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DETERMINANTS OF SUPER 14 RUGBY FANS' TEAM LOYALTY

BY

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SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

MAGISTER COMMERCII
(MARKETING MANAGEMENT)

IN THE

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

AT THE

UNIVERSITY OF PRETORIA

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ACKNOWLEDGEMENTS

This thesis would not have been possible without the guidance from my study leader, Theuns Kotzé. I would like to thank him for all the time, patience and effort that he invested in my study.

I would also like to make special reference to Mrs Summerville, Mrs Basson and Dr Fletcher from the Statistics Department for their support and assistance with the analysis of the data in my study.

Lastly, I offer my gratitude to my family: Santiago Rabellini, Charl, Christine, Johann and Jakobus Kotzé, as well as Willa du Toit.

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ABSTRACT

DETERMINANTS OF SUPER 14 RUGBY FANS' TEAM LOYALTY

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Sport plays a significant role in societies worldwide and this has lead to an increase in the interest in sports fans' behaviour. South Africans regard rugby as an important role player in their country, national culture - and also as a symbol of hope.

This study aimed to enhance the knowledge of fans' loyalty; and it also addressed the issue of a distinguished scale that can measure fans' loyalty in the South African rugby context. Furthermore, this study aimed to increase the understanding regarding the determinants of rugby fans' loyalty in South Africa.

This replication study (a repeat of a previous study) investigated the application and relevance of Funk's (2001:2) Sport Interest Inventory (SII) scale in the South African Super 14 rugby context. The Sport Interest Inventory (SII) scale measures twelve determinants of fan loyalty, namely: bonding with family, bonding with friends, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest, vicarious achievement and sports interest.

Identifying the determinants of fan loyalty can result in guidelines that can be used by sports marketers to improve their marketing campaigns. This will assist them in identifying related sports products that are essential to rugby fans. This will result in a more profitable sports' team.

The first step in this study was to synthesise a conceptual framework of the relationships between fan loyalty and the identified determinants of fan loyalty from the relevant literature. This was followed by a survey conducted at the Loftus Versveld Stadium, where Super 14 rugby fans of local Super 14 rugby teams were asked to participate in the study. The resulting data were analysed by using multiple regression analysis.

The results of the multiple regression analysis identified sport interest, family bonding, escape and team interest as significant determinants of fan loyalty.

The first implication for managers is to focus on sport interest as a significant determinant of fan loyalty. Sport interest indicates an interest in rugby as a sport in general. Therefore, management is advised to focus on developing programmes focused on increasing the knowledge and interest of fans in the Super 14 rugby tournament.

Secondly, managers should start identifying and creating methods of focusing the attention of their marketing mix on the escape, family bonding and team interest determinants which may increase the attendance levels of Super 14 rugby games.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION, BACKGROUND AND OBJECTIVES OF THE STUDY 1

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY 1

1.2 DETERMINANTS OF FAN LOYALTY IDENTIFIED IN PREVIOUS STUDIES 4

1.3 PROBLEM STATEMENT AND RESEARCH OBJECTIVES 5

1.3.1 Problem statement 5

1.3.2 Research objectives 6

1.4 THE IMPORTANCE AND BENEFITS OF THE STUDY 8

1.5 DEFINITIONS OF KEY TERMS 9

1.6 THE SUPER 14 RUGBY TOURNAMENT 11

1.7 RESEARCH DESIGN AND METHODOLOGY 11

1.8 STRUCTURE OF THE DISSERTATION 13

CHAPTER 2: DEFINING FAN LOYALTY 15

2.1 INTRODUCTION 15

2.2 AN OVERVIEW OF THE DOMAIN OF SPORTS MARKETING 15

2.2.1 The importance of sports marketing 16

2.2.2 The definition and characteristics of sports marketing 17

2.2.3 Examining sports marketing 20

2.2.4 Sport marketing consumers 21

2.3 THE IMPORTANCE OF FAN LOYALTY 25

2.4 FAN LOYALTY DEFINED 27

2.5 THE BEHAVIOURAL AND ATTITUDINAL COMPONENTS OF FAN LOYALTY 28

2.5.1 Attitudinal loyalty 29

2.5.2 Behavioural loyalty 29

2.5.3 The relationship between attitudinal and behavioural loyalty 29

2.6 CONCLUSION 31

CHAPTER 3: THE CONCEPTUAL FRAMEWORK, HYPOTHESES AND MEASUREMENT SCALE USED IN THIS STUDY 32

3.1 INTRODUCTION 32

3.2 THE CONCEPTUAL FRAMEWORK TESTED IN THE STUDY 32

3.3 THE TWELVE DETERMINANTS OF FAN LOYALTY AS MEASURED BY THE SPORT INTEREST INVENTORY (SII) SCALE 33

3.3.1 Family bonding 33

3.3.2 Bonding of friends 34
3.3.3 Drama 35
3.3.4 Entertainment value 36
3.3.5 Escape 37
3.3.6 Excitement 37
3.3.7 Player interest 38
3.3.8 Role model 39
3.3.9 Socialisation 40
3.3.10 Team interest 41
3.3.11 Vicarious achievement 42
3.3.12 Sports interest as an additional determinant of fan loyalty 43
3.4 THE DEVELOPMENT OF THE SPORT INTEREST INVENTORY (SII) SCALE 44
3.4.1. The internal consistency reliability and the scale items of the identified determinants 49
3.5 CONCLUSION 49
CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY 51
4.1 INTRODUCTION 51
4.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN 51
4.3 SAMPLING DESIGN 53
4.3.1 The target population and units of analysis 53
4.3.2 The sampling method of the study 54
4.3.3 Sample size 55
4.4 DATA COLLECTION 57
4.4.1 Data collection method 57
4.4.2 The use of fieldworkers in this study 58
4.5 MEASURES 60
4.6 DATA ANALYSIS 66
4.7 APPROVAL OF THE ETHICS COMMITTEE 66
4.8 CONCLUSION 66
CHAPTER 5: EMPIRICAL FINDINGS OF THE STUDY 68
5.1 INTRODUCTION 68
5.2 RELIABILITY ASSESSMENT 68
5.2.1 Internal consistency 69
5.2.2 Cronbach's alpha 70
5.2.3 The influence of the total score variance on Cronbach's alpha 73

5.2.4 Reliability as a characteristic of data 80
5.2.5 An explanation for the inconsistent Cronbach's alpha values across multiple studies when using the same measurement scale 82
5.2.6 The influence of low variability and homogeneous samples on Cronbach's alpha 83
5.3 DESCRIPTIVE STATISTICS 85
5.3.1 The number of questionnaires analysed 85
5.3.2 Demographic profile of respondents 86
5.3.3 Univariate descriptive statistics for the composite scale scores in the questionnaire 87
5.3.4 Correlations between the total scale scores 89
5.4 INFERENTIAL STATISTICS 92
5.4.1 An introduction to multiple regression analysis 92
5.4.2 The assumptions made in multiple regression analysis 93
5.4.3 The multiple regression analysis results for this study 95
5.4.4 Assessing multicollinearity 101
5.4.5 Identifying influential observations 102
5.4.6 A profile of the eight cases identified as outliers or influential observations 118
5.4.7 Net suppression 121

