage and leave it at home, so when you hit the field you almost have a clear mind and an open mind to actually just focus on your job, focus on your performance. I think any emotional baggage that you carry is gonna affect your performance on the field. – PP11

I think off-field or on-field, your mental state is probably most important of where you must be. It's almost like you can't take your personal stuff onto the field and you've gotta make sure that when you put your boots on next to the field you have to switch on just so you can think about what's gonna happen on the field. You can't let stuff that is bothering you from home or family or anything, uhm, mix with your rugby, cause it's gonna, it's not gonna work. You need to be in a good mental state to play the game. – PP15

... like on the journey there you never think of anything besides spending time with your mates and growing and bonding together, but uhm, once you get there then everyone's on the same page, that we are here for a task and we have to come here and handle business you know, so it's a, it's a great mix between when we are switched off we are growing as people and as brothers, but when we are in work mode it's all guns blazing so it's awesome from that perspective ... – PP4

... you, like you've gotta be, very well trained in mental uhm, compartmentalisation to be able to box that up, put it to the side and go onto the field and, and do something that, at the, in the grand scheme of things is quite inconsequential. – PP12

In some cases, it might not be external factors that keeps the players from focusing, but rather something that happens within the team environment like non-selection.

You know, how are you going to deal with being dropped from a side. How are you gonna deal with your girlfriend breaking up with you. Uhm, how is that gonna affect your work life and almost being able to compartmentalise those different things, you know, it is asking a lot of the players, but when you get to work you have to be professional. – SS2

Even though it is expected of players to always be focused on the task at hand and never to bring their personal problems to the rugby field, the one thing that will always have an influence on their performance is their off-field relationships.

4.7.2 RELATIONSHIPS

I think the off-field relationship plays a big role in the team dynamic and the team culture. – PP8

Definitely, once again, how you're gonna behave if you had a hard day with your girlfriend, or this, or she's broken up with you or you've failed an exam or your parents are getting divorced or whatever the case may be, you need to have some form of strategy of how you're gonna handle that kind of curve ball. – SS3

Players should be able to identify the effect that off-field situations can have on their on-field performance.

4.7.3 SELF AWARENESS

I don't think professional athletes are critical enough on their own performance in terms of having a look at what they are doing, because very often they will, and I'm not saying it's the case here, they could find fault with others instead of always looking at what could I do better? What can I do better? And I think if there was one thing that could make each player 2% better than what he currently is, is a shift in mind set in terms of, being a little bit more critical of themselves and what they're busy with and what they're doing. – SS3

It can help if players are critical about their own performance. In the case where criticism comes from someone else, like a teammate or coach it is important that the player should have perspective and evaluate the relevance of the criticism.

... once you've got that foundation in place then you'll never take things personally, you'll take it in the light that it comes and if something is meant personally you also have the wisdom to be able to recognise that this person is actually not saying these things for the right reasons and the ability to actually just move it to side and carry on with it. – SS3

It is expected of players to keep on performing regardless of their personal situations. One thing that players pointed out that helps them is intrinsic motivation and not relying on others to motivate them.

4.7.4 MOTIVATION

I think if you play at that level there's, you must, eh uhm, have enough motivation inside you that you don't need to motivate somebody else or get somebody charged up or anything ... – PP19

*... you need to motivate yourself, but you are in a team environment ... you need to do what you do right alone, so you can be the right puzzle for the team.
– PP3*

Intrinsic motivation plays an important role in sevens. Even when players face adversity from a young age, it can be used to motivate them rather than a reason to give up.

4.7.5 ADVERSITY

I had to play, it was the first time I actually had to play with the year above me and it was a nice, like a good yardstick, like measuring tool for where I would

be you know, growing up and I, like I considered myself like quite a tough kid whatever it was and enjoyed my rugby. – PP12

It helps players to develop into strong athletes if they learn to overcome adversity from a young age. As mentioned before, coaches are encouraged to create situations in training that will help players to practise to overcome adversity. Younger players also tend to look up to professional rugby players. When they see their heroes overcoming adversity, they can be inspired to do the same.

... when I was growing up then like ... (name of player) was a ... huge inspiration just because these guys are like all the same height as I am and they were great players and like even now looking at what (name of player) doing in the Currie Cup, just blows my mind, like (name of player) was, used to say he's like the, these aren't the days of the big eating the small, it's the fast eating the slow – PP12

Unfortunately, players have to overcome adversity not only when they are growing up, but also in the professional environment. Another factor that players need to deal with is overcoming stress or anxiety and dealing with increasing pressure.

4.7.6 STRESS/ANXIETY

I have these anxiety feelings, like these heavy anxiety feelings about like, you know w ... what if I just got injured and he looked at me and like, you are thinking about injury like stopping you from playing? – PP12

Since rugby sevens in South Africa is a career, getting injured can cause a lot of stress. A severe injury can easily end a career. With sevens being included in the Olympic Games, as mentioned before, a lot of players from outside the system joined the national sevens setup. This added pressure onto the sevens players, who had to defend their place in the team.

... there's a lot of guys coming in and out, the fifteens guys coming in ... so a lot more pressure this year and, but also a development year, to develop a few players ready for the Olympics so, it was a busy six to seven months ... – PP17

While some players stress about non-selection, other players might be stressed that they could let the team down, should they be selected.

... the anxiety and fear literally wanna lock you up and make you sit on, sit down in a dark corner, and just leave me please, don't let me play, like I don't wanna play and there's been a lot of times in my career when I've been like uh, you know, pick somebody else, like I, I don't wanna be picked, you know, because what if you mess up? – PP12

When players get selected there is a lot of pressure to perform, since the South African rugby sevens team is one of the best teams in the world and the expectations to perform are high.

... obviously there's always an extra amount of pressure to do well, because we are one of the best teams on the circuit, we can't be, you know, falling out you know, in the pool stages we need to be able to progress to, we wanna try and be in every single final and win every single final ... but you've gotta try and put that out of your mind and try and work on just the process, just taking it game by game, getting better as a team. – PP17

... mentally, I think, on the field obviously you wanna try and be a, at your best every single time ... So, you need to know yourself first of all and you also need to know the tools you can use ... I think to try and stay consistent is the most important ... so you always, you know, before a game you have your routine and you're always mentally ready every single time. Not just games, also training. Then I think off-the-field – especially for young guys ... a lot of guys don't study after school but a lot of guys do and it can be a lot of pressure, you

know, playing rugby ... and then also be an academic at the same time so you're like a student-athlete sorta thing ... Mentally you say to yourself, right, I need to pick myself up ... obviously, as much as rugby, you wanna be a rugby player, you obviously need to think that it's not always for everyone, not everyone can, can get there so, you need to have a backup plan ... – PP17

Players are encouraged to plan for their lives after rugby sevens, but while they are part of the sevens setup, players are encouraged to grow as players. Within the current context it is called the big box/small box thinking. The big box/small box is a concept that allows players to be creative within certain boundaries. The big box refers to the team setup, where guidelines are in place, which players should respect. The small box refers to the individual players. Players are given the opportunity to express themselves and try new things without rigid rules, as long as they stay within the boundaries of the big box.

4.7.7 BIG BOX/SMALL BOX

... everyone's got this blueprint that we've been given for a tournament and within that blueprint we've got so much freedom to let your natural abilities come through, and to express yourself but at the same time leaving the ability and, and the, the physical actually doing side of things there, the emotional and, and mental connection to one another for me, is more important, because when we are on the same page and we are working, all striving towards the same goal as well, then it, makes the doing fall in place by itself without even having to think about it. – PP4

To get players on the same page is mentioned throughout this study as important. It is expected of the sport psychological consultant to assist in this regard. It is also expected of the sport psychological consultant to assist the team and individuals in handling psychological ups and downs.

4.7.8 COPING MECHANISMS

I think coping, coping in, physical training ... I think also uhm, coping with disappointments, stuff like injury and not making the team, stuff like that, I think you don't only have to be tough with training only, but I think also when you, are also emotionally as well but haha, ja. I think also emotionally you have to be strong and tough, mentally tough too, to just take everything as it, as it comes. – PP10

I think it's very important, I think obviously we have our own mental, mental (name of staff member) who comes and helps us out. It is important, because obviously you need to know the tools of how to uhm, prepare your, your, your body and also your mind, obviously to be able to cope with all the training and all the games ... especially if you maybe having a dip in form or and you playing really well, but you wanna try stay consistent – that kinda stuff always factors in uh, throughout the year so I think you need to be able to have the tools to, to use to uh, to try and uh, keep that mental, mental strength. – PP17

One of the things the team has been working at is to always start over after every tournament. They call this concept 'back to zero'. This help them to recover from a defeat or to stay humble in victory.

I think that's the role that our team psychologist has, to get you through the mental space after its fine just get back to zero again and just take it as it is – PP8

Even though the game of rugby sevens has changed a lot in the last few years, the finer changes are not so much physical, but rather psychological.

... the funny thing is that it's not physical, that's changed in the last year, it's all mental ... like if there's any testament or testimony that will go forward in this Masters that I hope that will carried a lot of weight is the fact that I feel like I

played much better rugby since I've dealt more with my mental skills, because I, I had (two operations) so I'm definitely not physically at my best, but when I get my head right, I play good, clear rugby you know and I, I'm decisive and you make smart decisions and the right ones at the right time ... It's not the end of the world to not win a game, it's really not and ja, you're, it's not ja, you won't die, you won't get disowned by South Africa. – PP12

Every player has different psychological problems that they need assistance with. It is, therefore, important to give the players a variety of tools that they can choose from to assist them to be in a good psychological space.

... and I think where (name of staff member) has done very well is with different guys with different coping mechanisms. Just getting guys comfortable using those. Some guys will go listen to music. Some guy will go sit in the corner and sulk until they're better. So just getting the guys to be comfortable. [I'm] not saying all of us have to deal with it in the same way. – SS2

Since all players are different, it is important for players to respect each other.

4.7.9 DIFFERENCES

... [you] come across different personalities, different uh, people, from different ethnic groups, different cultures ... so, I think being able to, and I mean you'll, you'll be around other males who or let me say boys, haha, everyone knows how boys behave. I mean, maybe for that particular person or who's maybe not used to maybe being made fun of or, then uh, I think off the field it happens a lot. – PP10

I think it is very, very important, firstly, to be understanding and to be respectful of different people's cultures and we really put big emphasis on that, but also within that as much as we respect individual cultures, uhm, those people need to respect the team culture and the team identity. – SS2

Tackling challenges, anxiety and stress on both professional and personal level are vital abilities for players as individuals. Personal preference influences the choice of coping mechanisms. Context and cultural background play an important role. Differences can be discussed in team format for the purpose of mutual acceptance.

4.8 THE ROLE OF A SPORT PSYCHOLOGICAL CONSULTANT IN RUGBY SEVENS

Once the different topics have been identified, it is important to understand the role of a sport psychological consultant. In rugby sevens, a sport psychological consultant has to adapt his approach to the sport. It is important that the sport psychological consultant spends enough time with a team and individuals to be influential (Figure 4.13).

4.8.1 PLAYER RELATIONSHIPS

To enable a sport psychological consultant to build relationships with the players, the sport psychological consultant will have to spend time with them to gain their trust.

... either the whole pre-season or the in-season, but you have to be in-house at least once or twice a week and you have to allocate time to chat to everyone, because then you start to build trust and a relationship with so ... 'cause initially you want your team psychologist to have the same relationship as the guys on the field. They need to trust you, they need to work with you, uh, if they don't feel open enough to talk to you and be comfortable enough to talk to you ... – PP1

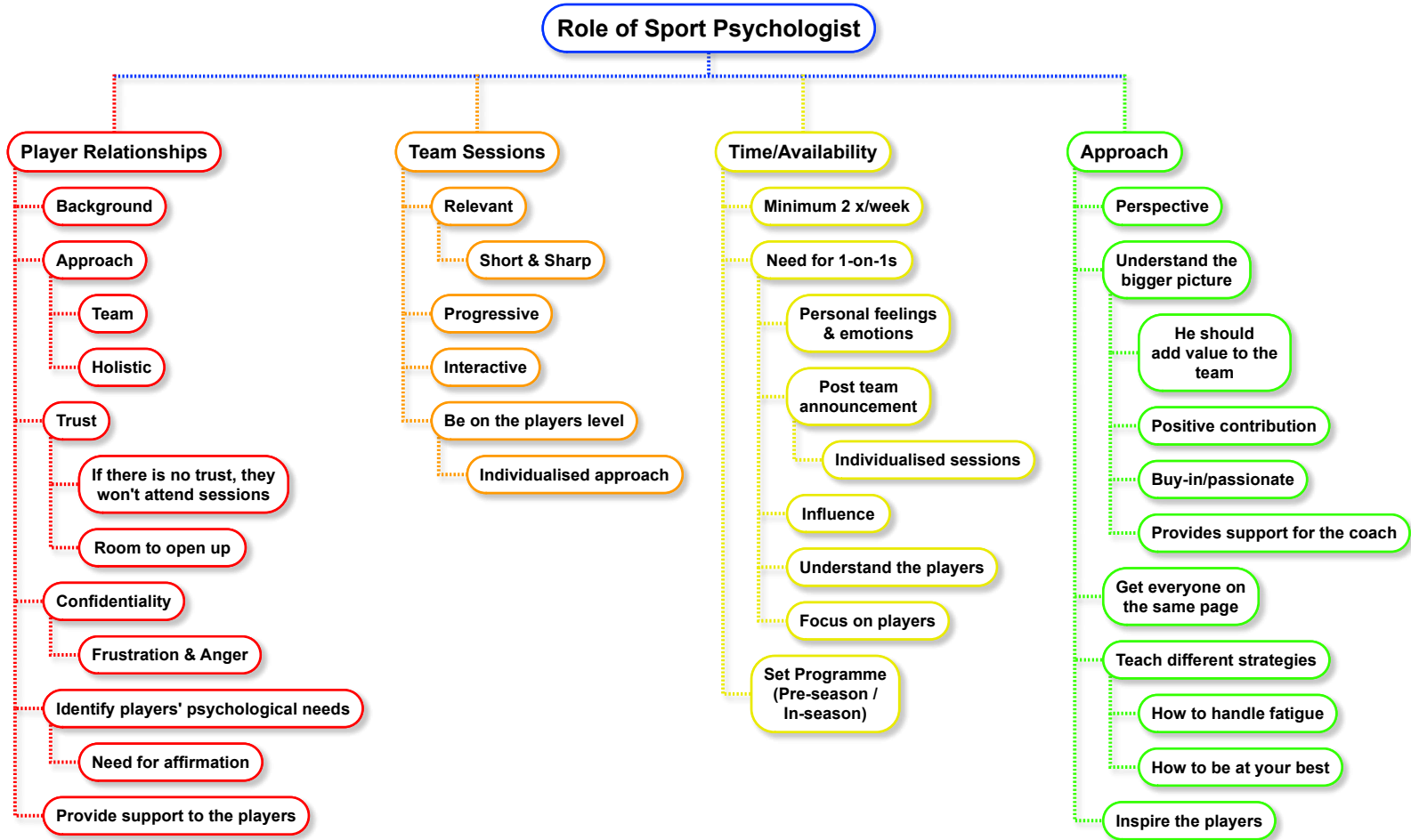


Figure 4.14: Perceptions about the role of the sport psychological consultant in rugby sevens held by players and coaching staff

Very confidential obviously. And he would kind of help you get through whatever influence it might have on your life, or it might not be rugby specific it could have been kind of anything. I mean here working with a psychologist was more rugby specific, but back then it was kind of just seeing a psychologist ...
– PP13

On a one-on-one basis, a sport psychological consultant needs to build a relationship with the players, by spending time with them. The interpersonal interaction is very important to understand what the players are experiencing and with that knowing how to assist them.