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY 128

6.1 INTRODUCTION 128
6.2 THE MAIN PURPOSE OF THE STUDY 128
6.3 THE IMPORTANCE OF THE STUDY 128
6.4 A SUMMARY OF THE FINDINGS OF THE CURRENT STUDY 130
6.5 RELATING THE FINDINGS TO THE LITERATURE 131
6.6 MANAGERIAL IMPLICATIONS OF THE STUDY 134
6.7 LIMITATIONS OF THE STUDY 137
6.8 RECOMMENDATIONS FOR FUTURE RESEARCH 138

REFERENCES 140

APPENDICES

Appendix A: Funk's (2001) Sport Interest Inventory (SII) scale 147
Appendix B: Questionnaire 151

LIST OF FIGURES

Figure 1: SAARF study: Question 1 2
Figure 2: SAARF study: Question 2 3
Figure 3: The bundle of characteristics of the sports product 18
Figure 4: The sports marketing mix 20
Figure 5: A simplified model of exchange for sports products/services 21
Figure 6: A simplified model of consumer-supplier relationships in the sports industry 22
Figure 7: The relationship among media, sponsors and fans 23
Figure 8: A model for fan identification 24
Figure 9: The frequency escalator for game attendance and fan loyalty 27
Figure 10: The conceptual framework tested in the study 32
Figure 11: Percentage of respondents who selected each of the five scale points of the three Likert scale items measuring the "drama" determinant 76
Figure 12: Percentage of respondents who selected each of the five scale points of the three Likert scale items measuring the "player interest" determinant 77
Figure 13: The spread of the total (summated) scores for the "drama" determinant 78
Figure 14: The spread of the total (summated) scores for the "player interest" determinant 79
Figure 15: Histograms of normally distributed residuals 99
Figure 16: Normal probability plot of standardised residuals 100
Figure 17: Analysis of residuals 105
Figure 18: Mahalanobis distances 108
Figure 19: The Cook's distance 114
Figure 20: A representation of different relationships of Y and two independent variables 122

LIST OF TABLES

Table 1: Determinants of fan loyalty identified in previous studies 4

Table 2: A description of the determinants of fan loyalty measured in the Sport Interest Inventory (SII) scale 10

Table 3: Determinants of fan loyalty identified in various studies utilising the Sport Interest Inventory (SII) scale 46

Table 4: Measurement scales used in the current study 61

Table 5: The Cronbach's alpha test results of the determinants of fan loyalty identified in studies utilising the Sport Interest Inventory (SII) scale 65

Table 6: The Cronbach's alpha values for the determinants of fan loyalty and the fan loyalty construct 72

Table 7: An example in calculating the total score variance 74

Table 8: The influence of total score variance: Example 1 and 2 75

Table 9: A comparison of the Cronbach's alpha values of different studies in which the Sport Interest Inventory (SII) scale was used 81

Table 10: A demographic profile of respondents who participated in the study (*n* = 233) 86

Table 11: Favourite Super 14 rugby teams identified by respondents (n = 233) 87

Table 12: The means and standard deviations of the 13 composite (total) scores representing the main constructs in the study (*n* = 233) 88

Table 13: Pearson's product moment correlations between "fan loyalty" and each of its 12 determinants 90

Table 14: Regression model summary 95

Table 15: The ANOVA table 96

Table 16: Coefficients of the regression model 98

Table 17: Multicollinearity statistics 101

Table 18: The 20 cases with the highest leverage values 106

Table 19: Standardised DFBETA statistics for each of the predictors in the model 110

Table 20: Cases identified as influential observations 113

Table 21: The covariance ratio (COVRATIO) ..... .115

Table 22: The SDFFIT results..... 116

Table 23: Cases identified as problematic in the 4 steps involved in identifying influential observations 117

Table 24: Regression model summary after the influential cases were removed 119

Table 25: Coefficients of the regression model after the influential cases had been removed 120

Table 26: Summary of the regression model with “role model” excluded..... 124

Table 27: Coefficients of the regression model with “role model” excluded 124

Table 28: Summary of the regression model with “role model” included..... 125

Table 29: Coefficients of the regression model with “role model” included 125

Table 30: The results of the twelve hypotheses tested in this study 130

Table 31: Determinants of fan loyalty identified in various studies utilising the Sport Interest Inventory (SII) scale including the four significant determinants identified in the current study 132

CHAPTER 1: INTRODUCTION, BACKGROUND AND OBJECTIVES OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Loyal sports fans often go to extremes to express their support for a team and, in the process, even fail to remember that everyday rules for social conduct also apply at sports stadiums (Zaichkowsky in Craig, 1999:11). This is apparent in the case of Pieter van Zyl who assaulted Irish referee Dave McHugh at the Kings Park stadium in August 2002 during a match between South Afri ca and New Zealand (Anon, 2002).

Van Zyl apparently felt that he was acting as an ambassador for the rest of the fans by loyally standing up for the South African team and the way in which the team was treated by the referee. Van Zyl was charged with assault and was banned from ever attending a rugby match in South Africa again.

The South African media have written off the unpleasant incident as the worst moment in the history of South African rugby (Anon, 2002). An extreme case of fan behaviour like this places the spotlight on loyal fan behaviour and on the determinants of fan loyalty.

This study aimed to identify the determinants of fan loyalty in a rugby context in order to comprehend how these determinants are related to fan loyalty. This may lead to a better understanding of loyal fan behaviour.

Given that the focus of the study is on rugby, it is important to determine the number of rugby supporters in South Africa in order to consider the relevance of the study. Figures 1 and 2 below provide one with an insight into the popularity of rugby in South Africa. Rugby has always been regarded as a sport only watched and played by White South Africans (Nauright, 1997:6).

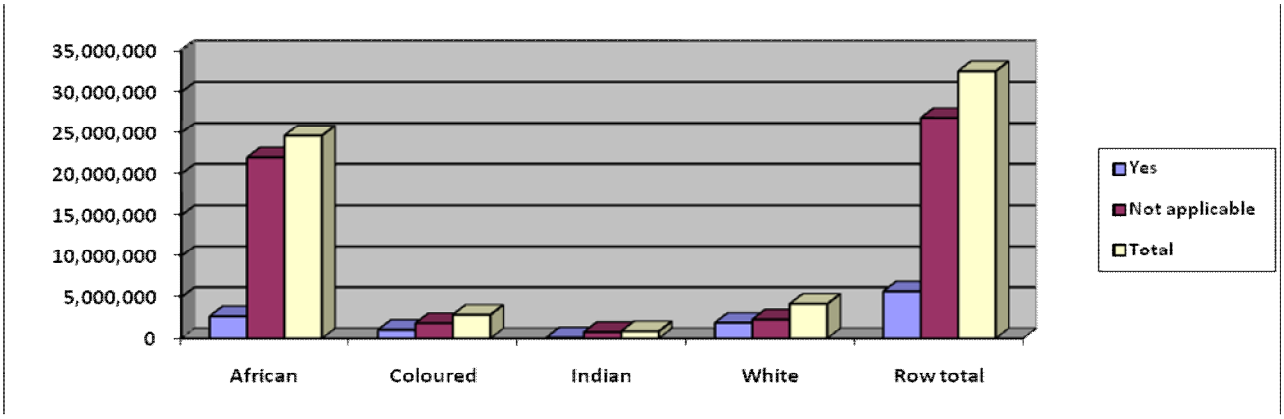
According to Nauright (1997:3), South Africa is regarded as a country with one of the most complex cultures in the world. Here, Whites and Africans have been divided by sport. However, the results of a recent study conducted by the South African Advertising Research Foundation (SAARF) present us with some interesting insights regarding this issue. Consequently, the importance of rugby in South Africa should be reconsidered.

Responses to two questions posed by SAARF, focusing on the popularity of rugby in South Africa, can be seen in the charts below. The answers to these questions give an indication of the interest in rugby as a sport in South Africa.

The questions included in the research study are (SAARF, 2009):

- Question 1: In which of the following sports or activities are you interested? The results for the "rugby" option are shown below:

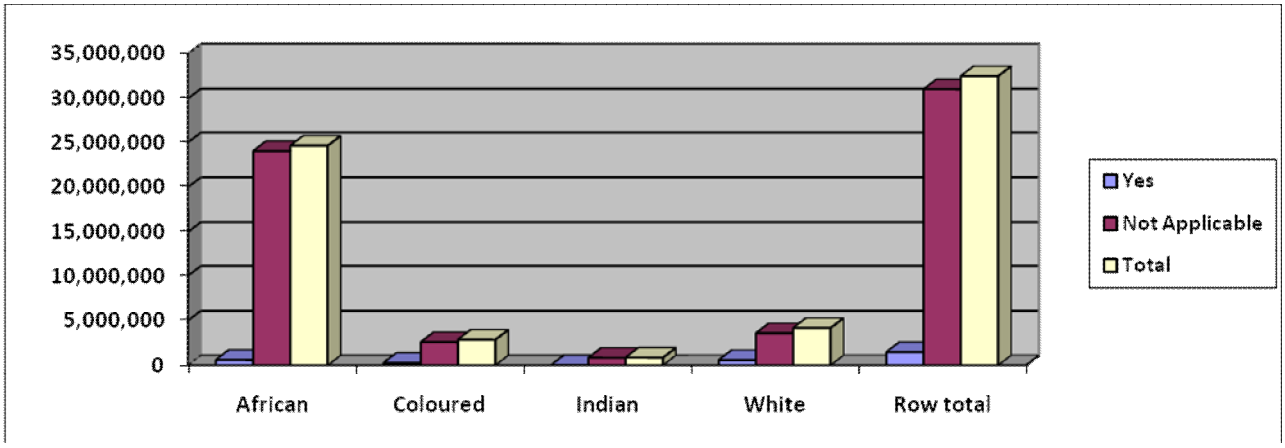
Figure 1: SAARF study: Question 1



Source: Adapted from SAARF (2009)

- Question 2: During the past 12 months, which of these sports or activities have you attended a live performance or exhibition of? The results for the "rugby" option are shown below:

Figure 2: SAARF study: Question 2



Source: Adapted from SAARF (2009)

The results of the SAARF study indicate that rugby can no longer be regarded as a White sport only, since more Africans indicated an interest in rugby than did Whites. Whites were closely followed by Coloureds, with Indians showing the least interest in rugby.

According to Nauright (1997:7), White South Africans regard rugby as a religion, an escape, a source of hope, as well as a keeper of the national culture. Furthermore, rugby is regarded as a major factor in South African society, politics, culture and globalisation, as it plays a key role in the internal as well as external endorsement of South Africa's strengths and achievements.

This is important, as international sporting accomplishments play a significant role in the promotion of a country's success (Nauright, 1997:2). The importance associated with rugby - and the increase in the number of Africans interested in rugby - together demonstrate the importance of rugby in South Africa. The importance of sport in a country should not be underestimated (Nauright, 1997:3).

Sport plays an increasingly important role in our society, and therefore there is an increased interest in sports fans behaviour (Capella, 2002:30). A fan may be defined as an enthusiastic follower of a sport with a psychological bond with a specific team (Merriam-Webster, n.d). Furthermore, according to Argus, Farrelly and Quester (2004:1), the main concern of a sports team should be to develop and retain a loyal fan base, as this will increase the monetary and social value of the team.

Identifying determinants of fan loyalty to a specific sports team can lead to a more appropriate marketing campaign by the team's marketers and the companies associated with the team. This will lead to increased knowledge and comprehension regarding the products related to the team on which the fans are spending their money.

Therefore, a study conducted to measure the determinants of fan loyalty amongst sports teams can provide team marketers, sponsors and related sports product producers the opportunity to identify various methods which can be implemented to make their teams more profitable (Argus *et al*., 2004:1).

Academically, a great deal of research has been conducted regarding the determinants of fan loyalty (Brokaw, Stone & Jones, 2006:1; Correia & Esteves, 2007:573; Gerber-Nel, 2006:10; Neale & Funk, 2005:3). However, most studies conducted have identified countless determinants and complicated conceptual models of fan loyalty. A brief review of some of the determinants identified in previous studies follows in the discussion below. These determinants will also be discussed in more detail in Chapters 2 and 3.

1.2 DETERMINANTS OF FAN LOYALTY IDENTIFIED IN PREVIOUS STUDIES

Previous research has addressed several aspects of fan loyalty, and as a result identified a wide range of primary determinants of fan loyalty and the attendance levels of sporting events. See Table 1 below for a summary of these studies.

Table 1: Determinants of fan loyalty identified in previous studies

Author(s)	Identified determinants of fan loyalty/game attendance
Brokaw *et al*. (2006:1).	College affiliation; entertainment; affiliation with the sport; time availability; team familiarity and awareness
Chen (2004:13).	Benefits related to a team; social interaction derived from attending a team's games; entertainment provided by the team and the relationship with a specific team
Correia & Esteves (2007:573).	Material reasons; team affiliation; extras and facilities; star player and form of entertainment
Ebenkamp (2001:16).	Entertainment value; authenticity; fan bonding; history and tradition
Garland, Macpherson &	A clean stadium; other fan behaviour; stadium comfort;

Author(s)	Identified determinants of fan loyalty/game attendance
Haughey (2004:2).	community support for the team and live sport action (contest)
Gerber-Nel (2006:1).	Price premium; loyalty; perceived quality; popularity; perceived value; brand personality; organisational association; brand awareness; market share and market price
Gitter & Rhoads (2008:12).	A good performance record
Lee (2002:1).	Location of the team
Robertson & Pope (1999:12).	Atmosphere enjoyment; live action excitement; and "stay away if you are going to lose"
Yusof & See (2008:132).	Team quality and physical facilities

In addition, the Sport Interest Inventory (SII) scale that was used in this study, measures a variety of suitable and contextual determinants of fan loyalty (Neale & Funk, 2005:44). Funk, Ridinger and Moorman (in Neale & Funk, 2005:3) used the Sport Interest Inventory (SII) scale to identify and explain the determinants of fan loyalty to sports teams. The determinants included in the scale are: family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest and vicarious achievement.