I think the role of a sport psychological consultant is obviously relationships. –
SS3

I also find you can't have someone that doesn't get to know the people in the system. It can't be someone just coming in every six weeks and doing a presentation. It doesn't really sit well with anybody. You have to have that personal relationship with the people. So I believe we should have, and I don't know why we haven't had it, you look at the All Blacks they've had a full-time psychologist/mental coach with them, tours with them, stays with them, does everything. We should have that, and in all formats as in the Springboks [15-man national team] should have it, the women side have it. – SS2

Although a sport psychological consultant will spend time with players on a one-on-one basis it is also important that the team has sessions together to ensure that everyone is moving in the same direction and working towards a common goal.

4.8.2 TEAM SESSIONS

... but the team session with him, I'll say before the tournaments will probably be like once a week with a team session and what I really like about him, he's, he's straight off to the point, short and sharp and ja, so, for, for a rugby player,

I think they can maybe, you can lose your focus in, in a session like that, because you only ja, your focus on the field is different with your focus when somebody is chatting about emotional stuff, so I think to get straight to the point and to, to get everybody's attention for even if it's just for ten minutes then make the best of it. – PP19

With a team sport, it is important the sport psychological consultant does not only focus on general topics, but make the sessions relevant to what the team are going through at that moment.

... we had a discipline problem so we were giving away a whole lotta yellow cards so he, the last chat was like getting a call that will make us fire when we get like a yellow card, 'cause with less players on the field so we discussed on a, you know, like a call that whenever a call is called something like blitz, whenever it's, whenever blitz is called on the field we know ... We are, like, less players, we need to fire. We need to work harder. We need to be on the whole time, so he normally chats about things that are going on around the team at the moment and try to, to get us thinking different about the certain things ... – PP20

To enable a sport psychological consultant to assist a team and the individuals in the team as much as possible, the amount of time that the sport psychological consultant is available for the team is critical.

4.8.3 TIME/AVAILABILITY

Then a team should have their own skills doctor or a ... psychologist or whatever, but that guy should be there. I can't say 24/7, but he should at least work with the team and individuals at least, the minimum, of twice a week or once a week at very, very bare minimum, because they have to have a, build a relationship with that guy ... if you employ someone like that, that guy should be available, on tap, cause we have a couple of guys in the team that needs

that type of admin and that use these type of guys ... it would be more beneficial for a team because then guys would open up and they can sort out their problems ... – PP1

... individually you should have more access at least to someone whereas here it is kind of every now and then you will see the doc and randomly you will see him, you know. I think if you have an issue you should be able to, you should have easy access to speak to someone about it because it could definitely affect your game, your training, anything like that. – PP13

Mental skill development, I think individual time with psychologist understanding just your personal needs and how it fits in with the performance ... I think mentally, also just getting much confidence in one self, and that is something that could actually just be by affirmation. And I think that is important ... – PP11

Time should be made available to the players to talk to the sport psychological consultant individually. The team should also get assistance on psychological skills development. This can be scheduled as part of the pre-season or off-season to prepare the players for the next season.

I definitely think there should be a periodisation phase as well with mental skills coaching. I would think a time; more time will be able to be allocated in the pre-season and off-season with players. So especially in the off-season guys can get an introductory exposure or course to certain techniques and try them in the off-season. Coming to the in-season we can sharpen those techniques a bit. So, I definitely think you know it is a periodised approach from off-season and gradually tapering down into in-season where you may have fewer sessions and also you have fewer sessions but you just sharpening those tools again ... – SS4

There are, however, obstacles that will have to be overcome to enable this to happen.

I think the unfortunate thing about it is [that] he is only in once a week and only for the time that we are in camp. So, like I said we are two and a half weeks at home and we will give the guys a week, a week and a half off, so basically for that two weeks he only comes in twice which is definitely not enough. If you go back to what I said, about the 90:10 ratio, so you actually need him to be in every single day and spend a lot more time on the mental side of the game than on the physical side. I think obviously for us budget and finances is a bit of a problem to get him in every day is gonna cost us a lot of money but I think if you could have your preference we would have love to have him permanently... – SS5

It was mentioned that it would be ideal to have a sport psychological consultant with the team on a permanent basis. It is, however, very important that the sport psychological consultant takes on an approach that works well with the team.

4.8.4 APPROACH

Man, mental skills are like ... It's a hard thing to coach to people. I think a lot of the guys that are, that are here, they normally come from a rougher background ... those guys are normally your better sevens players, because they are mentally tougher ... for the majority of guys that just come in are easy going, they just don't make it. [With them] it's either the level or the intensity of the training is too tough or the demand is too high and it's not that they aren't good fifteens players or sevens or rugby players ... we've numerous amounts of Springboks ... they can't make the cut for sevens. So, it's a, it's a very demanding sport in terms of mental preparation and mental training but if you're not up for the challenge from the get go and [you don't have] that burning desire to want it more than the other guys, then you're not gonna make it. – PP1

Once again it is evident that the different backgrounds of the players play a role in the national sevens setup. A sport psychological consultant should, therefore, have perspective on the differences within the team. The sport psychological consultant should also be aware of different factors that are important in the success of a sevens team.

... it's hard, because some guys, like, want to coach or uh comes from a background where they are individual sports based and this is a team setup ... it's a team based sport so we will not leave each other alone, because our whole system is based on trust ... it comes down to the guys that gives it to you and it's also good to get it from a lot of different people ... You have to be there, because you have to know your guys in and out ... You can't preach all that stuff out of the setup, because that's between you and him ... We've worked with people in the past where they only have one angle of approach ... every week they're not giving you something new back that you can work on ... The mentality that we had in the past: if it helps one percent of the guys it's great, whatever we bring in, and it's a great attitude to have but it has to benefit the majority of the group ... – PP1

One of the challenges that have been mentioned before is getting everyone on the same page.

... everybody's on the same page, then it will come off in the end, so the problem comes sometimes when you have a game plan and not everybody is buying into that game plan and then you have twelve different headless chickens running around and ja, that's a problem ... – PP19

Another challenge is to assist players in identifying what psychological skills they can work on and then providing them with tools to do so.

I'm mostly happy with my mental skills. Maybe there is a little bit of stuff that I can work on, but I think probably someone else needs to find that out, because for me I'm feeling fine. – PP15

Since rugby sevens is a team sport, the sport psychological consultant need to focus on the team as a whole, but also on relationships with each of the players. This will help the sport psychological consultant to gain the players' trust. The amount of time spent with a team and players will also affect the influence a sport psychological consultant could have. For a sport psychological consultant to be effective, the approach has to be in line with the demands of rugby sevens. Sevens players should also be encouraged to work on their own psychological skills by themselves. Exposing these players to psychological training before starting their professional rugby sevens career could also be beneficial.

The first priority of a sport psychological consultant within the sevens structure is to build relationships. This is only achievable if the sport psychological consultant spends enough time with the team and players individually. For a team to benefit from a sport psychological consultant being present, the sport psychological consultant needs to understand the goals of the team and assist in getting everyone on the same page.

4.9 PSYCHOLOGICAL SKILL TRAINING ON JUNIOR LEVELS

With sevens players entering the professional rugby sevens arena at a younger age, it becomes all the more important to expose sevens players to psychological skills training whilst they are still competing at the junior levels. The significance of identifying who will take the responsibility when such a programme should be implemented, what it should entail and how it should be included into the current setup (Figure 4.15) should not be underestimated. Direct quotes from the interviews will be used to further explain the findings.

4.9.1 WHO SHOULD IMPLEMENT PSYCHOLOGICAL SKILL TRAINING PROGRAMMES?

Even though there is no consensus on who should take the responsibility to implement a psychological skills development programme at a young age, it is clear that someone will have to take responsibility for it.

I think to give someone the responsibility is crucial in the sense that he is accountable for those players, but also, he must have a good understanding of what he is actually doing. And the thoughts that he is actually putting in those kids' minds is actually having an effect. – PP11

I think that the coaches must organise the mental ... skills of the players, because they, they know the players the best. So, they must work on the ability to, to work on mental toughness. – PP5

... a big part of it I would definitely say is the person's parents and then themselves ... 'cause at the end of the day you are standing in the boots, you are running with the ball ... A lot of it is being yourself. – PP6

... [a] parent is the first person to tell you if you are not first, you're last. Ah, I'm sorry you got third place, ah I'm sorry you got fifth place. You know I, he's not, he's not the best in the standard. Who, [...] cares? He's nine. What difference does it make if he's the best in the standard at nine years old, you know? Does that have any bearing on his life in the future? No. – PP12

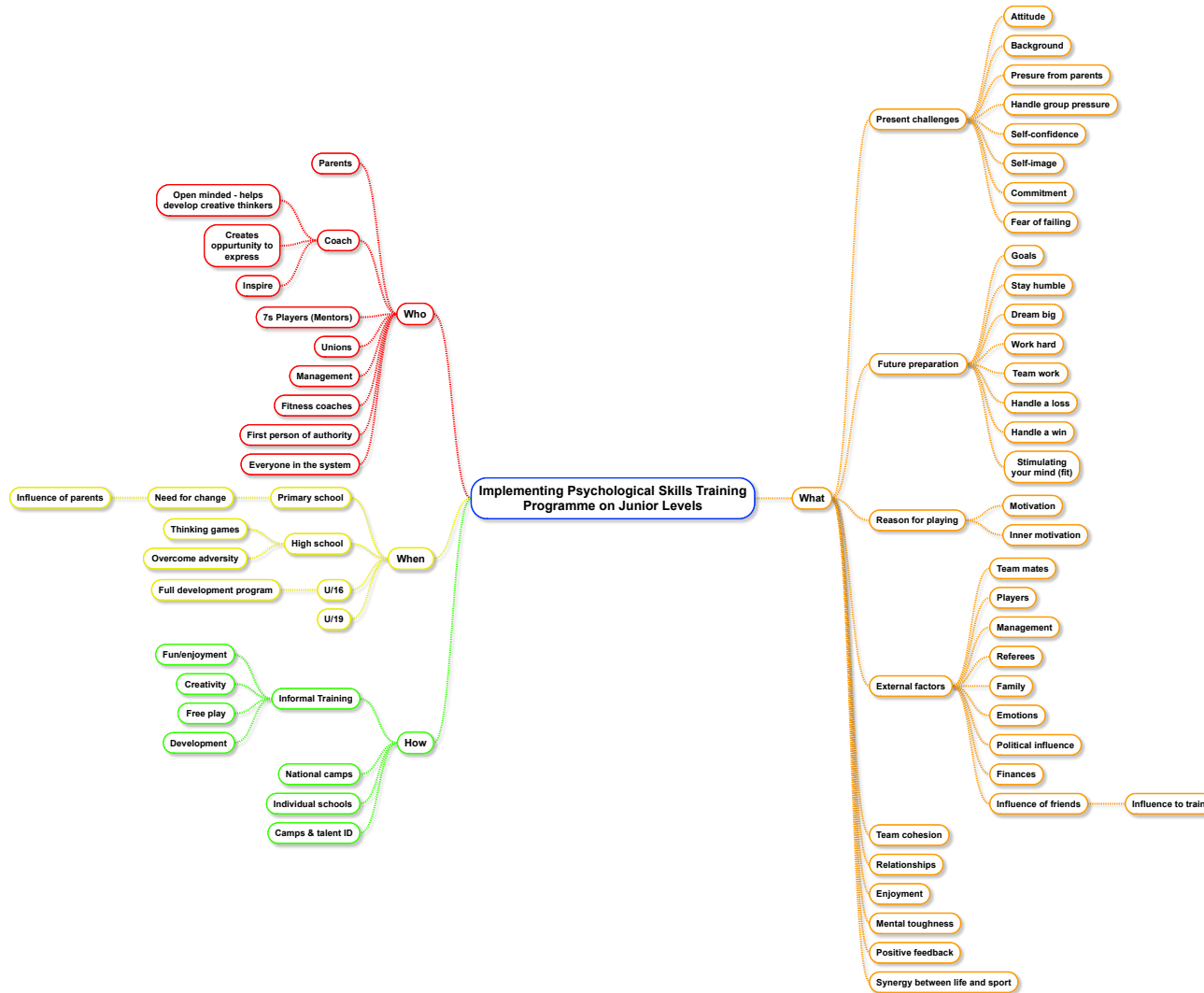


Figure 4.15: Perceptions about the implementation of a mental skill training programme on junior levels held by players and coaching staff

The person that takes responsibility to implement mental skills development programmes on a youth level plays a very important role. Equally important is the timing of the implementation of such programmes.

4.9.2 WHEN SHOULD PSYCHOLOGICAL SKILL TRAINING PROGRAMMES BE IMPLEMENTED?

... so, I think at the age of 16 I think would be a good age in order to introduce a full development programme for him mentally ... – PP11

So that type of skills, psychological training should be starting with potential future athletes at school level already, because the demand to come here, and this is probably not the right setup to start something like that, because the physical demand, the mental demand is just too high, because there's no time to waste on guys that's not going to make it. So, the idea would be to start those guys in an academy based programme and then work with them and then send them half the year off to their club and unions where they go play. – PP1

I think it's important you know, it actually, it helps you to grow as a person in rugby these days the, the average age is, is just younger and younger. Uh, you see, players playing for the Springboks when they are nineteen, twenty years old, whereas in the past it would be twenty-five, twenty-six, so you really need those players to mature at a younger age so I would say. In future if you can get a psychologist to start talking about age with certain players at school level uhm, seventeen, eighteen, because we actually scout at sixteen, seventeen, eighteen and you know, by, by then certain players will play Springbok or Springbok sevens one day or Super Rugby, so I think we can actually start our mental preparation earlier, because we need those players to mature quicker than their friends in their class. – SS1

I think the earlier we can get guys working with mental coaches, psychologists, the better it will be for them. I think the earlier they can develop those coping mechanisms the better it will be for them as players. – SS2

I think in the academy is one of the places where you could spend a lot more time on it if you had a very organised programme, following steps all the way through but think there's definitely room for it, I don't think you're gonna get buy-in from everyone. – SS3

To implement such a programme at the right time seems essential. The next important aspect will be knowing how to implement such a programme.

4.9.3 HOW SHOULD A PSYCHOLOGICAL SKILLS DEVELOPMENT PROGRAMME BE IMPLEMENTED?

... we had a very open-minded coach and for two of my five years in high school. My coach, one of my coaches, was in hostel with us ... we used to sit with him at night and ... like think of stupid moves and how we can, and it was very creative, it was a very nice platform for thinking of, of being, thinking outside the box as opposed to some of like ... I go watch like junior school rugby now and you see, like under twelve kids setting up pods, like they come around the corner and three of them are setting up a pod and it's a crash ball and you just like, what the hell is going on here? Haha, I mean the kid doesn't pass the ball. He's got no opportunity to express himself ... – PP12

Allowing children to be creative and express themselves can help with informally implementing psychological skills development. As the players get older and start playing for provincial teams even at high school level, training camps can be used to implement psychological skills development programmes.

... ideally this is something that should be initiated from primary school already, I think, and progress to high school. For us, especially at our academy, I think

that will be the foundation phase for us. Even if there were nothing, no baseline previously that will be a foundation phase for us at our academy, so that by the time the guys come to senior level there is a foundation, but again we operate as one system. So, what is happening at the academy would also overflow into the senior team. – SS4

Yuh, ja that is, that's obviously not in my field, but uh, ugh, I think in our setup obviously when you do have camps or, identify players uh, and you bring them into your national camps, I think that's one way of introducing a psychologist to work with them one or two sessions uh, every time. I think it's difficult, to go to individual schools but I think schools must, can start investing in that as well, you know, just to give players the reality as well, every school boy wants to be a professional rugby player you know and, and you can't, so uh, then a lot of guys put every uh, uh, all their hopes in playing and then by 21 they, they've dropped out of a system and for a lot them it's a massive setback. So, you have to talk to the players and, and just, there's, just to assist them with their whole career planning and life, life skills planning uh, of uh, becoming an, an adult. – SS1

For a young rugby sevens player, entering a professional setup can be very daunting. These young players still need to learn how to deal with external factors that may influence their performance.

4.9.4 WHAT SHOULD BE INCLUDED IN A PSYCHOLOGICAL SKILLS TRAINING PROGRAMME?

So, I think at a younger age, teach kids and teach the younger sevens players how to deal with wins, to deal with losses, to deal with external things and also to deal with the surrounding team mates, players, management, refs. – PP11

I think, especially for a young person there are so many external factors. There are so many things that come, baggage that he walks into a new system or into a system with it could be family stuff, it could be emotions, it could be politics, it could be financial things. And I think that's something that a kid needs to learn or a person needs to learn from a young age: how to deal with those things and to get a focus point on his goal or his task at hand. I think that is foremost, probably one of the biggest challenges I think is the baggage issue. Secondly, I think, I think like ask a kid why? Like what his outcome is and why he is doing it? Cause I think if he understands his why, I think he will know what he is doing and he will place more emphasis on that. I think for a young person issues that could come around is how to deal with setbacks and how to deal with wins. I think that's a topic that is really gonna be important for the future development of a player. – PP11

Young sevens players entering the sevens setup will have to adapt to a matured professional environment quickly. It can be very challenging to be thrown into an adult world at such a young age.

... with younger players, the demand of what's happening here is too high for them ... a lot of the youngsters that we've had, had no idea ... because the problem is, it's, you taking them from a school environment where they're the rock stars, and now they come into an environment where they're rock bottom again ... Then they have to fight their way to make it up ... actually you're taking school children ... and you're pushing them into a professional environment ... they need to go find themselves there and mature ... and then come back in, but while they are there in that six month period they need to work with a skills based psychologist, team psychologist ... they expect to walk in from stardom to stardom ... but they are not ready for that and the minute they get to tournaments, the pressure is too much and the added pressure from the team and management is just way too high and the oaks snap and they're useless from then on and their careers might not even recover from there. – PP1

When a psychological skills development programme is implemented at a young age, it is important to educate all the parties that work with the players. This might even include having to change the mindsets of parents, teachers and coaches.

... it shows you the need like how far back like the psychology goes and to uh, you know to, to where things need to be changed, and where parents need to be careful about what they say to their kids, because you like genuinely just wouldn't participate in something and that wasn't even like at school. I would like, there were other things if I couldn't beat a friend at whatever it was then I just wouldn't do it, you know, and I said "no". It was [...] sad, you cut out so much of your youth, because you are so scared of failure. – PP12

What about like self-confidence, what about just general participation? You can't just participate, there's no more participation medal, you know, if you don't get one, two or three or just one, if you don't get one then you're like, you're a loser, you're not the best, so, like we're not, we're not proud of you for taking part. We're not proud of you for going out there and like, and actually having the courage to go out there and compete in something that, hells, you, you don't even know if you're any good at it. You know it's not a, ah, you didn't win maybe next time Johnny. Like no! Johnny competed, he had a lekker time. Let him enjoy it you know? I dunno. – PP12

And like that's the entire pressure around, impression around sport in South Africa like, if you're not first in this country then you're last and, and it's amazing how like, I could've played tennis, I could've played like anything, but I choose not to, because I'm so scared of failing and that's in primary school already. – PP12

I think that with young kids you can again start doing that in terms of drawing scenarios, you've gotta be creative about it, but I think the earlier you start the better, because it's just the foundation but there's no doubt in my mind that as

soon as you've got the ability to think and talk and communicate there could and should be a progressive step by step process in teaching you little things like that and it doesn't have to be hard work. It can be fun ... – SS3

Identifying the person responsible for the implementation of a psychological skills development programme is crucial. An informal approach seems to be appropriate for younger ages, gradually becoming more formal as the players progress through the developmental phases. A proper programme should include a variety of topics such as goal setting, pressure handling and mental toughness.

4.10 TEAM CULTURE

The South African sevens team places enormous emphasis on having a very strong team culture. This includes making sure that the team environment is a happy place to be. Players also spoke about the role of faith and the need for mentorship (Figure 4.16). These are only some of the themes relating to the team culture of the South African rugby sevens team that were identified. The findings will be explained and explored through direct quotes from participants.



Figure 4.16: Perceptions about the team culture of the South African rugby setup held by players and coaching staff

4.10.1 TEAM COHESION

It is important to note that the team culture of the South African sevens team plays a fundamental role in the success of the team. The team pride themselves on their family orientated culture and often refer to themselves as a band of brothers.

... we a family we are really right, like, on and off the field we chill together, that's why it, not saying it's, you won't be welcomed when you come in, but when you come in you feel like oh I feel out you know, because we are so tight so um, we spend a lot of, a lot of time together, doing stuff together, so our team culture and dynamics is very important. So, our culture is really strong that what we work on and strive on make sure that that does not go away regardless of what happens, win or lose, good and bad times, the culture is big ... – PP3

The guys enjoy each other off the field as well and get to know each other on a more personal level, 'cause at the end of the day you are with that person on the field. You are fighting for the same reasons and if you know the background of the person, it might be more special. – PP6

... everyone is buying into our culture so uh, we are a close family and uh, I think not just on the field, but off field plays a, a big role in our success. – SS1

On the field, it is required of all the players to have a good work ethic. The players know what is expected of them as individuals and as a team to assist the team in reaching their goals.

4.10.2 WORK ETHIC

... like everybody has to do their job. Otherwise the team is not gonna perform. So, everybody has their own specific job that they have to do and if they don't do it, the whole team is not gonna perform as well as they do. – PP2

... it's very important to know your role and respect the process to make sure that you, you know what's your role, where we are going, where's the team going and what the team required from you to make the team better, so that's very important ... – PP3

... the team, in general, I think, is that everyone knows exactly, like, what we're working towards. Obviously, you get guys that got their different preps before the time, but I think ultimately the team knows exactly like what the processes, are and what is expected of you as soon as you are on the field and even the reserves ... – PP8

Even though it is expected of the players to work hard, it is a big priority to ensure that the environment is positive and the players are happy.

4.10.3 HAPPY PLACE TO BE

So, I think team dynamics is everything, the happier you keep the group, the better your chance of performing and even then, you still have no indicators of performance. – PP1

... obviously you need to enjoy the people whom you play with because you're gonna see them every day of your life, you're pretty much, well you're working. So you've gotta enjoy the people you play with and obviously you've got a strong team culture. I think that's the most important thing. You've got a strong team culture. People enjoy being around each other. They want to work for each other and obviously that's gonna ultimately uh, bring you success. – PP17

... I think all the teams that have been successful over the last few years, teams like Saracens, the Lions they have a good culture and the team dynamics are really good in their squad. I think, for me, that is really important. You will seldom see guys that are successful but not happy. It is normally the teams

that are happy campers, that better people makes better players type of thing and is normally successful at the end of the day as well. – SS5

Another factor that can play a role in a team's success and the motivation of the players is the role of faith.

4.10.4 ROLE OF FAITH

... the talent is not yours; God gave you this talent. So, it depends what you do with your talent. You can touch other people's lives, or you can just play around with it and God can take the talent away any day. – PP18

Well, I think, it's, it's God's gift ... – PP7

Well, I pray a lot. It helps me a lot, and I feed off positive things. – PP6

... my routine was definitely to have some quiet time, listen to some music, psyche me up, go through the game plan. – PP2

I had faith. I'm a big believer, I have faith, I carry on working, so I think those challenges are preparing me for great things that lie ahead ... – PP3

I read my Bible, my Bible is like, it's not my stress reliever, but it calms me down and gives me hope that everything will be fine and that's a very big motivation for me ... – PP3

... I don't allow stress to affect me that much because I'm a believer as well, I believe that the Lord will never put you in a situation that you can't handle so, whenever I'm in a situation you know, I'm gonna handle it, 'cause I'm strengthened by the Lord. So I'm, I think my faith takes me through more ... most things and, because I believe I'm, I'm always and I know, actually I know

that it's gonna happen, I'm gonna be alright, it allows me to be bubbly and a very energetic person that just gives everyone energy. – PP20

Faith is important to the players on an individual level to handle difficult situations, stress or to provide motivation. Furthermore, as a team, they have decided to always strive to touch people's lives in different ways.

4.10.5 TEAM AIMS

... you wanna touch lives and we wanna be continuously growing as people as well and not only as rugby players so I think when we strive towards those goals of getting the one percenters, touching people's lives and putting smiles on other people's faces, it really builds such a beautiful picture from, for someone else coming in from the outside and to join our family, for whether it be a week or however long, it's just, it's phenomenal really. – PP4

... our motto is 'touching people's lives'. Everywhere we try to go we try to change or make a good impression on people's lives wherever we can. – PP2

... touching people's lives without us knowing that, that people will come in and say you guys are a bunch of good fellows uh, or that kinda stuff and for us just to respect each other. –PP9

... we like to focus on like we have, we want to change people's lives. That is one of our mottos and we are pioneers of greatness ... – PP16

It is always important to ensure that the players strive for the same goals and also that they buy into and contribute to the team culture.

4.10.6 FOUNDATIONS

... if the foundations are set right in, in a team then guys will buy into the culture. I think if your culture is set up right and guys know where they stand and the

boundaries that are set within that system or culture, where they can move from there. If they can move within those parameters they'll be fine and you'll always have one or two guys that might just go slightly off course, but then you can reel them back in. – PP1

... different players that come from different backgrounds altogether aiming for one thing was pretty special ... – PP20

... a lot of guys that have come from you know, smaller backgrounds, not having the big, you know, fifteens experience, they've come in and they're willing to learn the system, so it's a very family orientated and it's a very close, close unit ... – PP17

Players that enter the system come from diverse backgrounds. It is, therefore, important to have mentors that can help them with the transition and make it easier to adapt to the new environment.

4.10.7 MENTORSHIP

... I had known a lot earlier in my life, that I wanted to be a professional sevens player ... I would've just loved to know about nutrition and recovery. Those are the two most important things I would've liked to know about, from a sports side of things, and from a life side of things, I would've loved to have a, a mentor who would have led me in the right direction sooner rather than, than later when I did find my way. – PP4

... why I'm saying there are very good leaders is because when I came here, they took me under their arm and they actually made something of me and I felt at home and now, like, I've been enjoying that ... – PP7

As players enter the system, they grow to become part of the culture and to understand the team environment. The current focus is to create a winning culture within the South African sevens setup.

4.10.8 GROWTH

It is mentally draining but I think the understanding of the final outcome is very important. And I think once you can achieve that the mental issue should align with that and it is a sacrifice, it is something hard to do. And that is the difference between a good player and a great player. – PP11

... we achieve success and then all of a sudden, we drop down, because we can't handle success. I think that is one thing that we try to change in our team environment and our culture: that mental almost side of it where you can be successful and constant or sustainable for a long time with regards to success. So that for me is massive in South Africa, and I think we don't have a winning culture yet. I think winning is still a something out of this world for us and we[re like] 'wow we are successful now' and we still get arrogant and a bit ahead of ourselves and I think ... that definitely is one side of it. And then I firmly believe that balance in your life off the field, I think you need to be a good person. – SS5

The South African sevens culture entails a team approach that creates cohesion and the expectation of ethics and co-operation as pioneers of greatness. Experienced players serve as mentors when new members are added to the team, which is deemed to be crucial when it comes to assisting players with making the transition into the team environment.

4.11 THE PSYCHOLOGICAL WELL-BEING AND INDIVIDUAL PLAYER NEEDS

It is important to take care of the well-being and individual player needs of rugby sevens players. This does not only include taking care of the needs while players

are still playing on a professional level but also assisting players in preparing for retirement of professional sport. The psychological well-being and individual player's needs were identified and categorised into themes and sub-themes (Figure 4.17). Themes and some of the sub-themes will be reported on by making use of direct quotes from participants.

4.11.1 PREPARATION FOR LIFE AFTER RUGBY

One of the current concerns is that players are not being prepared for life after rugby. While some players start planning early on, others believe that it is only necessary to start planning once their careers are coming to an end. The issue with the last-mentioned group of players is that they may not be prepared, as injuries is a real part of this sport and could end your career at any time. It is, therefore, important to encourage and assist players in planning for life after rugby.