The Sport Interest Inventory (SII) scale has been utilised, tested and discussed in a variety of sports and fan loyalty related studies (Funk, Mahony & Ridinger, 2002:33-43; Funk, Ridinger & Moorman, 2003:1-32; Funk, Ridinger & Moorman, 2004:35-61; Neale & Funk, 2005:43-49). According to Funk *et al*. (2003:1), the Sport Interest Inventory (SII) scale can be investigated and applied in new sports contexts.

1.3 PROBLEM STATEMENT AND RESEARCH OBJECTIVES

This section discusses the problem statement and the research objectives of the study.

1.3.1 Problem statement

The main research problem in this study was the examination of the determinants of fan loyalty to specific sports teams. This topic has been widely discussed in the academic literature and various determinants of fan loyalty towards sports teams have been identified (Brokaw *et al*., 2006:1; Correia & Esteves, 2007:573; Gerber-Nel, 2006:10;

Neale & Funk, 2005:3). However, the focus of previous studies was on international examples; specifically northern hemisphere sports, where numerous causes for sport event attendance and fan loyalty were identified.

The current study focuses on obtaining a better understanding of fan loyalty in the South African context in an attempt to solve the problem of the absence of a scale tested in the South African rugby context. The determinants of fan loyalty have been empirically tested in this study. This has been done based on the replication of existing studies focusing on the determinants and scales of fan loyalty.

The goal was to either narrow down or expand on the identified determinants of fan loyalty. As far as could be determined, databases such as SABINET, Proquest and EbscoHost contain no previous academic studies on sports fan loyalty, focusing specifically on rugby in South Africa. In addition, it seems that previous studies have only had a strong focus on sports such as soccer, American football and basketball (Capella, 2002:30; Chen, 2004:10; Correia & Esteves, 2007:572; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49).

Therefore, the purpose of this study has been to describe and empirically test the determinants of fan loyalty in the context of the Super 14 rugby tournament. More specifically, this study focuses on the Super 14 rugby tournament held in South Africa, New Zealand and Australia. The Super 14 rugby tournament is a Southern hemisphere provincial rugby union in which fourteen provincial teams from the three above-mentioned countries participate (Anon, 2009:1).

The study also aims to determine the relative importance of 12 loyalty determinants as predictors of sports fans' attitudinal loyalty towards a Super 14 rugby team.

1.3.2 Research objectives

The intention of this study is to enhance the knowledge regarding the determinants of fan loyalty. More specifically, this study has aimed to achieve the following research objectives:

- To determine whether the opportunity to bond with family during a Super 14 rugby game is a positive predictor of fan loyalty;
- To determine whether the opportunity to bond with friends during a Super 14 rugby game is a positive predictor of fan loyalty;
- To determine whether the level of drama in a Super 14 rugby game is a positive predictor of fan loyalty;
- To determine if the value of entertainment provided by a Super 14 rugby team is a positive predictor of fan loyalty;
- To determine whether a desire to escape by attending a Super 14 rugby game is a positive predictor of fan loyalty;
- To determine if the level of excitement of a Super 14 rugby game is a positive predictor of fan loyalty;
- To determine if an interest in a specific Super 14 rugby player is a positive predictor of fan loyalty;
- To determine whether fan loyalty is positively predicted by the role models that a Super 14 rugby team has to offer;
- To determine if the opportunities for socialisation offered by a Super 14 rugby team are positive predictors of fan loyalty;
- To determine whether an interest in a Super 14 rugby team is a positive predictor of fan loyalty;
- To determine if the vicarious achievement of a team in a Super 14 rugby game is a positive predictor of fan loyalty;
- To determine whether sports interest is positively predicted by the Super 14 rugby tournament;
- To determine which of the aforementioned determinants is the strongest predictor of sports fans' attitudinal loyalty.

1.4 THE IMPORTANCE AND BENEFITS OF THE STUDY

A large amount of research has been conducted on the topic of fan loyalty; and the focus of these studies was mainly on Northern hemisphere sporting events, such as football and basketball (Argus *et al*., 2004:1; Bauer, Stokburger & Exler, 2008:205-226; Brokaw *et al*., 2006:1; Correia & Esteves, 2007:573). Studies focusing specifically on rugby are very limited and focus mainly on the branding of these rugby teams (Gerber-Nel, 2006:10; Robertson & Pope, 1999:1).

Therefore, a study regarding fan loyalty amongst Super 14 rugby teams can provide a better understanding of the behaviour of rugby fans in the Southern hemisphere, and specifically in South Africa.

From a theoretical perspective, this study has made some contributions to the existing body of knowledge on this topic. Firstly, the amount of knowledge on fan loyalty in the Super 14 rugby tournament has been extended and can be used in future research where the behaviour of rugby fans is studied. Secondly, the Sport Interest Inventory scale (SII) is regarded as one of the most comprehensive scales that one can utilise in a study measuring fan loyalty (Funk *et al*., 2003:3). Therefore, the goal was to discover if the determinants measured using the scale were relevant based on the nature of this study.

This was done in order to improve the results obtained from making use of this scale in a study on the subject of fan loyalty. Lastly, this study has aimed to lead to a greater indication of the importance of each fan's loyalty determinant as a predictor of fan loyalty. In addition, this insight can assist in giving an indication on whether international studies can be replicated and used in South Africa, or if South African sports fans differ so significantly from sports fans in other countries that existing studies need to be adapted.

This is important because of the proposal by Bauer *et al*. (2008:222) that the importance of the benefits derived from sports teams differs across different sporting disciplines and cultures. Bauer *et al*. (2008:221) also suggest that further research regarding the dynamics of fan loyalty should be conducted.

From a practical perspective, this study can assist the managers of the Super 14 rugby teams to manage their teams more effectively and to satisfy the needs of the fans, as well as to increase their fan base. The findings also support the marketing strategies of producers of related sporting goods and equipment, as well as those of the team sponsors.

According to Correia and Esteves (2007:573), a study regarding fan loyalty can assist sports managers in creating marketing strategies that will satisfy the supply-and-demand needs of their spectators.

Section 1.5 below provides definitions for the key terms used in this study.

1.5 DEFINITIONS OF KEY TERMS

This study contains several key constructs, namely fan loyalty, family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, sports fan, sports interest, team interest and vicarious achievement. These key constructs used are described in alphabetical order in Table 2 below, subsequent to the definition of the sports fan and fan loyal ty constructs.

Table 2 is followed by a short di scussion of the Super 14 rugby tournament.

Sports fan: A fan can be defined as an enthusiastic follower of a sport with a psychologi cal bond with a specific team (Merriam-Webster, n.d.) (See section 1.1).