... it's always gonna be tough 'cause rugby's completely different to, to working behind a desk, you know, which a lot of time most guys end up doing, so it is obviously a big transition. I haven't got to that point yet, so I wouldn't know exactly what's, what's gonna happen. I think you are still in for a surprise, but I think also finding out from people who have retired and who end up, and what they did and asking what the transition was like when you're coming towards the end of your career and then just being realistic and that's how I think how you, how you should be realistic is finding out exactly what the dynamic is when you finish, you know, and then I think it's just a ma ... maturity thing to, make the transition the best you can. – PP17

... I would've loved to, to actually have made enough money and actually have found something that I wanna do after rugby cause right now I have no clue. I'm still trying to figure out like what would I like to do after rugby so, I would have love to, to have things in place that's gonna sustain me for the rest of my life. – PP20

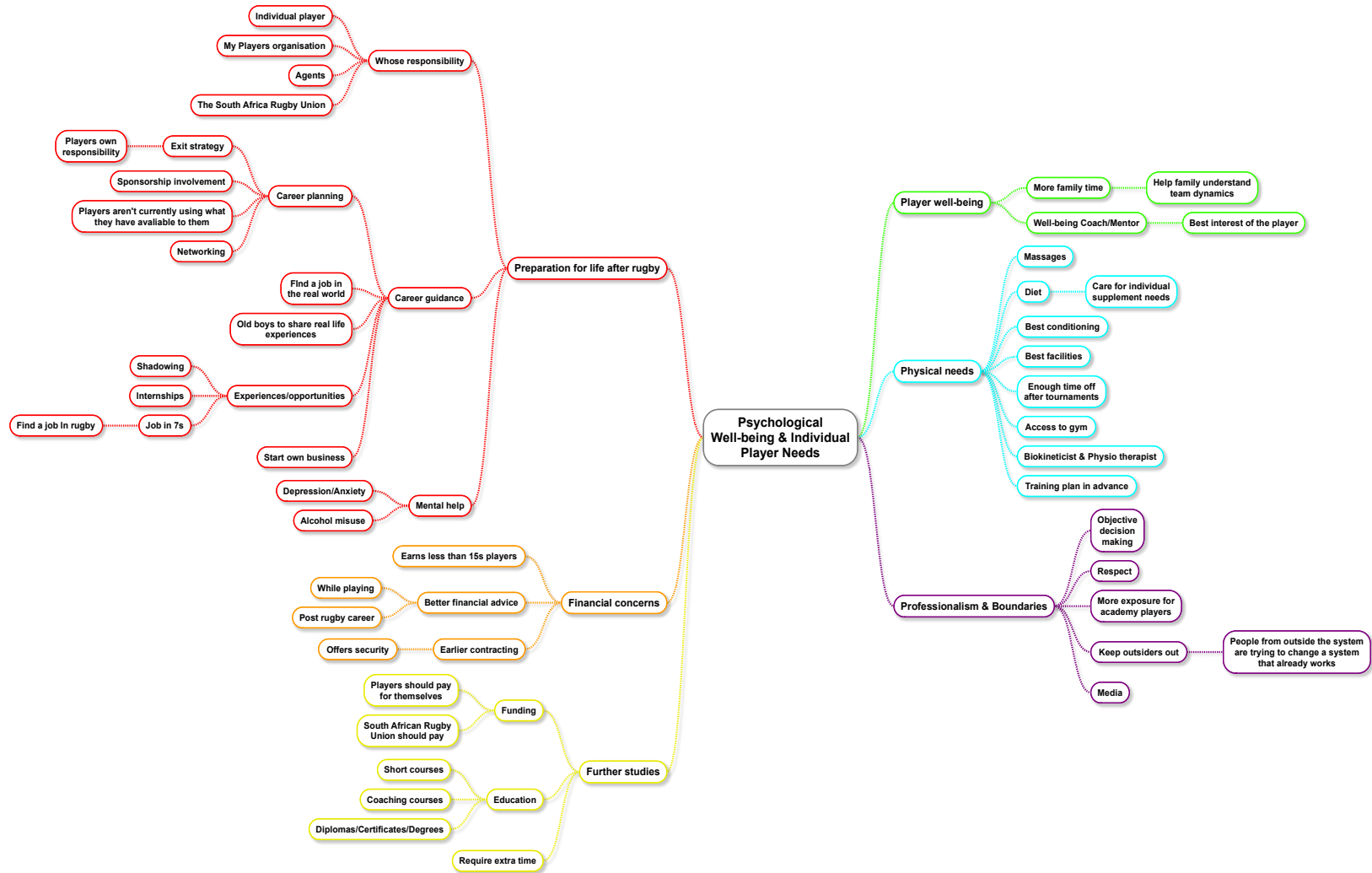


Figure 4.17: Perceptions about the psychological well-being and individual player needs of rugby sevens players held by players and coaching staff

Another thing that can be addressed is personal life planning. I think we get a lot of people from the side who gives their influence, who give their understanding. But it is not really personal. It is not really a good life plan. Or someone who is actually looking for the best interest for the player. So, I think that is something that could be addressed. – PP11

Most rugby players do not know what to expect when their rugby careers come to an end. It is important to be prepared for the transition – not only in terms of having a career path, but also from a psychological and well-being point of view. As mentioned in chapter two, globally a lot of players struggle with depression, insomnia and even substance abuse a year after the end of their rugby careers.

... you always hear stories about people ... sportspeople uhm, after their career going into depression and that's something I can't comment on now and I can't judge people in that, because I've never been there uhm, so that's, that's a bridge I will cross the day when I hang up my boots and ja, so it's difficult for me to tell you what needs I will have uhm, before I make those, that, that decision so, hopefully in, in two years' time from now when I think I will end my career in sevens we can have this chat again and then I can give you some more info about that. – PP19

Currently the coaching staff tries to create opportunities for the players but additional help might be needed to help players to identify what might be a suitable career choice for life after rugby.

... there were opportunities, but at this stage those opportunities might be, might be taken so, all players can't be coaches or managers or, so we must help a player to, to think wider than just rugby ... a lot of them are really clever so maybe two years, when you identify a player has two years left maybe just start helping him in, life after rugby because at the moment it's a big issue for us, creating an exit strategy for uh, for players. – SS1

I think a lot of that comes down to not having a plan, because as professional sports men and women you put so much into it for so long and then all of a sudden its done and a lot of people have not really made contingency plans. And it is quite tough for players. I think you never think your career is gonna end and then also they think they could be a coach, which is not true. – SS2

So, the big thing for them is planning their life after rugby, because as much as we talk about it, I've been talking about it [for a very long time] I've tried my best to create opportunities and situations for the players to have a life after whether it be studying, whether it be job shadowing, whether it be job experience, whether its them just using their money correctly etc. etc. But that's the biggest thing, uhm, at the end of the day money is the root foundation of everything and how they can continue a lifestyle similar to what they've become accustomed to, uhm, and then to be able to build on that kind of lifestyle for their generations that come. That's their biggest issue there's no doubt about it. – SS3

4.11.2 FINANCIAL CONCERNS

...the whole squad, uhm, our sevens players are not getting like paid, uhm, as much as the fifteens guys get paid. So, it causes the guys, we all have families to feed, it causes the guys even if like you, you wanted to be like a specialist service, you, it causes you to move away from sevens and go to the fifteens guys because we all have to eat and we only have like, what, ten years to play this game. So, I think, what would make it better for our country is to match round about, what the fifteens guys are getting and players getting, players from sevens getting whatever the fifteens guys are getting, whatever, so that they all in the same scale and that, money doesn't ... actually force a player to go to fifteens if they wanna play sevens. – PP20

... money, security and contracts, uhm, you don't wanna wait for one month before your contract expires uh, to know okay I've got a contract or I, or don't, so I think early just to give them security on an earlier basis uhm, and then help

them with their career playing rugby, their planning, what's the next step where are you in line, uhm, ranking systems. – SS1

Planning should include encouraging rugby sevens players to further their education. This does not necessarily have to be studying at a university. It should also include doing short courses, certificates or diplomas in their area of interest.

4.11.3 FURTHER STUDIES

For me, studying was one of the greatest like, breakaways from rugby that you can have and ja it's [...] to go home five o'clock, you're buggered but you, you know you maybe have to put in an hour or two hours ... – PP12

... my biggest concern is that like 10 years down the line one of my teammates from the past is gonna be like, "Hey, you can I have a job", you know, because there's a lot, there's a lot of okes that come from nothing, you know, and unfortunately they will go back to nothing because money is squandered. The opportunity for education had been passed by and you can't retire, like on a, on a sevens player's salary, like, it doesn't happen, you know, you can be smart, and you can set yourself up and put yourself in a good position ... – PP12

I think for most players just connections or opportunities to start shadowing or start getting involved with the company that's gonna look after them in their specific field. I think with regards to studying or to extra development or going to a college or something like that, I think, it is something that is always there, but I think it is something individual to almost push. I think a little bit more understanding with regards to uhm opportunities and understanding what the individual is good at is actually important but I think just a connection with a few trades or a few companies that is actually gonna give them opportunities after rugby would be great. – PP11

... think most of the guys have their own thing, like what they are doing, like some of the guys are doing courses in coaching uhm, welding, that kinda stuff, uh, building stuff like with wood and that kinda stuff so, some of the guys do have like something to fall back to. – PP9

So, there is definitely time if you make time ... I mean the opportunities are there for you to study or to further yourself. You know, even to do short courses. Because our days are not that full that you won't have any time to do anything. So ja, I actually ... there was actually last year where they presented us with opportunities to like further yourself in like computer courses and stuff like that. So, there is like couple of guys doing that as well, you know, to get like diplomas and stuff like that. So, I definitely think, that, like once again that came as an initiative of one of the payers through a contact. So ja, it's almost like in the system, you know, between us guys we organise something like that it wasn't done from an outside source. – PP8

... I've always felt so ... they say to us ag while you're playing it's cool we will pay for your studies. The kid is not gonna pass, because he is not paying. – SS2

Studies can be a good way to help players focus on more than just rugby. Overall it contributes to being balanced, helps players to switch off when they are not with the sevens team and create opportunities after retirement. It is important to look after players' well-being not only while they are playing but also while in the transition phase between professional rugby sevens career and retirement.

4.11.4 PLAYER WELL-BEING

I think you need your family around you, [that is] especially very important. Close friends – I'm not talking about normal friends like close friends that knows you in and out, your weaknesses. Keeping them close and uhm, ja that's about it. – PP6

... you've got 50 under eighteen boys, and they are still boys, and you need someone to guide them. So, I would like to see, especially, the first three months uh, together with our twelve-week conditioning, three or four-week phase, to integrate uh, a psychologist like on a permanent basis for those three months to be available on a daily basis to cover all those players. – SS1

... they've all got their own, own cultures and maybe issues and their background you know, but that's, that's personal sessions ... obviously as a group uh, you can definitely work on career planning on uhm, mental toughness on maturity, haha, working with money ... get financial people in with that but it starts mentally ... you've got to prepare yourself mentally and accept, mentally make that whole decision of this is how I'm gonna live my life ... financial planning my uh, educational planning whatever, so you need someone to, to help you with that whole mind-set thing first ... – SS1

I think, also, player needs is really massive but I don't think we in South Africa deal with it. I know when I played in the UK for a bit they actually had, you won't believe it, but they actually had a person that looks after player welfare. – SS2

By looking after player welfare, players can focus better on their rugby. In order to improve even further the different physical needs must be taken into consideration.

4.11.5 THE PLAYER'S PHYSICAL NEEDS

More of an individual approach, trying to get the individual skills or the individual performance ... if it is something that can't be assisted from SA rugby management, it should be given the ability or given the opportunity by someone else. Or if something is specifically on a certain aspect or need speed work, for example, it is something that should be addressed and should be available to the person. – PP11

... then accommodation, ... and I think we've got it, great accommodation, they've got everything they need off-field in terms of accommodation, water, beds, laundry – all that stuff. Uhm, you've got a restaurant here so they've got great food again, haha, they want food, they want Wi-Fi, we've got that here. A player wants access to gym ... – SS1

After taking care of players' physical needs, it is important to take a look at what could contribute to a more positive experience for the players. Some of the aspects that were mentioned included proper planning, enough exposure for young players and fair selection.

4.11.6 PROFESSIONALISM AND BOUNDARIES

I think for the younger guys that, uhm, don't make the squad every single time or very often, uhm, just to give them hope and to, to keep them on the standard and chat to them on a regular basis, telling them what the plans with them are, because I know it's difficult for some of the younger guys that, that train for the whole full year and only play in one tournament or so. So, I think that's something they can improve on or get more young guys in and, and play some, some social tournaments or actually some Academy tournaments. – PP19

I think for us to be successful in this coming season we must give everyone the chance if you're good enough to play you must play, they mustn't think "if you leave this guy out because you have a big name he can do something that this other young kid can't do." Because as you can see if you give the guy an opportunity he will use it and that guy will do great things for you. – PP18

Being part of a professional environment, the players have expressed a need to get more recognition from governing bodies and the media.

You only see in the media, there is obviously a camera or two around you that you are used to now, but not like a send-off and stuff like that ... it almost feels

like certain times, you know, it's actually as if SARU realises 'this is a big happening in the sevens so let's actually just spend quickly or you know let's just focus our attention here for a week or two' ... I actually feel like we play such a big role although people say that we inspire, you know, and they love to watch us as stuff I don't actually think we're given attention to as much as the 15s, but ... we are the whole year in camp together. – PP8

... it is quite stressful for me to talk to media and stuff being not prepared for things like that ... – PP6

With spending so much time together, the team becomes a closely knitted group. It is, however, important to keep the relationship between coaching staff and player's professional at all times, by having certain boundaries in place.

... like there is obviously a certain level of friendship, but not to an extent where I need to be personal with him, with coffee and then you know what I mean? And like for me personally it feels for me like there is more of a friendship between certain players. So instead of when it comes to team selection I don't always know if he is there, because of what he can do on the field or if he is being picked for the person that he is. – PP8

The well-being of sevens players needs to be looked after while they are professionally participating as well as after terminating their careers. Players should be motivated to plan for life after rugby. Study opportunities, financial assistance and career options with the transition to retirement are essential to their well-being. Mental assistance could help to prevent mental disorders such as depression or alcoholism post-retirement.

4.12 RUGBY SEVENS AT THE RIO OLYMPIC GAMES

The effect of the inclusion of rugby sevens in the Rio Olympics 2016 were recognised. The different topics were categorised in five different themes. This

included the setup of the tournament at the Olympic games, the overall experience, the role of the South African Sports Confederation and Olympic Committee (SASCOC), the experience of losing the semi-final at the Olympic games and the future in rugby sevens (Figure 4.18). These different themes will be discussed.

Even though sevens players are used to playing in tournaments being part of the Olympic Games was a new experience for all the players. The setup for the tournament was not exactly the same as a typical tournament on the World sevens circuit.

4.12.1 THE TOURNAMENT SETUP AT THE OLYMPICS

... the training fields at first, uhm, we had like eight or nine training sessions there, the training facilities were really up to standard and then the tournament itself uh, it was a three day tournament, uhm, so a bit different, uhm, I think it's almost the same as the, as the Las Vegas leg of the World Sevens Series and we knew like it's all, always gonna be tough, there's, there's no easy teams on the circuit anymore and especially going into Olympics it's basically the 12 best teams in the world so we had a tough pool. – PP19

... later that day in the quarterfinals again, because on the circuit that can never happen, but ja, later that day we played them in the quarterfinals again. – PP19

The fields were top class and the training facilities were very good and everything was just perfect. If I have to sum it all up everything was just nice. – PP18



Figure 4.18: The Olympic Games experience as held by South African rugby sevens players and coaching staff

In the summer Olympics in Rio 2016, rugby sevens was added for the first time in the history of the Olympic Games. For a lot of players, the dream of going to the Olympic Games is what motivated them to continue with rugby sevens during the last few years.

4.12.2 THE OLYMPIC EXPERIENCE

To go to the Olympics was always a dream come true for me and to think ... if I can think back it is just overwhelming the feeling, the village, the people that you see ... like you see Usain Bolt and that guys. You just see these guys on TV and to eat with those guys, to sit in the same dining hall, it is just amazing. – PP18

You've made it to the Olympics so, I mean, it is every athlete's dream. It is the pinnacle of your sporting career. And I mean it is true, it is a crazy experience and one that I will probably remember forever ... – PP13

Well this year obviously the inclusion of the Olympic Games which was one of the bigs for sevens. – PP11

One of the big differences between the sevens circuit and the Olympics was that the players stayed in a village with some of the world's best athletes from a number of different sports codes.

... in the beginning it was quite interesting ... we arrived in Rio, I think that was on the 28th, uhm, entering the village, some of the first athletes there uhm, amazing experience like, everything, everything they've done and just being part of team South Africa and then a couple of days afterwards ... It was the opening ceremony and then you actually realise, listen this is actually kind of a big deal, it's not just another tournament or not just a, another event for sporty people to gather. When people like, uhm, Rafael Nadal is the f ... flag bearer of Spain and uh, Michael Phelps of the USA, one of the greatest athletes ever and Ussain Bolt is walking around there in the same village and sitting next to you in the dining, in the dining hall then you realise: listen, there's something special and to do that with your

brothers that you been working hard for four years and ja, it was really special. – PP19

... it just shows what type of experience it was uhm, to have like different players not only sevens players ... we come from a different playing background and getting together and ... for one common goal was, was pretty awesome. The journey was great. We had awesome, awesome fun. Uhm, off the field as well we have jokes, we have clowns in our team, so there were jokes going around all the time and people always having fun so we enjoyed our experience ... it was something so different, something that we don't do 'cause we normally stay in a hotel room. So, staying at one level, with our own flats and like having to share like that space was, was quite incredible, it got uh, the guys backing each other madly which was a very nice experience for us, we really enjoyed that ... – PP20

Even though the players had a special experience at the Olympic Games, the supporters were not too happy with the results.

... above everything else we went to the Olympics, special journey and got the bronze medal there. – PP19

... like I said the South African mentality that, you know, I understand that we're very competitive and everything but uh, bronze is definitely not enough like, bronze is never enough for anyone on the street like they, they'll look at you and be like, third, eew, that's a bit gross uhm, whereas I mean like, it was quite cool, because I decided at the end of the tournament uhm, that I was going to like really to relish the moment ... – PP12

... we don't have like an Olympic culture in South Africa. We no, nobody really understands the magnitude of what it is and that it is the pinnacle of sport. When you arrive there and you realise that you're participating in the Olympics, when you go to the opening ceremony and there's hundred and fifty thousand people just going nuts and so proud that the, that this special event is being held in their city, uh, when you go there and you meet people

who are competing from all over the world, all trying to do the same thing, they all trying to do their absolute best ... there's such a lack of understanding that people would've gone like oh, it would've been nice for a gold hey. Like are you [...] kidding me, it's one centimetre in a sand pit, one centimetre, I mean, like that, you know... (in reference to a South African long jumper who missed out on Olympic gold by one centimetre) – PP12

... like a lot of people will have looked at the tournament and thought, ja, jeez they, they didn't, they didn't do as well as they could've, and ja I, I agree but on the same note, it's, the pressure is like fivefold. Like I got very nervous, like I got very nervous personally for, for a game. – PP12

One of the challenges for the coaching staff was to keep the players focused on the circuit first and only focus on the Olympic Games after the circuit were completed.

... everyone is thinking Olympics but you actually still got you world circuit that uh, you have to play uhm, before the Olympics so yes, this year there's a, there's a lot more pressure on the, on not only the players but I think the management as well. – SS1

I think it is for any athlete, it is probably the pinnacle of their career to be part of the Olympics and I think one of the focus points for us going into the Olympics was not to only be Olympians but to be medallists in the Olympics. And uhm I think it is something we achieved, obviously not the right colour we hoped for one or two of the other colours but, uhm, unfortunately it was not meant to be. But a great experience. –SS5

SASCOC assisted team South Africa with their journey to the Olympic Games. According to some of the South African rugby sevens team players, SASCOC still has a lot to learn from other countries' governing bodies.

4.12.3 SOUTH AFRICAN SPORTS CONFEDERATION AND OLYMPIC COMMITTEE (SASCOC)

With regard to the Olympics and SASCOC, I think there is a lot more that SASCOC can do for team South Africa. And I think obviously in a wrong way we compare them to a Great Britain or America, which is totally different. But if you see what those governing bodies do, Olympic bodies do to actually help the athletes perform and be the best in the world you, uhm SASCOC is a long way off that. So, I think definitely from SA rugby's side they have always been trying to help us financially and whatever way they can support us they try and support us. But I thought SASCOC is still a long way off if you compare them to top nations like a GB or America. –SS5

As mentioned before, South African rugby sevens supporters are rather hard to please. This potentially added a lot of pressure on the team. During the 2016 Olympic Games, the South African team lost against team Great Britain in the semi-finals (score: 5-7). The South African sevens team had two hours after suffering this defeat before they had to play against Japan for third and fourth place (score: 54-14).

4.12.4 HOW THE LOSS WAS EXPERIENCED BY THE PLAYERS

... not happy about the way we played against Great Britain in the semi-finals so, overall, I can't say I'm hundred percent satisfied with, with the result, because if, if you don't perform every game at your, at your utmost best uhm, then it's difficult to be happy so, uhm, I'm really thankful and I'm really, I think it's a massive honour and a privilege to win a medal, but ja, it would've been good to, to play in the final at least. – PP19

... we only had two hours before our next game and so to get the guys in the right mind set, it's just, it's not a tournament, because we were actually competing, we were still competing for a medal. So to, to get that mind-set right was a bit difficult. Uhm, we had a long team meeting with only the players and ja, lo ... we, we decided there's nothing we can do about the semi-finals anymore uhm, but we still have something to play for and that's a bronze medal ... luckily for us the guys picked themselves up and, and ja,

we ... I think we owed Japan one after the World Cup (referring to South Africa's shock loss to Japan in the 2015 Rugby World Cup) ... fortunately for us we, we still made the podium and won a bronze medal there. – PP19

And I think we had the ability to win and unfortunately, on the day we were just not good enough. And I think uhm it's more frustrating as well, 'cause we let ourselves down. I think we had all the tools in the toolbox to come off with a gold medal. Let alone a silver medal uhm and, but unfortunately the game of sevens is all about the day and all about one defining moment. And I think we slipped up on maybe a moment or two that could have changed a lot for us. So, I think the guys are very happy with a medal, cause I think any medal in an Olympic Games is a massive achievement and I think we just felt that we could have done better. – PP11

I think the guys were sad and we were just heart broken and we feel at that moment that we disappointed in ourselves but we also let the people of South Africa down and sometimes things like that can take a lot out of you. – PP18

... we had our opportunities and had we taken them we would've been in a different place right now but you need to understand that not every, every team got medals uhm, even a team of New Zealand's stature didn't get any, uh, didn't medal at the Olympics, so it just shows you the type of competition that there was at the Olympics, so we, we are pretty grateful for our bronze ... – PP20

... so, we won our bronze and I genuinely could not be prouder of our bronze medal ... I'm so happy with it but it's just like it's difficult when you walk around and people are just, it's never enough for people, you know, the sacrifices that you make and the time that you give to the sport and you get home and some okes like, ja so what happened okes? Ah, thanks pal, appreciate your effort, to this country... – PP12

Even though the supporters might not have been happy with the result, it was a very special journey for the South African rugby sevens team. A lot of players sacrificed a lot to stand a chance to be part of this experience. The magnitude of the experience could have a positive influence in the investment of players to join rugby sevens.

4.12.5 FUTURE IN 15-A-SIDE VS. RUGBY SEVENS

I think I sacrificed so much, sacrificed three years of my life, I could've been playing fifteens uhm, and I chose sevens entirely because of Olympics ... – PP20

If I would be involved with the Olympics when I joined the sevens side I would say definitely not. I'm just kind of here to experience sevens, because I always wanted to experience it at some point in my career. – PP13

I think going, going to the next four years towards the Olympics is gonna be different. – PP16

The inclusion of rugby sevens in the Olympic Games has created renewed commitment to the sport. While players view it as a career climax, disgruntled supporters and the lack of Olympic culture in South Africa are disparities to improve upon. Furthermore, SASCOC's arrangements and kit provision left a lot of room for improvement.

4.13 LINKS BETWEEN DIFFERENT RUGBY SEVENS DEMANDS

The different topics are linked by themes that have been discussed. These links show that sevens is a multidimensional sport where different demands cannot be addressed in isolation, but a programme should rather aim to address the demands collectively (Figure 4.19).

All the different demands explored could be linked to the psychological aspect of rugby sevens. As far known, this is the first study of its kind. The results of this study can be used to outline a framework for a psychological skills development

programme for rugby sevens. This could possibly help players to perform better and enhance management of stressors in their professional career, as well as their personal life.

... push through extreme physical pain uhm and in that environment of pain that they experiencing to be able to make good decisions, be able to execute what they need to do and to be able to make, uhm to be able to finish what they started with. It's just so, so tough on their bodies at every level. – SS3 (Link physical and mental)

The mental side of things is ridiculously deferent, cause the training is so much more demanding. Uhm if you not mentally prepared for the kind of training that we do you kinda not gonna make it and I know a lot of guys that came from 15s and they tried sevens and they thought this is ridiculous and they left, you know. So, if you not mentally up for it, you probably not gonna survive because I think most of it is mental in terms of training, not physical ... Because I think everyone is capable it is just a matter of decision uhm. So ja, I think it was more just the training side of things that's a bit different. In 15s training is a breeze pretty much uhm maybe the games are a bit harder where is in sevens the training is far from being a breeze and the game is a bit more chilled, you know... – PP13 (link between physical and mental)

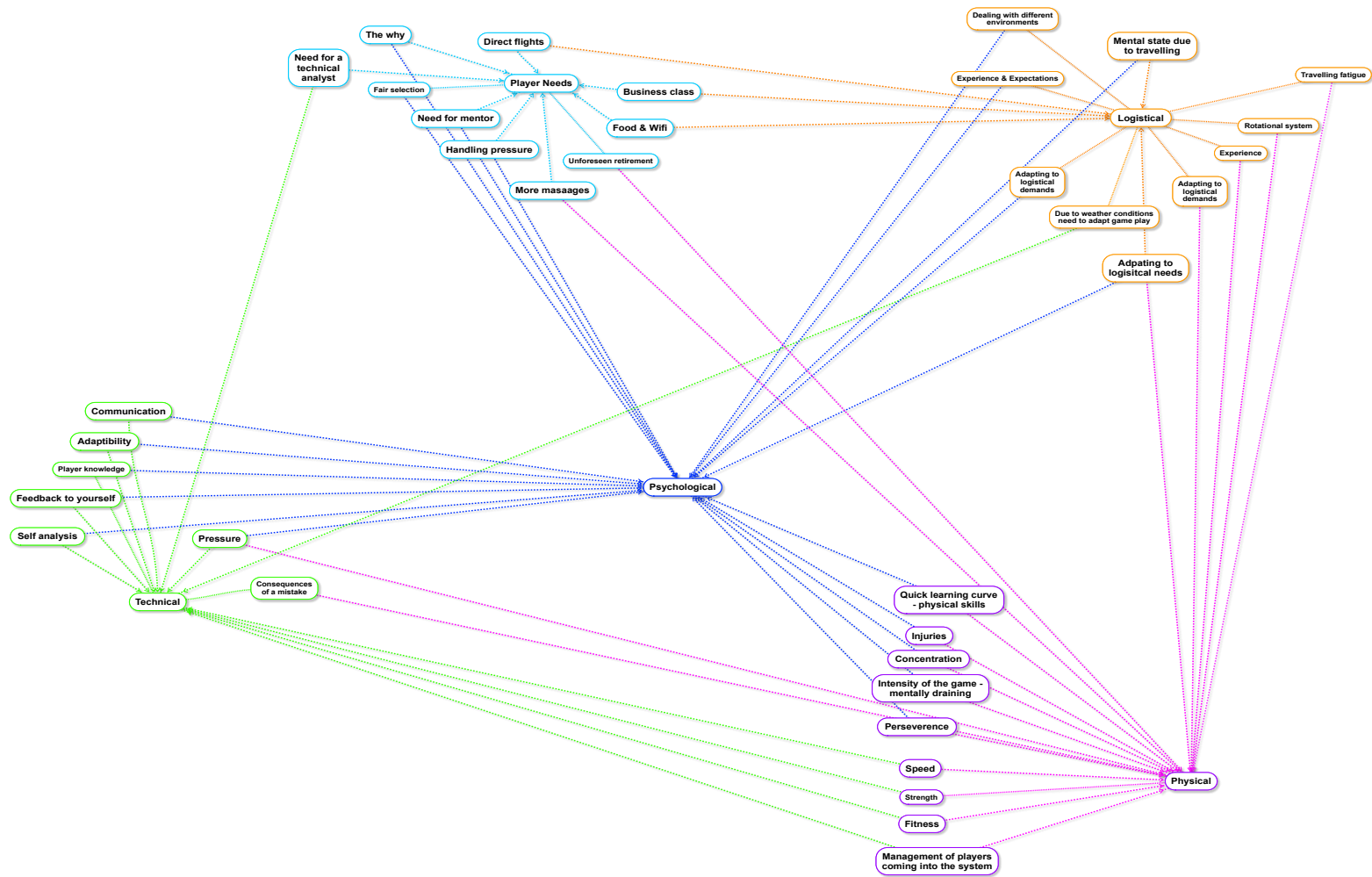


Figure 4.19: The links between the different demands in rugby sevens

In this chapter, the results of the study were showcased. This included themes and sub-themes that were identified regarding the physical, technical, tactical, logistical and psychological demands. This was followed by the results of different psychological topics, the role of a sport psychological consultant in rugby sevens, sport psychology on junior levels and the team culture in South Africa. Lastly, player well-being and the Olympic experience were explored. To end the chapter, the links between the different demands were mentioned. The results found in this study will be discussed in the following chapter.

Chapter Five

DISCUSSION

The primary aim of the study as outlined in chapter 1 was to analyse the perceived demands of rugby sevens held by professional players and coaching staff. The following objectives were set for the study in order to accomplish these goals:

1. To explore the perceptions held by professional players and coaching staff about the physical, technical, tactical and logistical demands of rugby sevens.
2. To explore the perceptions held by professional players and coaching staff about the psychological demands of rugby sevens.
3. To explore the specific individual player needs (off-the-field needs) of rugby sevens players.

To the best of the researcher's knowledge this study is the first of its kind, focusing on physical, technical, tactical, logistical and psychological demands of rugby sevens. It also took the players' needs with regard to their well-being into consideration. No study to date include players from the South African rugby sevens academy and the Blitzboks. What distinguishes it further from other studies, is that five staff members of the current South African sevens management structure were also involved as participants. Given the size of the professional sevens setup in South Africa, the total sample size of the participants in this study (N = 25) is big. Even though this is the case, it is important to note that the current findings should not be generalised to teams that play in a different environment or a different country. The findings of this study include the combined subjective views of the 20 rugby sevens players and five sevens coaching staff members.

5.1 PHYSICAL DEMANDS

In this study, it became evident that the physical demands of rugby sevens are very different to 15-a-side rugby. This finding aligns with studies by Rienzi and Malkin (1999), Fuller *et al.* (2010), and Ross *et al.* (2014) that found that rugby sevens'

psychological demands are significantly different from all the other codes of rugby. This includes higher running demands with a higher intensity followed by shorter recovery periods. Some of the basic skills like catching and kicking the ball remains the same, but even basic skills like passing will have to be developed specifically for rugby sevens. Due to having less players on a field of the same size as a 15-a-side match, and the frequency of the matches (up to six over a weekend) and the higher intensity, sevens players have to be exposed to a different kind of training (Higham *et al.*, 2012; Lopez *et al.*, 2012; Higham *et al.*, 2013; Ross *et al.*, 2014). Conditioning subsequently plays a very important role. This includes gym sessions for improved functional strength, movement and endurance. On the field, it is important to ensure that players are fit, agile and fast. These results are in line with the work of Fuller *et al.* (2010), Meir (2012), Suarez-Arrones *et al.* (2012), as well as Ross *et al.* (2014) who suggest that rugby sevens training sessions should consist of high volumes of sprints and agility training to simulate competition demands. Since it is a contact sport, strength and conditioning coaches also need to work on the players' wrestling skills, contact work and cross training.