Fan loyalty: A loyal fan can be defined as someone who has an emotional and personal commitment, as well as a specific level of involvement with a certain sports' team (Sutton, McDonald & Milne, 1997:15). Chen (2004:6) defines commitment as a high level of attachment to a product (such as a sports team) where there will be an attempt to purchase the product, even when confronted with sacrifices.

In addition, according to Capella (2002:30), involvement can be described as a state of motivation, attention or arousal towards an activity or a product (such as a sports team).

Sutton *et al*. (1997:17), furthermore, describe a loyal fan as someone with a long-term relationship and an emotional commitment to a team, someone with a follower trait who invests heavily in a specific team and who also shows physical devotion to a specific team by actively supporting the team (See section 2.4).

Table 2 below includes descriptions of the determinants of fan loyalty identified in the Sport Interest Inventory (SII) scale developed by Neale and Funk (2005:44). These were empirically tested in the study.

Table 2: A description of the determinants of fan loyalty measured in the Sport Interest Inventory (SII) scale

Influencing factor	Description
Bonding with family	The opportunity to spend quality time with family (see section 3.3.1)
Bonding with friends	The opportunity to spend quality time with friends (see section 3.3.2)
Drama	A situation where there is a close game versus a one-sided game with an element of uncertainty as to the outcome of the game (see section 3.3.3)
Entertainment Value	Affordability of the entertainment (see section 3.3.4)
Escape	A desire to "get away" or be a part of something different from the "normal routine" (see section 3.3.5)
Excitement	The excitement surrounding the games and spectacle (see section 3.3.6)
Player Interest	Watch and follow a specific favourite player (see section 3.3.7)
Role Model	Players serve as positive role models for young children (see section 3.3.8)
Socialisation	The opportunity to interact with other spectators and fans (see section 3.3.9)
Team Interest	Interest in the team as a whole rather than individual players (see section 3.3.10)
Vicarious Achievement	Team provides a heightened sense of personal or collective esteem (see section 3.3.11)
Sport interest (an additional determinant included in the study)	Sports interest is the degree to which an interest in the sport encourages an interest in the team (Funk *et al*., 2003:26) (see section 3.3.12). Interest can be defined as an emotion that accompanies or causes a unique awareness to an entity (Merriam-Webster, n.d.:1).

Source: Funk, Ridinger and Moorman (in Neale & Funk, 2005:44)

1.6 THE SUPER 14 RUGBY TOURNAMENT

The Super 14 is a southern hemisphere rugby tournament that started in 1996, and is contested by fourteen teams (Anon, 2009). The Super 14 rugby tournament includes teams from Australia, South Africa and New Zealand. It is therefore played in three different time zones. In addition, each country has the authority to sell off the naming rights of the tournament (Anon, 2009).

As a result, the Super 14 is referred to as the Investec Super 14, the Rebel Sport Super 14 and the Vodacom Super 14 in Australia, New Zealand and South Africa respectively. The Super 14 rugby tournament is the biggest provincial rugby union tournament in the Southern hemisphere (Anon, 2009).

The research design and methodology used in this study will be discussed in the next section.

1.7 RESEARCH DESIGN AND METHODOLOGY

The study used a self-administered questionnaire intended to obtain the respondents' actual and honest responses to the questions. The objective was to assess the determinants of fans' loyalty. No experiment was conducted.

The target population of this study consisted of Super 14 rugby fans watching and supporting a local Super 14 rugby team at a Super 14 rugby game at the Loftus Versveld stadium in Tshwane during the Super 14 rugby tournament in 2010. Rugby fans have been selected as the target population, since the focus of the study was on the measurement of the determinants of fan loyalty, specifically of rugby fans.

The study used a non-probability *convenience sampling* method (see Chapter 4) and the units of analysis were local Super 14 rugby fans supporting local Super 14 rugby teams. A respondent was eliminated from the sample if he/she was not a local supporter of a South African Super 14 rugby team.

The sample size was determined in accordance with the requirements of the regression analysis technique, used to analyse the gathered data of the study (see Chapter 5). It also proved appropriate to have a minimum sample size of 146 as the target sample size for the study.

As mentioned earlier, a self-administered questionnaire, containing six questions, was used to collect the data. The first question measured the determinants of fan loyalty, while the second and third questions measured the fan loyalty construct. The fourth and fifth questions were used to acquire demographic information, while the sixth question identified the favourite local Super 14 rugby teams (see Appendix B).

No incentives were used to encourage respondents' participation in this study. Data were collected over a weekend period during May 2010. Prior to the questionnaire distribution, permission was obtained from the management of the Loftus Versveld stadium to distribute the questionnaire on their premises.

The measurement approach was set to a multiple item rating scale (i.e. a 5-point Likert scale). Motivation for this decision rests on the impossibility of measuring an abstract construct, such as fan loyalty, while at the same time adequately capturing the determinants, without using a multidimensional scale that has different sets of items (see Chapter 4).

Funk, Mahony, Nakazawa and Hirakawa (2001:1), who developed the Sport Interest Inventory (SII) scale, tested its validity among spectators attending five different US venues during the 1999 FIFA Women's Soccer World Cup. All scale points were labelled ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). In order to measure the 10 fan loyalty determinants, the scale contained 18 behavioural items and 40 motivational items (Funk *et al*., 2001:5).

The questionnaire for this study was pre-tested among twenty respondents, who were drawn from the target population.

The reliability of the multiple-item rating scale employed in this study was assessed by implementing Cronbach's coefficient alpha. Cronbach's coefficient alpha is a popular

method applied to multiple-item rating scales to test the internal consistency reliability of a scale at the interval level of measurement (Cooper & Schindler, 2006:323).

This study used multiple regression analysis to analyse the data and test the stated hypotheses. Multiple regression analysis is a statistical technique that is used to investigate relationships between dependent and independent variables (Cooper & Schindler, 2006:575). The goal of this study was to investigate the relationship between fan loyalty and the identified determinants of fan loyalty.

1.8 STRUCTURE OF THE DISSERTATION

The chapter outline of this dissertation is as follows:

Chapter 1 presents an introduction to the study followed by a discussion of the determinants of fan loyalty identified in previous studies. Thereafter, the problem statement and objectives, followed by a discussion of the importance and benefits of the study, were discussed. This chapter also provides definitions of key terms used in the study. This is followed by a short discussion on the methodology and the course of the research. Finally, the structure of the dissertation is reviewed.

Chapter 2 presents an overview of the domain of sports marketing with a specific focus on the importance, definition, characteristics, elements and consumers of sports marketing. In addition, there is a focus on the importance and definition of fan loyalty. The chapter concludes with a discussion on the behavioural and attitudinal components of fan loyalty.

Chapter 3 focuses on the different determinants measured in the study. This chapter also contains the research hypotheses. In addition, this chapter explores and discusses all the aspects of the Sport Interest Inventory (SII) scale.

Chapter 4 describes the study's research methodology. Firstly, the research design is reviewed, followed by the sampling approach (i.e. the target population and sample size) adopted. Secondly, the data-collection approach is discussed. This includes a description

of the survey method used, as well as a discussion of the questionnaire design and measurement. Finally, the data analysis approach is described.

Chapter 5 provides information on the empirical findings of the study.

Chapter 6 presents the conclusions of the study in conjunction with several recommendations for future research. Additionally, Chapter 6 outlines the limitations presented in the study.

CHAPTER 2: DEFINING FAN LOYALTY

2.1 INTRODUCTION

This chapter aims to define fan loyalty, as the focus of the current study is on identifying different determinants of fan loyalty. Fan loyalty represents the central construct of the study. Consequently, it is crucial to provide a comprehensive discussion on fan loyalty in order to acquire an understanding of where fan loyalty fits into the broader context of sports marketing. It is also necessary to discuss the importance of fan loyalty, to attain a pertinent definition of fan loyalty, as well as to provide a discussion on the attitudinal and behavioural components of fan loyalty.

This chapter focuses on the following:

- Discussing the role of fan loyalty in the broader context of sports marketing (including the importance, definition, characteristics, elements and consumers of sports marketing)
- Examining the importance of fan loyalty
- Defining fan loyalty
- Discussing the attitudinal and behavioural components of fan loyalty

2.2 AN OVERVIEW OF THE DOMAIN OF SPORTS MARKETING

According to Chacko and Wagers (2000:81), sports marketing is a young and growing field - both professionally (commercially) as well as academically. This argument is based on the fact that the sports marketing field has only gained attention and recognition in recent years. Sports marketing has only recently been acknowledged as a useful source of creating and building important relationships with fans. These fan relationships are now acknowledged to be just as significant as the conventional marketing and business relationships between consumers and business corporations (Chacko & Wagers, 2000:82).

The following sections will therefore focus on the importance of sports marketing, exploring the definition and characteristics of sports marketing, as well as the examination and identification of the consumers involved in sports marketing.

2.2.1 The importance of sports marketing

The above argument is supported by Chacko and Wager's (2000:83) reference to the performance of four major leagues of sport in North America. This was based on the ability of the different teams' marketing and the fans' satisfaction abilities. Teams focusing attentively on marketing themselves can easily be distinguished from teams that have not troubled themselves with the process of gaining loyal fans through marketing of the team (Chacko & Wagers, 2000:88).

Chacko and Wagers (2000:90) make a distinction between the two groups of teams by highlighting the benefits received by the teams using sports marketing as a tool. The National Basketball Association (NBA) and the National Hockey League (NHL) have both focused on having talented and exceptional marketers on their side. Both benefited from outstanding growth in their industries, which led these two leagues two success.

In contrast, the Major League Baseball (MLB) and the National Football League (NFL), who have not had a predominant focus on the marketing of their leagues, have not shared the same level of success. These leagues were plagued by issues such as a drop in fan interest, a poor image of the leagues in general, as well as a significant decrease in the sales of merchandise related to the leagues (Chacko & Wagers, 2000:91).

Furthermore, Chacko and Wagers (2000:92) suggest that the marketing efforts of a team can lead to an improvement in the team's reputation, the value of the team, as well as improved stability within the team. This discussion comes to the conclusion that ignoring the benefits that can be achieved by having a creative marketing strategy for a team can lead to obscurity for both the team and its parent organisation (Chacko & Wagers, 2000:96).

Despite the growth and the clear benefits associated with sports marketing, marketing journals have a penchant for excluding manuscripts on sports marketing (Richard, 1999:517-535). Therefore, in the past, sports marketing manuscripts have been published under the pretext of servicescape or leisure activities. The table of contents of these manuscripts clearly demonstrates the focus on sports marketing. Furthermore, these manuscripts have demonstrated that sports marketing has a prominent focus on issues such as team sponsorships, as well as general research based on the fans, the spectators and the participants (Richard, 1999:517-535).

The discussion above is supported by Chacko and Wagers (2000:98), and serves as an indication of the importance of sports marketing.

Based on this prologue of the importance of sports marketing, it is considered to be necessary to explore the different aspects of sports marketing. The next section commences with providing a definition and the characteristics of sports marketing.

2.2.2 The definition and characteristics of sports marketing

According to Mullin, Hardy and Sutton (2000:11), sports marketing includes all the actions taken by sport managers to meet the needs and wants of sports consumers. Furthermore, Mullin *et al*. (2000:11) state that sports marketing consists of two distinct driving forces. Firstly, sport products and services are marketed directly to sport consumers. Examples of sport products and services include items such as rugby balls, cricket bats, and a ball game taking place.

Secondly, sport promotions are used to market other consumer and industrial products through their association with sports events, sports teams and sport codes (e.g. Vodacom, a mobile telecommunications company in South Africa, is the main sponsor of the Super 14 rugby tournament).

Additionally, sports marketing is defined by Shank (2005:10) as the implementation of marketing principles – firstly, to sports products (e.g., tennis balls); and secondly, to the

marketing of non-sports products through the association that they have with sport (e.g., vuvuzelas).

These definitions of sports marketing imply that sports marketing is firstly focused on marketing the direct products of sports (e.g. a cricket bat or a soccer game) and secondly, on the marketing of products associated with sports (e.g., energy drinks such as Powerade or Energade). The goal of sports marketing is therefore on consumption by sport consumers.

According to Mullin, Hardy and Sutton (2007:17), sport products have of a number of characteristics. These characteristics are summarised in Figure 3 below.

Figure 3: The bundle of characteristics of the sports product

Source: Adapted from Mullin *et al*. (2007:17)

It is important to consider all of the characteristics highlighted above when developing a marketing campaign for sports products, i.e. products directly aimed at sport consumers such as soccer balls and tennis racquets (Mullin *et al*., 2007:17).

In addition, it is important to note that the sport market has a number of special characteristics (Mullin *et al*., 2007:19):

- Firstly, sport teams cannot exist in isolation, as they require the co-operation of other teams in order to compete.
- Secondly, it is important to note that the demand for sports products will fluctuate because of the time limit associated with the season of sports tournaments.
- Thirdly, one should realise that sport has a universal appeal and an ability to link mankind; and it should therefore be marketed accordingly.
- Next, one should be aware of the importance of eating and drinking as an element of the sports market. This can be seen in the sponsorship of cricket by Castle Lager.
- Fifthly, one should note that gender stereotyping in the sports market is on the demise; and that sports marketing should therefore be adapted accordingly.
- Another feature of the sports market is the disregard of religious persuasion when choosing a favourite sport or team.
- Lastly, the sports market places such an important emphasis on sport that it is even expected that political leaders and presidential candidates will make their choice of team, as well as their support of this team public.