The challenge is to incorporate all these factors collectively, while at the same time monitoring the training loads of the players (Meir 2002; Ball *et al.*, 2017; Quarrie *et al.*, 2016). Players and coaching staff – in this study – mentioned the importance of managing training loads to promote optimal performance and also prevent injuries. Quarrie *et al.* (2016) concluded that training load management in professional rugby should be a priority for optimal performance and prevention of injuries. To ensure that players do not over-train, sessions need to be effective and short (not exceeding two hours). This result is consistent with the Bouaziz *et al.* (2016) study on monitoring rugby sevens. The players are also being monitored on a daily basis by looking at their weight, hydration and muscle fatigue – just to name a few things. It is expected of the players to complete different recovery activities every day. These activities include rest/sleep, eating top-up meals, hydration and supplementation, stretching, compression garments, ice baths, massages and foam rollers to name a few. The importance and use of recovery is in line with literature written by Meir (2012).

Players should also do prehab exercises on a daily basis to prevent injury (Meir, 2012).

Playing through physical barriers and other challenges such as competing against the best players in the world as well as one's own team mates for selection into the team also play a role on the physical toughness of rugby sevens. During 2016 the South African sevens setup experimented with a rotation system which allowed players to miss some of the tournaments and also gave a wider range of players an opportunity to prove themselves before the Rio Olympics. This allowed players to rest better between tournaments. They were, therefore, more prepared on a physical and a psychological level according to the coaching staff. Ensuring enough time for recovery is extremely important to help prevent injuries or reduce the accumulation of fatigue (Higham *et al.*, 2012). It is interesting to note that Fuller *et al.* (2017) found that the amount of injuries that sevens players (male and female) sustained at the 2016 Rio Olympic games was within the normal range of injuries that occur on the Sevens Circuit, both in terms of the severity and the nature of these injuries.

Even though a lot is currently being done to cater for the physical demands, the players mentioned that the field conditions are not always on standard. It was also recorded that some players struggled with the high training load and the sessions that were longer than what they would prefer.

5.2 TECHNICAL AND TACTICAL DEMANDS

Rugby sevens players require a broad range of individual and positional skills. This include superior duel skills such as passing and catching. In sevens, players should be able to pass up to 20 meters. The skills demand, as well as the number of players on the field, contributes to pressure especially with regard to defence. These findings are consistent with Meir's (2012) results. Players need to have good contact skills which involve being efficient at the breakdown, tackling, mauling, cleaning and returning to action. This will not only give a team an edge but also decrease the chance of injury. There is currently a big focus on the safety of rugby in its various

forms. There has been an influx of research on the occurrence and prevention of concussion in rugby (Gardner *et al.*, 2015; Gardner *et al.*, 2016; Clarke *et al.*, 2017b; Hume *et al.*, 2017; King *et al.*, 2017; Martin *et al.*, 2017; Tucker *et al.*, 2017). It is subsequently important that players have a good understanding of the game, to minimize the risks.

The attention to detail in skills development can help a team to gain an edge over other teams. Barkell *et al.* (2016) suggested that the technical aspect plays a big role in the outcome of matches. Video analysis plays an important role in this regard. The teams make use of a wide and a narrow video feed to analyse the games. It is important to analyse your games, as well as that of the opponents to help identifying their weaknesses. After the analysis has been done, a game plan can be drawn up and players need to write tests based on their knowledge of the game plan. Feedback on the analysis is given before a tournament, after every day in a tournament and even in between matches.

Due to the format of rugby sevens and the duration of matches a single error could cost you a match or tournament. These results are consistent with that of Meir (2012), who identified the added pressure on sevens players due to the format of the game. Barkell *et al.* (2016) mentioned that the success of a team does not depend on the amount of opportunities they get, but what they do with those opportunities. In this study, the players mentioned they set consequences for their mistakes while training, to simulate match circumstances. Sarkar *et al.* (2015) and Savage *et al.* (2017) encourage coaches to create challenges in training sessions to assist players in learning to excel under pressure.

According to Barkell *et al.* (2016) set pieces (lineout and scrum) play an important role when it comes to ball possession. Successful teams have more scrums than unsuccessful teams and overall successful teams score more tries than unsuccessful teams. Since most of the points depend on scoring tries, it is important for sevens players to have good ball skills, be agile and fast. Currently the South

African sevens team is getting help from provincial evasive running and kicking coaches due to limited coaching staff.

5.3 LOGISTICAL DEMANDS

The tournament setup requires players to travel across the world in a relatively short period of time. The exposure to frequent travel fatigue and jet lag should be taken into consideration. Waterhouse *et al.* (2000) explained the consequences of travel fatigue that match the findings of the current study. Travelling exposes players to different environments and time zones. The player's body clock has to adapt to the new time zones (Reilly *et al.*, 1997; Youngstedt & O'Connor 1999; Waterhouse *et al.*, 2000; Meir 2002). This needs to be taken into consideration when planning the training sessions while touring (Reilly *et al.*, 1997). It was mentioned that all the teams experience the same logistical demands, but adaptability can give a team an advantage over another team. The logistical demands also take a toll on the players' personal lives as so much time is spent away from family.

When teams travel to take part in the World Rugby Sevens Series, flights are booked in economy class section, which adds physical strain and increased discomfort, given the typical size of these players. The team has travelling strategies in place that is in line with the guidelines proposed by Meir (2002). Meir (2002) suggested that players should stay hydrated, adapt their sleeping patterns and have a positive attitude to enhance their travel experience and limit the impact of jetlag or travel fatigue. The aim of these guidelines is to help players to get through long flights in the best possible way. There are also strategies in place to help players to get rid of jet lag as soon as possible from the point of arrival. This includes focusing on rehydration, making use of sleeping tablets, training and sleeping at specific times. These methods are acknowledged by Waterhouse *et al.* (2000) as typical plans to minimise the detrimental after-effects of travelling. Players, however, still complained about experiencing insomnia and other sleeping related problems due to travel fatigue. This can be attributed to players on average sleeping less prior to and during

the competition period. Previous research alluded to the fact that both the sleep quality and duration could easily be too low (Fullagar *et al.*, 2015).

With the limited number of players being available for selection, the relationship with the different provincial rugby franchises is very important – especially during an Olympic year. In light of the current setup of the international circuit there is a need for World Rugby to improve the standards of the respective tournaments with regards to travel arrangements and standards of hotels.

5.4 PSYCHOLOGICAL DEMANDS

This study led to the discovery that the psychological aspect in rugby sevens is of such a nature that it had to be divided into psychological demands, psychological topics, the role of a sport psychological consultant, implementing a psychological skills training programme on a junior level and team culture.

Mental toughness was identified as of the utmost importance. There is a need to increase the exposure to mental skills which is in line with the results of Di Corrado *et al.* (2014) who noted that mental toughness was perceived as an important skill for the development of young elite rugby players. The players in the current study believe that when entering into the system one requires certain characteristics in order to be successful and also to help grow the culture and promote team cohesion. These characteristics include resilience, positivity, pride, willingness to learn, self-control and leadership. The results confirm the findings of Widmeyer *et al.* (1993), Carron *et al.* (2000) and Kozub and Button (2000) on the importance of team cohesion. These characteristics are so important that they need to be taken into consideration when players get picked to join the sevens system (Light *et al.*, 2015a). Players make use of different psychological skills such as self-talk, imagery and focus/re-focus just to name a few. Evans (2003) found that psychological skills like imagery could help professional rugby players with self-confidence and managing anxiety. It also reflects the same views as Neil *et al.* (2006), who suggested that a combination of strategies could help with managing the anxiety experienced during

competition. The mental strategies, however, is the same for everyone in the team to assist them on the field to get onto the same page and work together efficiently. Mental strategies include making use of cognitive triggers during a match.

As with any other sport there are quite a few challenges with regards to the individuals' personal lives. For a team setup, it is important to be consistent, which is not always easy, taking into account players' differing situations, well-being and support structures or lack thereof. Having an open relationship with the psychologist (mental coach) and the team coach where players feel understood can help them deal with a lot of challenges and even psychological disorders. These findings are supported by Birrer *et al.* (2012) and Hill *et al.* (2015) who emphasised the importance of building a relationship with players and being able to identify clinical disorders at an early stage. The inability to identify clinical disorders in the initial stages can lead to severe consequences. This is why coaching staff should be aware of the symptoms and support structures should be put in place (Hill *et al.*, 2015). With suicide receiving increasing media attention following the death of international rugby player Dan Vickerman, a lot of questions are being asked about the awareness of these clinical disorders and the assistance available to players. In the South African context, the players association (My Players) and the South African Rugby Legends created a confidential helpline for players that might experience any form of mental problems. Further, the North-West University's Potchefstroom campus's Institute of Psychology and Wellbeing offers such services to current and past players (North-West University, 2017).

It was noted that there is currently not sufficient focus on the psychological side of rugby sevens. There are various topics that the players would like to discuss to help them cope better with the stressors they are being exposed to. Players also voiced the struggle to maintain a balance between their personal lives and their careers, a balance which is deemed to be vital (Stambulova *et al.*, 2009). It is important not to underestimate the role that players' support networks play in their performance (Sharp *et al.*, 2013). It is, therefore, important to discuss topics such as

compartmentalisation to enable players to control their focus on and off the field. On the field, it is important that players can focus on the task at hand and not get distracted by external factors, such as referees, losses or bad calls. When off the field, players should be able to focus on their families, relationships or personal lives. If a player does not manage to switch off, it can add to the build-up of chronic stress that can lead to burnout. These findings resonate with Readeke (1997) who attributed burnout to the accumulation of chronic stress. Should off-field relationships not be managed effectively, it could have a direct impact on a players' on-field performance. Numerous high achieving athletes suffer from burnout and it is, therefore, important to monitor players' well-being throughout their sport careers (Lemyre *et al.*, 2008).

Players need to be aware of their current emotional state and know what keeps them motivated. In this study, it was found that internal motivation and knowing why they were playing, played a big role in helping players continue through difficult times. Some were motivated to make their families proud or focused on being able to support their loved ones while others were driven by ambition to become the best in the world. These motivational factors can help players to face adversity and to promote growth. These findings are in agreement with that of Sarkar *et al.* (2015) who stated that adversity or setbacks should promote learning and growth. There are also numerous stressors (both personal and sport related) that can have an influence on players' performance. These stressors need to be addressed to enable players to turn the pressure into a motivating factor. The importance of effectively dealing with the pressure was outlined by Sharp *et al.* (2013). Hodge *et al.* (2014) also reported on the importance of creating a motivational climate within the team environment. Players also need to individually find coping mechanisms to deal with disappointments or setbacks, such as injuries, non-selection, handling judgement or negative feedback or even difficulties in their personal lives. This is in line with Johnson and Ivarsson (2011), who highlighted the importance of various coping mechanisms.

Players within a team setup typically come from different backgrounds and cultures. The significance of giving them freedom to cope with stressors in their own way and enabling them to express themselves on the field cannot be underestimated. Most importantly, they are in need of different skills to be equipped in exploring what works for them personally.

The sport psychological consultant plays the role of equipping players to deal with the psychological demands. The first priority of a sport psychological consultant should be to build a relationship with the players (Birrer *et al.*, 2012; Sharp & Hodge, 2014). The sport psychological consultant needs to know the players' backgrounds and take on a holistic approach when working in a team environment. When spending time with players on a one-on-one basis, trust should be built by emphasising confidentiality and by developing rapport (Gardner, 2001; Birrer *et al.*, 2012; Sharp & Hodge, 2014). Players should feel safe to express their frustration knowing that nothing they say will have any influence on selection. It is important that the sport psychological consultant identifies the player's needs and provide them with the required support (Sharp & Hodge, 2014). On a one-on-one basis, the sport psychological consultant should understand the players' individual needs and should have enough time to address the identified needs (Sharp & Hodge, 2014).

When a psychologist conducts team sessions, it should be short, relevant sessions that build on each other (Gardner, 2001; Sharp & Hodge, 2014). It is important that the sport psychological consultant spends enough time with the team to enable the build of trust and relationships (Gardner, 2001; Birrer *et al.*, 2012). It was found that there is a need to have a set programme as part of the pre-season or in-season where the team spends time with the sport psychological consultant at least twice a week. The last-mentioned finding is consistent with a need for more frequent sessions identified by Davidson and Edwards (2014), even at the high school rugby level. Another need that was identified was for more one-on-one time where players can talk about their team as well as personal experiences. The sport psychological consultant should understand the bigger picture and get the whole team on the same

page. There should also be time set out to teach players how to handle fatigue and to be at their best on psychological level as well. Players want to feel inspired by a sport psychological consultant who is passionate and adds value to the team. It was found in the light of the study that nationally the contribution of sport psychological consultants is still being underestimated. This is not an unusual finding. Gee (2010) explained that this could be due to lack of understanding what sport psychology entails and the effect that it has on performance. Pain and Harwood (2004) agreed, adding that lack of funding plays a big role in this regard, which was also found as a constrain in this study.

The need to address psychological skills development at a younger age has been voiced, but this requires a framework that guides this development. Children should be motivated to make their own decisions from a young age instead of a coach always instructing them what to do (Light *et al.*, 2015b). Players confirmed these results by explaining how the freedom to make their own decisions helped them to grow as a player from a young age. There is some controversy as to who should be responsible to introduce mental skills at the junior level. It is important to realise the role that different role-players such as parents and coaches will play at different stages of growth and during the junior rugby years.

There was general consensus between the participants that at school level sport psychological skills training should be informal. Children should be encouraged to have fun with enough time set aside for free play (Hodges & Baker, 2011). Participants of the study proposed that mental skills training programmes should be incorporated at the provincial level as well as during national training camps. This might not have the desired effect since Du Randt *et al.* (2011) found that not a lot of the children who attend the national training camps end up playing professionally due to the different pace of development and maturation. Hodges and Baker (2011) gave a different reason for the occurrence of big drop outs, stating that it was due to early specialisation. La Prade *et al.* (2016) reported on the negative consequences of specialising too early in a single sport. This study supports these findings, adding

that the pressure parents put on children could lead to lack of motivation to participate due to extensive pressure to perform. It is interesting to note that Bloemhoff *et al.* (2016) found that parent involvement was experienced positively by adolescent rugby players in South Africa. The players appreciated positive feedback and especially valued the involvement of their fathers. It is further suggested that over-involvement does not seem to have a negative effect on the players' experience.

It is important to note that a holistic approach may help players with the transition to specialisation. This is supported by Wylleman *et al.* (2004) and Stambulova *et al.* (2009). Schinke *et al.* (2017) found that clinical problems are obstacles that players need to overcome in order to successfully cope with transition. If they fail to do so, it can have career ending consequences.