Based on the analysis of the literature discussing the characteristics of sports marketing, this study regards sports marketing as the marketing of every one of the following elements (Chacko & Wagers, 2000:90; Morgan & Summers, 2005:6; Mullin *et al*., 2007:17; Richard, 1999:517-535; Shank 2005:10):

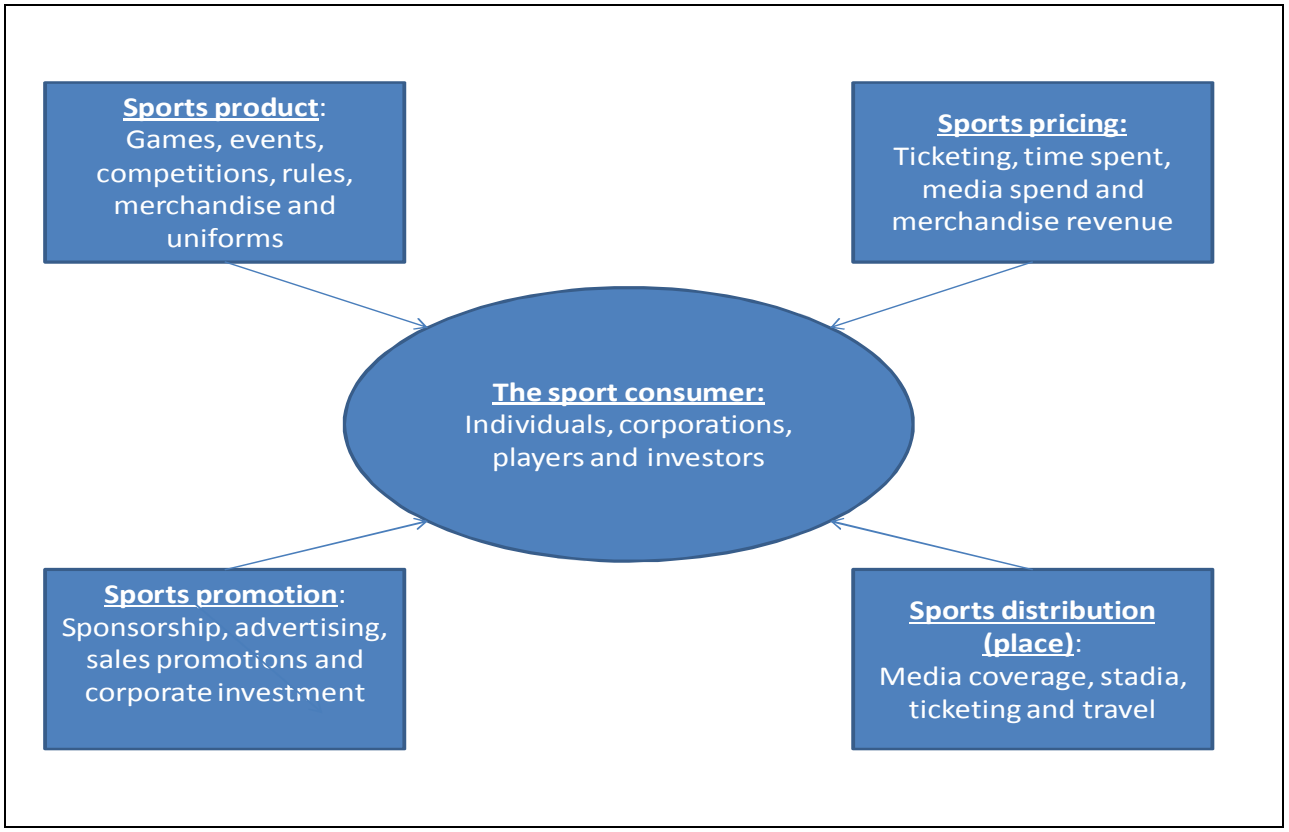
- Sports codes (e.g., rugby, tennis, golf);
- Sports events (e.g., the Super 14 tournament or a specific rugby match);
- Sports teams (e.g., the Blue Bulls);
- Products or services directly related to the practice of sport (e.g., memorabilia or sport equipment, such as a cricket bat); and
- Products and services not directly related to the practice of sport, but through sport sponsorship (e.g., Castle Lager).

2.2.3 Examining sports marketing

According to Morgan and Summers (2005:5), sports marketing is a complex and dynamic construct implemented with the goal of ensuring fans' satisfaction. Furthermore, Morgan and Summers (2005:5) insist that sports marketing should adhere to the fundamental principles of marketing in general - with a specific focus on the 4 P's of marketing (product, price, place and promotion).

Morgan and Summers (2005:5) suggest that successful sports marketing is possible by directing the 4 P's at their sports' consumers in order to formulate a sports marketing mix. The sports marketing mix conceived by Morgan and Summers (2005:6) is illustrated in Figure 4 below.

Figure 4: The sports marketing mix



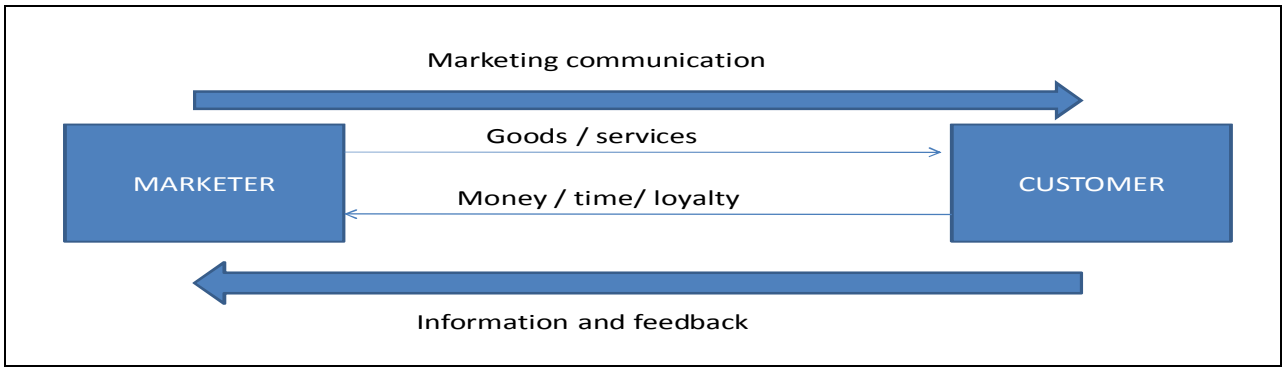
Source: Morgan and Summers (2005:6)

Morgan and Summers (2005:30) suggest that the sports fan plays a vital role in the sport-marketing process. The 4 P's illustrated in Figure 4 above are directly aimed at the sports

customer in order to facilitate a mutually beneficial relationship between the sports marketer/team and the customer /fan.

The relationship between these two entities is illustrated in Figure 5 below.