Within the context of this study, the shift to a professional rugby sevens career is a prominent transition. Some of the participants mentioned that a psychological skills development programme needs to be part of the Sevens Academy programme or introduced as soon as players enter the system or any other rugby system after school. If players can cope with all the challenges successfully, it should have a positive impact on their professional careers. It should, therefore, be a priority for the coaching staff to prepare players for challenges that might arise during these transitions. This is supported by the work of Stambulova *et al.* (2009) that outlined that the success of transitions can be influenced by previous experiences, support and motivation. It was further noted that a successful transition can allow a player to have a long and successful sporting career. It was therefore suggested that the support staff should make it a priority to prepare players for the possible challenges that they may face. Wylleman *et al.* (2004) mentioned that when assisting with transitions, different backgrounds and the influence of background on the experience should also be taken into consideration. The different backgrounds, cultures and personalities within the South African sevens setup were themes that repeatedly came up during the study.

To date there has not yet been a comprehensive psychological skills development programme within the South African sevens structure. Such a programme should include helping players to deal with challenges that are relevant in their stage of life (e.g., attitude, pressure from parents, self-image, self-confidence). They need to learn how to deal with external factors (such as referees, team mates, family, etc.) and how to prepare themselves for a future in sport by dreaming big and working hard at their ability to work well in a team environment. Some of these proposed topics, in this study, were recommendations of mental qualities that should be included in a psychological skills development programme for 15-a-side rugby players by Holland *et al.* (2010). Edwards and Edwards (2012b) found benefits when implementing a psychological skills development programme among age group provincial 15-man rugby players. These benefits were observed among the whole team and not just those players with psychological problems (Edwards & Edwards 2012b; Davidson & Edwards, 2014).

A strong team culture is seen as one of the South African sevens team's strengths and plays a fundamental role in the success of the team. A lot of emphasis is placed on team cohesion and on working together as a family by accepting each other's differences. The importance of team cohesion was outlined by Widmeyer *et al.* (1993), Carron *et al.* (2000) and Kozub and Button (2000). As a unit, they take on a team approach where they play for each other and not focusing on personal accomplishments. As a team, it is important for them that everyone is on the same page. Each player should know what they are working towards collectively. On a personal level the players feel it is important to know each other, but not take each other too serious when off the field. On the field, all the players should have a good work ethic and be driven by the processes in place. The team's efficiency relies a lot on teamwork, where each player knows and fulfil their roles and responsibilities. The team environment is a player driven system. It should be a place where players can enjoy training and playing in a relaxed and positive environment. McLaren *et al.* (2017) found it important to have a positive team environment in promoting team cohesion. The importance of team culture and the environment created by coaches

supports results of Hodge *et al.* (2014) who discussed the motivational climate of New Zealand rugby and the important role that it played in their success due to a change in the team's culture after the 2009 season.

In coping with challenges such as pressure, faith was identified as a factor that can help significantly. As a team, the Blitzboks want to touch people's lives and be pioneers of greatness. The foundations that the team are built on are steadfast and players that enters the system needs to fit in, in order to stay in the system. There is, however, a need for someone to mentor the younger players moving into the system. Currently new players are paired with more experienced players when touring to promote and fast-track the process of adapting to the system. In the past, the team was not as successful as the team currently is although it was a tight knit group of players. Players pushed the physical boundaries and the foundations were laid for the success environment that is currently being experienced. Going forward, the players feel that there is a need to grow physically, psychologically and intellectually, which is closely linked to Dweck's (2006) notion of the growth mindset. The participants also expressed a need to work on the consistency of the team.

5.5 PSYCHOLOGICAL WELL-BEING AND PLAYERS' INDIVIDUAL NEEDS

The players' needs can be categorised either as future needs or current needs. Current needs include physical demands, player well-being, financial concerns, further studies, professionalism and boundaries. Physical needs can be broken down into the need for the best facilities, access to medical staff, receiving training plans in advance, having enough off times after tournaments and individual supplementation needs being taken care of.

Martindale and Mortimer (2011) explained the importance of not neglecting personal development while still participating in professional sport. In this study, a void has been identified with regard to assisting to career development and financial guidance of these professional players. Even though there is a perception that rugby players

earn a lot of money, sevens players do not earn as much as 15-a-side players. The need to be contracted well in advance to enable them to plan ahead was also voiced. This need to be able to plan ahead was also identified by Stambulova *et al.* (2009). There are different opinions about who should be responsible for the funding, but all agree that players should be given the opportunity to do short courses, diplomas, certificates or degrees to further their education. The last need that was identified was the need for professionalism and boundaries. This refers to decisions, such as team selection, need to be made objectively without outside parties or taking players' reputations into consideration. Lastly, the academy players need to get more exposure to the professional setup by taking part in more tournaments.

When looking at future needs it is important that players should develop a contingency plan for their life after rugby from the onset of their rugby careers. In accordance with Wylleman and Reints (2010), it was found that the lack of working experience is a major concern when it comes to sport retirement as players have to find careers in the corporate world. Players should, therefore, spend time during their playing careers, to shadow someone in order to gain insight and experience different workplace environments.

During the transition from professional sports to retirement psychological assistance should be available to prevent players from turning to alcohol abuse or to suffer with psychological problems such as anxiety or depression. This confirms the findings of Stambulova *et al.* (2009) that noted failing to cope with the various challenges during transitions could have negative consequences for their life after sport (drug/alcohol abuse). The role the support staff should play in the transition process was also noted. Gouttebarga (2015) found that six months after retirement almost half of the rugby players (48%) that took part in his study reported suffering from two or more psychological problems. Another study by Gouttebarga *et al.* (2016) and Schinke *et al.* (2017) found that numerous current and retired athletes showed symptoms related to clinical disorders. These symptoms were more prevalent in athletes who

experienced severe injuries, difficult life events, and athletes who were not satisfied with their careers and did not have proper social support.

There still seems to be a lack of awareness about clinical problems in sport. This supports the concern raised by Hill *et al.* (2015) that there is a lack of understanding of clinical problems and a general lack of awareness thereof. Leburn and Collins (2017) proposed that the typical methods to conduct clinical screenings, may not be effective when screening elite athletes, since they are not seen as part of the 'normal' population and are exposed to additional performance related challenges including a stressful lifestyle, competing on high levels and being exposed to high training loads. Professionals are also advised to consider all factors in order to avoid over-diagnosing (Leburn & Collins, 2017; Schinke *et al.*, 2017).

5.6 RUGBY SEVENS BEING INCLUDED IN THE 2016 RIO OLYMPIC GAMES

As sevens became part of the 2016 Rio Olympic Games, it was interesting to note that the event was experienced differently than any of the other events that these players were part of. This was due to different match circumstances, the fact that it is a multi-code event and also the pinnacle of any professional sport participants' career. Although the team felt that the experience was great and a dream come true, in reflection it is described as a learning experience. Team South Africa had problems with their kit and logistics which were provided by the local Olympic committee (SASCOC). Losing in the semi-finals is described as disappointing and heart-breaking, but winning the bronze was a welcoming reward even though a lot of opportunities were missed. Wylleman and Johnson (2012) suggested that success (such as winning a medal) at the Olympic Games can leave athletes disappointed if they experienced challenges (personal or sport related) that played a significant role in the outcome.

Steve Redgrave, five times Olympic gold medallist rower, describes his first encounter with the Junior Olympic games as disappointing, even though he won a

gold medal. This is due to the effect it had on relationship with his rowing partner and the effect of his professional career on his personal life (Redgrave & Townsend, 2001). The reaction of the supporters to the bronze medal made it evident that South Africa does not have an Olympic culture yet and, therefore, there is plenty to learn from other countries in that regard. Overall the Olympic Games definitely increase interest and participation in sevens which will have a positive impact on the future of sevens.

5.7 LINKS BETWEEN DIFFERENT ASPECTS

The results show that the physical demands, technical and tactical demands, logistical demands and players' specific needs can all be linked to the psychological aspect of the sport. By focusing more on the psychological aspect players will be better equipped to boost their performance by enabling them to handle the various stressors more effectively. These results can guide the development of a psychological skills development programme.

Chapter Six

CONCLUSIONS AND RECOMMENDATIONS

The primary aim of the study was to analyse the perceived demands of rugby sevens held by professional players and coaching staff. The specific objectives were:

1. To explore the perceptions held by professional players and coaching staff about the physical, technical, tactical and logistical demands of rugby sevens.
2. To explore the perceptions held by professional players and coaching staff about the psychological demands of rugby sevens.
3. To explore the specific individual player needs (off the field needs) of rugby sevens players.

6.1 CONCLUSIONS

Rugby sevens has high psychical, technical, tactical and logistical demands. These demands differ from those in other formats of rugby, due to the setup of matches and tournaments. In order to enhance performance, emphasis needs to be placed on psychological demands to enable players to focus on the task at hand. Throughout a professional sevens career, player well-being needs to be addressed both on and off the field to promote a healthy (physical and psychological) journey. The well-being assistance should not end when a player retires from professional rugby sevens but rather equip players to handle such a transition well.

In light of the afore-mentioned objectives the following conclusions are made.

6.1.1 PHYSICAL DEMANDS

The challenges of monitoring and conditioning of rugby sevens are different to 15-a-side rugby due to unequal physical demands. Sevens players' training loads need to be monitored at all times to prevent injuries. Monitoring also takes place on a daily basis and players take part in recovery activities every day. To assist with training load and recovery, a rotation system was implemented in 2016.

6.1.2 TECHNICAL AND TACTICAL DEMANDS

With fewer players on the same size field as 15-a-side rugby, all the players require a variety of skills. Most of the skills are generic with only 10% skills being position specific. Video analysis is used to pick up on details that can assist in gaining an edge above opponents. Feedback on the video analysis takes place between every game, every day in a tournament as well as the different legs of the series.

6.1.3 LOGISTICAL DEMANDS

The tournament setup requires players to travel across the world in a relatively short period of time. This exposes them to frequent travel fatigue and jet lag that need to be accounted for. The logistical demands also take a toll on the players' personal lives, spending so much time away from family. The rotation system, which was mentioned earlier, tried to combat the effect on the players' personal lives as well. With only having limited players available for selection, the relationship with different franchises is very important, especially in an Olympic year. With the current setup of the circuit there is a need for World Rugby to improve the standards of the tournaments with regards to travel arrangements and standards of hotels.

6.1.4 PSYCHOLOGICAL DEMANDS

Mental toughness was identified as of the utmost importance. The players believe that when entering into the system one requires certain characteristics to be able to be successful and also to help grow the culture and promote team cohesion. Currently there is not enough focus on the psychological side of the sport and there are various topics that the players would like to discuss to help them cope better with the stressors they are being exposed to. Players also voiced the struggle to maintain a balance between their personal life and their career.

The sport psychological consultant plays the role of equipping players to deal with the psychological demands. It is important that the sport psychological consultant spends enough time with the team to enable relationships building. There is a need for a set psychological skills programme as part of the pre-season or in-season

where the team spends time with the sport psychological consultant at least twice a week. A need was also identified for more one-on-one time where players can talk about their team as well as personal experiences.

The need to attend to psychological skill development at a younger age has been voiced, but this requires a framework that guides this development. A window of opportunity was identified between the age of 11 and 16 for embarking on exposure to a psychological skills development program, in an informal manner. It was mentioned that a psychological skills development programme needs to be part of the Sevens Academy programme or introduced to players as soon as they enter any professional setup after school.

A strong team culture is seen as one of the South African sevens team's strengths and plays a fundamental part in the success of the team. The team is proud of their strong sense of team cohesion and the work ethic that is demanded. The team culture is built on strong foundations where everyone is aware of the team goals. It is a positive environment where new players are embraced and included in the culture. There is, however, a need for someone to mentor the younger players moving into the system.

6.1.5 PSYCHOLOGICAL WELL-BEING AND PLAYERS' INDIVIDUAL NEEDS

The players' needs can be categorised either as future or current needs. Current needs include physical needs, player well-being, financial concerns, further studies, professionalism and boundaries. The most prominent future needs are usually the transition to retirement and life after a professional career in rugby sevens. It is important to players to get a contingency plan in place early in their career, especially participating in an unpredictable sport where professional careers often end unexpectedly. During the transition to retirement, unexpected or planned, it is important that sevens players get psychological support not just to help with the transition but also adapting to life after rugby. This kind of support should be available as long as needed.

6.1.6 RUGBY SEVENS BEING INCLUDED IN THE 2016 RIO OLYMPIC GAMES

Rugby sevens players described the 2016 Rio Olympic Games as the pinnacle of their career. Losing in the semi-finals was disappointing, but winning the bronze was a welcoming reward. The reaction of the supporters to win the bronze medal made it evident that South Africa does not have an Olympic culture yet. In comparison to other countries South Africa still has a lot to learn. Overall the Olympics increased interest in rugby sevens, not just from a player point of view but also from a spectator point of view. Improving in these areas will have a positive impact on the future of rugby sevens.

6.2 LIMITATIONS

1. Most of the participants had received some form of media training prior to the interviews, which could have influenced what they said during the interviews.
2. Participants were well aware that the interviews were being recorded. However, once the official interview was over and the recorder stopped, some of the participants elaborated on their earlier discussions, and provided more insight and detail about things in the system they viewed as negative.
3. Another challenge that arose when studying an elite group of participants was time constraints. The players run on a tight weekly schedule, resulting in limited time that the researcher could actually spend with the participants, which only made it possible to gather demographic information and use a single interview to gather the qualitative data.
4. The results from this study should not be generalised to other groups, as the sample comprised of elite participants from a single country. However, it is plausible that these results could also be applicable to other countries that compete at the same level and have similar developmental structures and systems in place.

6.3 RECOMMENDATIONS

The following recommendations are made for further research:

1. The results of the current study should be integrated with evidence-based research on the development of sport psychological skills and psychological well-being in order to establish a framework to develop players within the South African rugby structures holistically. Such a programme's effectiveness should be tested empirically.
2. Researchers could identify the current psychological skill levels of high school rugby players in South Africa who take part in the provincial age group tournaments and the national academy weeks. This could provide an even more realistic perspective on what should be worked on before players enter the professional setup.
3. Researchers should consider meeting the participants more than once prior to conducting the interviews in order to build trust and rapport that will enable the participants to open up more easily and give their true views.
4. Researchers should also consider making use of different ways of collecting data, this could include interview, focus groups and filling out questionnaires. This will contribute to the trustworthiness and validity of the data.
5. Researchers should consider repeating this study on female sevens players to determine if demands/needs are similar.

The following practical recommendations are made:

1. These results can help the sport psychological consultant who is currently involved with the team to identify potential topics that could be addressed.
2. This could also be a helpful tool for governing bodies to enable them to support the players more effectively regarding their respective needs.
3. For countries that do not have a professional sevens setup yet, these results could guide them regarding the various demands placed on the players and about the numerous factors that have to be considered when mapping the pathway through which players should develop into world-class players.

To date there has been a paucity of research on rugby sevens. However, due to the interest in rugby sevens increasing, there is a golden gap for research to be

conducted in this field. With the competition between teams growing bigger and bigger, a lot is being done to gain the competitive edge in all areas of rugby sevens. This includes taking physical, technical, tactical, logistical and psychological demands into consideration. With knowledge of these demands a psychological skills development programme can be developed to positively contribute to the performance of a sevens team.

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APPENDIX A

INFORMATION SHEET

Department of Sport Science
Stellenbosch University
MATIELAND
7602

THE PERCEIVED DEMANDS OF RUGBY SEVENS HELD BY PROFESSIONAL PLAYERS AND COACHING STAFF

Purpose of the study: This study aims to explore and analyse the perceived demands of rugby sevens in order to outline a framework for the psychological skills development for sevens rugby players.

Procedure: As a participant in this study, you are invited to take part in an interview. Upon volunteering for this study, you will be asked to meet the researcher for an initial meeting to discuss the aims, objectives, potential benefits and interview procedures. During this meeting you will be asked to complete an informed consent form and demographic questionnaire. At the end of this meeting, you and the researcher will decide upon a date and time for the interview. The interview will last 30 to 60 minutes during which you will be asked to answer questions about your demands of sevens rugby.

Benefits: You may not benefit individually by being part of this study, however your participation in this study will contribute to gaining further knowledge of sevens demands. Understanding the demands of rugby sevens in your specific setup will serve as good feedback to Rugby Sevens South Africa as well as helping to better the understanding of the demands of this sport by society.

Rights of Research Subjects: You can choose whether to be in this study or not. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, please contact Ms Clarissa Graham at the Division for Research Development (contact number: [REDACTED] or [REDACTED]).

Rights of the Researcher: The researcher has the right to remove the subject from the research project should the subject fail to adhere to the instructions given during data collection.

Confidentiality: Any information about you that is obtained in connection with this study will remain confidential and will be disclosed only with your written permission. However, the results of the study may be published or disclosed to other people in a way that will not identify you. Interviews will be audiotaped and transcribed verbatim. Participants have the right to review the audiotapes and transcripts. All audiotapes and hard copies will be stored on a password protected computer at the Department of Sport Science (office 401) for five years, after which they will be destroyed. The researcher and study leader will be the only persons to have access to the stored data. The interview data and demographic information will be coded so that it cannot be linked to your name. Your identity will not be revealed while the study is being conducted or when the study results are reported in the researcher's thesis. The information received during this study will only be used for research purposes.

Consent: The researcher's intent is to only include subjects that freely choose to participate in this study. The participation is voluntary and you are free to withdraw your consent and discontinue with your participation at

any time for any reason and you do not need to justify your decision. If you do withdraw we may wish to retain the data that we have recorded from you but only if you agree, otherwise your records will be destroyed. Your participation in the study is voluntary and does not prejudice any right to compensation, which you may have under statute law.

Further Information: If you have any questions regarding this study you can contact any of the researchers detailed below. You will be given a copy of this information sheet and a consent form to read and keep prior to indicating your consent to participate by signing the consent form.

Masters student: Ninette Steenkamp Study leader: Dr Heinrich Grobbelaar

Email: [REDACTED] Email: [REDACTED]

Phone number: [REDACTED] Phone number: [REDACTED]

The Human Research Ethics Committee at the Stellenbosch University requires that all participants are informed that, if they have any complaint regarding the manner, in which a research project is conducted, it may be given to the researcher or, alternatively to the Administrative Officer, Human Research Ethics Committee, Division of Research Development, Stellenbosch University, Private Bag X1, Matieland, 7602

APPENDIX B

CONSENT FORM



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvenoot • your knowledge partner

STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

THE PERCEIVED DEMANDS OF RUGBY SEVENS HELD BY PROFESSIONAL PLAYERS AND COACHING STAFF

You are asked to participate in a research study conducted by Ninette Steenkamp (MSc Sport Science student) from the Department of Sport Science at Stellenbosch University. This study will form part of her Master's degree in Sport Science. You were selected as a possible participant in this study because you are a professional sevens rugby player.

1. PURPOSE OF THE STUDY

This study aims to explore and analyse the perceived demands of rugby sevens in order to outline a framework for the psychological skills development for sevens rugby players.

2. PROCEDURES

If you volunteer to participate in this study, I would ask you to meet the researcher for an initial meeting with regards to the following aspects:

- Discuss the aims, objectives and potential benefits
- Discuss the interview procedures.
- Give voluntary participation.
- Complete an informed consent form.
- Complete a demographic questionnaire.
- Arrange a date and date when the interview will take place.

Each participant will be interviewed once. This interview will last 30 to 60 minutes. During the interviews, broad open questions will be asked to allow you to talk about your thoughts, perceptions and feelings.

3. POTENTIAL RISKS AND DISCOMFORTS

The study should not have any negative effects on you. In the case of any discomfort (especially emotional reactions) experienced please bring it immediately to the attention of the researcher and or the sport psychologist ([REDACTED]).

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

You may not benefit individually by being part of this study, however your participation in this study will contribute to gaining further knowledge of sevens demands. Understanding the demands of rugby sevens in your specific setup will serve as good feedback to Rugby Sevens South Africa as well as helping to better the understanding of the demands of this sport by society.

5. PAYMENT FOR PARTICIPATION

No remuneration is offered for participation in this study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Your participation in this study is entirely voluntary and anonymous.

Interviews will be audiotaped and transcribed verbatim. Participants have the right to review the audiotapes and transcripts. All audiotapes and hard copies will be stored on a password protected computer for five years, after which they will be destroyed. The researcher and study leader will be the only persons to have access to the stored data. The interview data and demographic information will be coded so that it cannot be linked to your name. Your identity will not be revealed while the study is being conducted or when the study results are reported in the researcher's thesis. The information received during this study will only be used for research purposes.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The researcher may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF RESEARCHERS

If you have any questions or concerns about the research, please feel free to contact:

Masters student:	Ninette Steenkamp	Study leader:	Dr Heinrich Grobbelaar
Email:	[REDACTED]	Email:	[REDACTED]
Phone number:	[REDACTED]	Phone number:	[REDACTED]

9. RIGHTS OF RESEARCH PARTICIPANTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [REDACTED]@sun.ac.za; [REDACTED] at the Division for Research Development

SIGNATURE OF RESEARCH PARTICIPANT OR LEGAL REPRESENTATIVE

The information above was described to me by Ninette Steenkamp in [Afrikaans/English] and I in command of this language or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____. He/she was encouraged and given ample time to ask me any questions. This conversation was conducted in [Afrikaans/English] and no translator was used.

Signature of Investigator

Date

APPENDIX C**DEMOGRAPHIC AND SPORT PSYCHOLOGY QUESTIONNAIRE**

STELLENBOSCH UNIVERSITEIT DEPARTEMENT OF SPORT SCIENCE

Section A: Demographic information						
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1	Record number (for office purpose)						
2	Name						
	Surname						
3	Birth date 19	y	y	m	m	d	d
4	Current date 20	y	y	m	m	d	d
5	Contact details	Cell number					

Section B: Rugby History						
---------------------------------	--	--	--	--	--	--

6	What high school did you go to?					
7	Please mark with an 'X' there you participated (if any).	1.	u/13 provincial			
		2.	u/16 provincial			
		3.	u/18 provincial			
		4.	SA u/20			
		5.	Varsity Cup			
		6.	Vodacom Cup			
		7.	Currie Cup			
		8.	Super Rugby			

6	How many years have you been player professional rugby?	<input type="text"/>	<input type="text"/>	years
7	What positions do you play?	1.	<input type="text"/>	
		2.	<input type="text"/>	
		3.	<input type="text"/>	
		4.	<input type="text"/>	
8	Highest level of competing?	<input type="text"/>		
9	Number of caps	<input type="text"/>		
Section C: Sport psychological background				
10	Have you ever worked individually with a sport psychologist?	Yes	<input type="text"/>	
		No	<input type="text"/>	
11	Were you ever part of a team that got exposed to psychological training?	Yes	<input type="text"/>	
		No	<input type="text"/>	
12	If you answered yes to question 11, how often did you attend sessions?	Once	<input type="text"/>	
		Weekly	<input type="text"/>	
		Monthly	<input type="text"/>	
		Every six months	<input type="text"/>	
		Yearly	<input type="text"/>	
		No set pattern	<input type="text"/>	
If 'no set pattern' was selected, please explain.				
13	How important is the development of psychological skills to achieve optimal performance?	Waste of time	1	
		Can help, but not important	2	
		Neutral	3	
		Important	4	
		Very important	5	

14	How well are you psychologically prepared for rugby matches?	Bad	1
		Below average	2
		Average	3
		Good	4
		Very good	5
15	How well are you psychologically prepared for rugby training sessions?	Bad	1
		Below average	2
		Average	3
		Good	4
		Very good	5
16	To what extend do you have the need for a psychological skill development programme to help you better your performance?	Definitely no need	1
		No need	2
		Not sure	3
		I have got a need	4
		I have got a big need	5
17	What aspects would you like being addressed in a psychological skills development programme?		

APPENDIX D

APPENDIX D1: INTERVIEW SCHEDULE FOR PLAYERS

Questions	Potential probes
1.1 Take me through your rugby career from where you started until now	Where did you start? Pathway that you followed? 15-a-side versus 7's rugby
1.2 As a sevens player what made this year different to previous years?	Olympic games? Competition? Awareness/ interest?
1.3 What is needed to be a good rugby sevens player?	Physical? Technical? Tactical? Mental?
1.4 What makes you a good sevens player?	
1.5 What makes rugby a physically challenging sport?	Physical attributes – body composition etc. Duration of the game? Intensity? Recovery between matches? Amount of games in season? Quick turnaround between matches/tournaments?
1.6 How well does the current system cater for the team's physical demands?	Strengths vs weaknesses? Prevention of overtraining and burnout? Recovery?

1.7 How does traveling for tournaments influence you as a player?	Travel time? Different environments? Training facilities? Amount of rest?
1.8 What can be improved in regards to the traveling?	Traveling? Tournament setup?
1.9 What makes rugby sevens technically challenging?	7's versus 15-a-side?
1.10 What are the technical demands for your position?	Roles?
1.11 How can the technical coaching be improved further?	
2.1 What are the mental demands of rugby sevens? A. For you as a player? B. For the team as a whole?	Vs. 15?
2.2 What role does team dynamics play in the success of a sevens team?	What do you do? Improve? Current? Leadership?
2.3 How important is the development of mental skills for optimal performance?	Why? On what level?
2.4 Who is/should be responsible for developing a sevens player's mental skills?	
2.5 What topics should be included in a mental skills development programme for young sevens players? (Moving from junior levels to senior levels).	Individual? Group? On field? Off field?

2.6 How much time do you spend on mental preparation for a sevens game?	What effect? What kind of skills? Team/individual?
2.7 Have you ever worked individually with a sport psychologist?	Detail about the number of sessions, the frequency of consultations, the topics covered?
2.8 Have you ever worked with a sport psychologist in a team setup?	Describe what you are currently being exposed to in terms of team sessions.
2.9 How well are you mentally prepared for training sessions?	What? Handling stress?
2.10 How well are you mentally prepared for matches/tournament?	What? Handling bad results?
2.11 What are your current needs with regards to your mental skills development?	How big?
3.1 What specific needs do you have as a player and what role should SARU play in this regard?	Recovery? Burnout? Career planning? Financial security?
3.2 What specific needs do you have with regard to your future exiting rugby?	Jobs? Money? Currently in place? Whose responsibility?
3.3 How would you rate the current sevens setup with regard to 1. optimising the team's chance of success 2. the well-being of the individual players	Professionalism? Facilities? Man power? Level of experience? Support from governing bodies?

APPENDIX D2: INTERVIEW SCHEDULE FOR COACHING STAFF

Questions	Potential probes
1.1 Explain your role in the team.	Background? Pathway?
1.2 What makes a good rugby sevens player?	Physical? Mental?
1.3 What are the physical demands of rugby sevens?	Duration of the game? Recovery between matches? Amount of games in season? Quick turn around? Burnout control
1.4 What is currently being done to cater for these physical demands?	Strengths vs weaknesses? Recovery?
1.5 What are the logistical demands of the current season giving that it is an Olympic year?	Travel time? Different environments? Training facilities? Amount of rest?
1.6 What are currently being done to address these demands?	Traveling? Tournament setup?
1.7 What are the main technical challenges in rugby sevens?	Per playing position?
1.8 What role does team dynamics play in the success of a sevens team?	What do you do? Improve? Current?
1.9 What is currently being done in this regard?	
2.1 What are the psychological demands of sevens?	

2.2 What is currently being done to address these psychological demands?	For training? For matches? Team? Individual?
2.3 How does the sport psychologist integrate with the rest of the staff?	When? Time?
2.4 How much time does the team spend on mental preparation?	What effect? What kind of skills? For matches/training
2.5 How important is the development of psychological skills for optimal performance?	Why? On what level? Age? Manner?
2.6 How should psychological skill development programmes be integrated into the current system?	Weekly? Camps? Talent ID? Schools? Age? Level?
2.7 What psychological topics/skills need to be addressed in such a programme?	Individual? Group? On field? Off field?
3.1 What are the specific player needs (off the field)?	While playing? Recovery? Burnout?
3.2 What are the specific player needs (off the field) for players that are nearing the end of their rugby careers?	Jobs? Money? Currently in place? Whose responsibility?

3.3 What is currently being done to address the off field needs?	
3.4 How do you feel about the current South African sevens setup?	Professionalism? Facilities? Man power? Level of experience? Kit? Support from governing bodies?
3.5 Which aspects need to be addressed in the near future?	

APPENDIX E

PERMISSION LETTER



5 June 2016

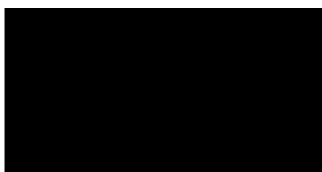
Dear Ninette

Re: THE PERCEIVED DEMANDS OF RUGBY SEVENS HELD BY PROFESSIONAL PLAYERS AND COACHING STAFF

Your research request was discussed by the SARU Internal Research Review Committee. Please note the following criteria:

We support your request to undertake the following research: "THE PERCEIVED DEMANDS OF RUGBY SEVENS HELD BY PROFESSIONAL PLAYERS AND COACHING STAFF"

1. SARU requests that you ensure that all ethical and consent requirements are met.
2. SARU has indicated that all interviews with the Springbok Sevens Rugby players can only take place after the 2016 Rio Olympic Games.
3. [REDACTED] has indicated that he will only be willing to be interviewed after the 2016 Rio Olympic Games.
4. The following SA Sevens Rugby team management have all agreed to be interviewed prior to the 2016 Rio Olympic Games:



5. SARU requests that a final copy of the research project be submitted to the SARU Internal Research Review Committee for their consideration and any relevant findings from the research are shared with the players and the management of the SA Rugby Sevens teams.
6. Please note that SARU supports the research that is been proposed to be undertaken by the relevant parties. This support does not constitute endorsement of the particular tool/device and/or institution or professional that will be undertaking the research as SARU reserves the right to engage with any partner in the future for further management interventions of the SA Rugby Sevens teams.
7. Please note that SARU does not provide any financial assistance.

Thank you once again for your interest in the game of rugby.

Regards

Dr Jakoet

THE SOUTH AFRICAN RUGBY UNION (an incorporated association of persons) | President: OPM Hinkins | Deputy President: MA Alexander | Vice President: JY Sijthoff | CEO: JW Roux
SARU | ouso | Tygerberg Park | 163 Lys Krijs Drive | Platteklouf | Cape Town 7500 | P.O. Box 15928 | Fynnfontein 7506
W: sarugby.co.za | T: +27 (0)21 928 7000 | [f](https://www.facebook.com/sarugby) Springboks | [t](https://twitter.com/Springboks) @Springboks | [i](https://www.instagram.com/sarugby) @sbrugby