Figure 5: A simplified model of exchange for sports products/services



Source: Morgan and Summers (2005:31)

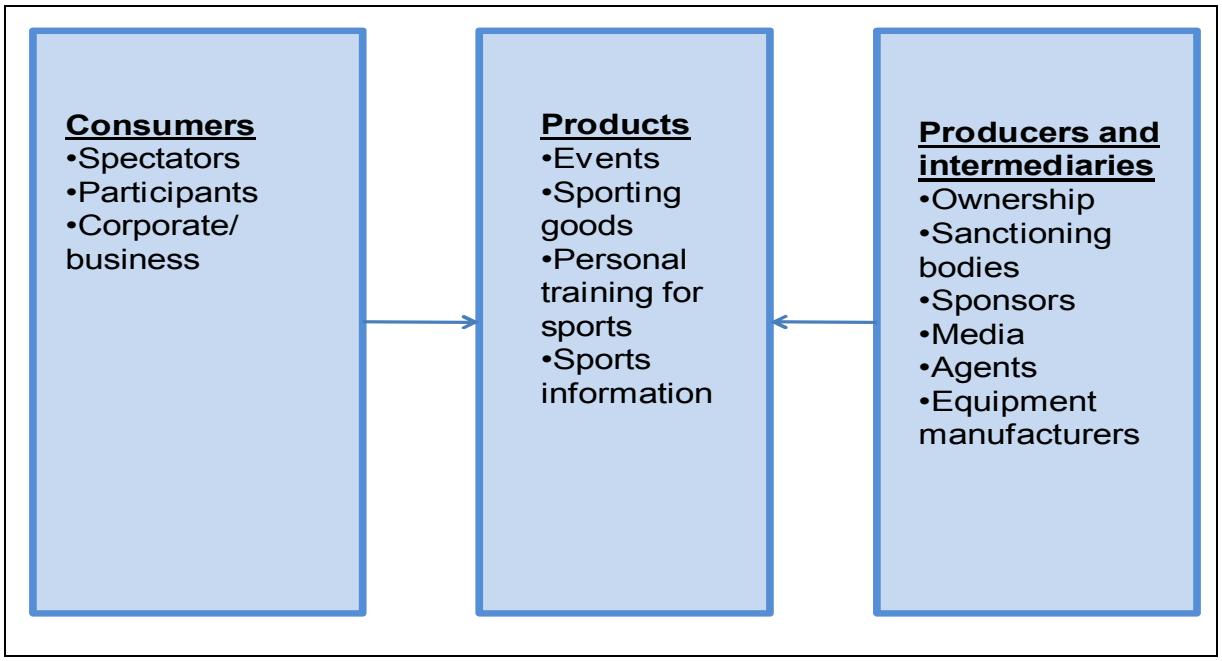
Based on the figure above, it is clear that the aim of the sports marketer is to communicate information regarding the team and event to the customers/fans. In return, the marketer wishes to receive feedback from the customers/fans in the form of loyalty, as well as the money and time spent on the team. These customers/fans are discussed in the next section.

2.2.4 Sport marketing consumers

The features of the sports market were highlighted in order to become acquainted with the personalities, needs and preferences of sports fans (Mullin *et al*., 2007:19). In addition, Mullin *et al.* (2007:22) suggest that the primary function and objective of sports marketing is to create and market an event in such an appealing way that sports or team marketers will convince their target consumers to buy the event, either live (e.g., by attending the match) or via the media (e.g., watching the match on television).

In addition, it is important to be familiar with the types of consumers in the sports market (Shank, 2005:12). The different types of consumers are depicted in Figure 6 below.

Figure 6: A simplified model of consumer-supplier relationships in the sports industry

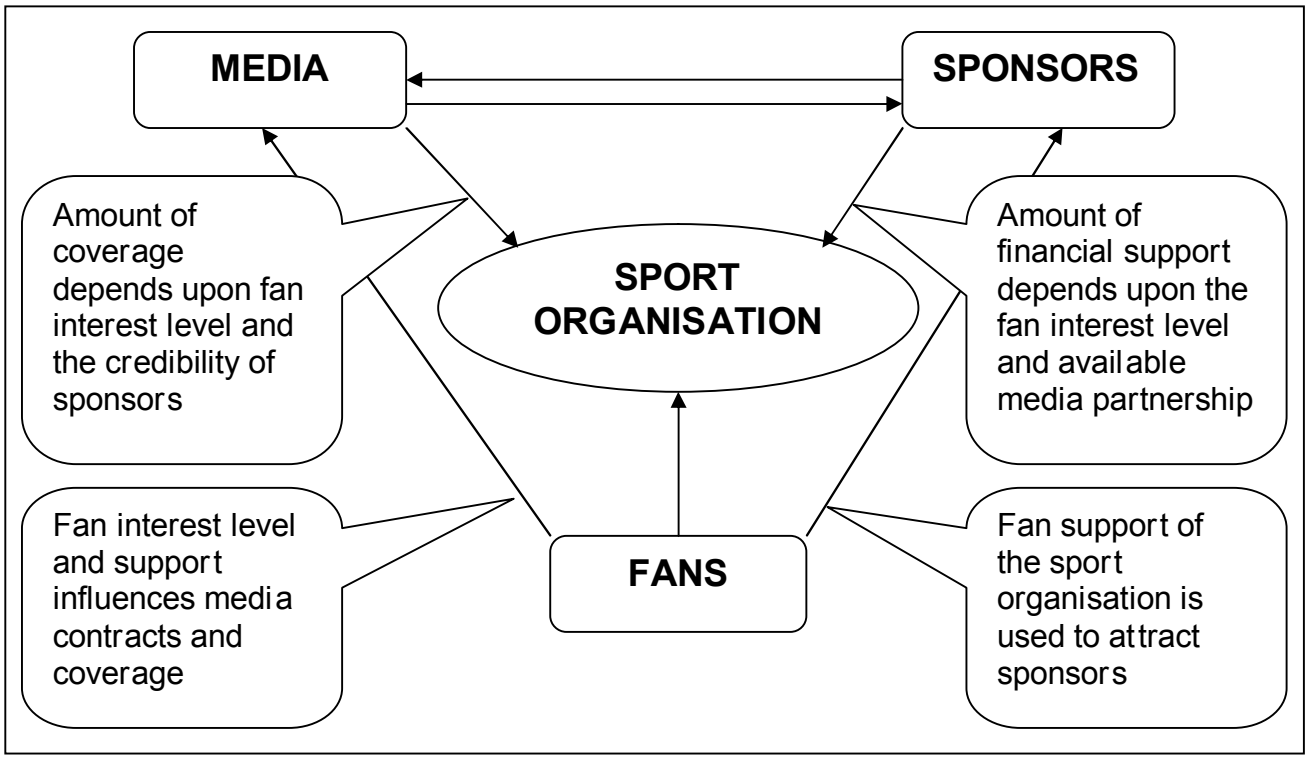


Source: Adapted from Shank (2005:12)

In order to reap the benefits of a loyal consumer base, it is important to satisfy the needs of the three types of consumers identified in Figure 6 (Shank, 2005:12). An example of a *spectator* is a person attending a Super 14 rugby game in order to watch the game. The rugby player playing in the game can therefore then be referred to as a *participant,* whereas as Vodacom (a telecommunications company that acts as a sponsor of the tournament) can be referred to as the *corporate/business* of interest.

Furthermore, according to Mullin *et al*. (2000:223), sports marketing consists of three subsystems, namely the media, the sponsors and the fans. The relationship between these three subsystems is symbiotic; and these subsystems collaborate in order to attract additional fans to a sporting event (Mullin *et al*., 2000:223). The relationship between these subsystems is illustrated in Figure 7 below.

Figure 7: The relationship among media, sponsors and fans



Source: Mullin *et al*. (2000:223)

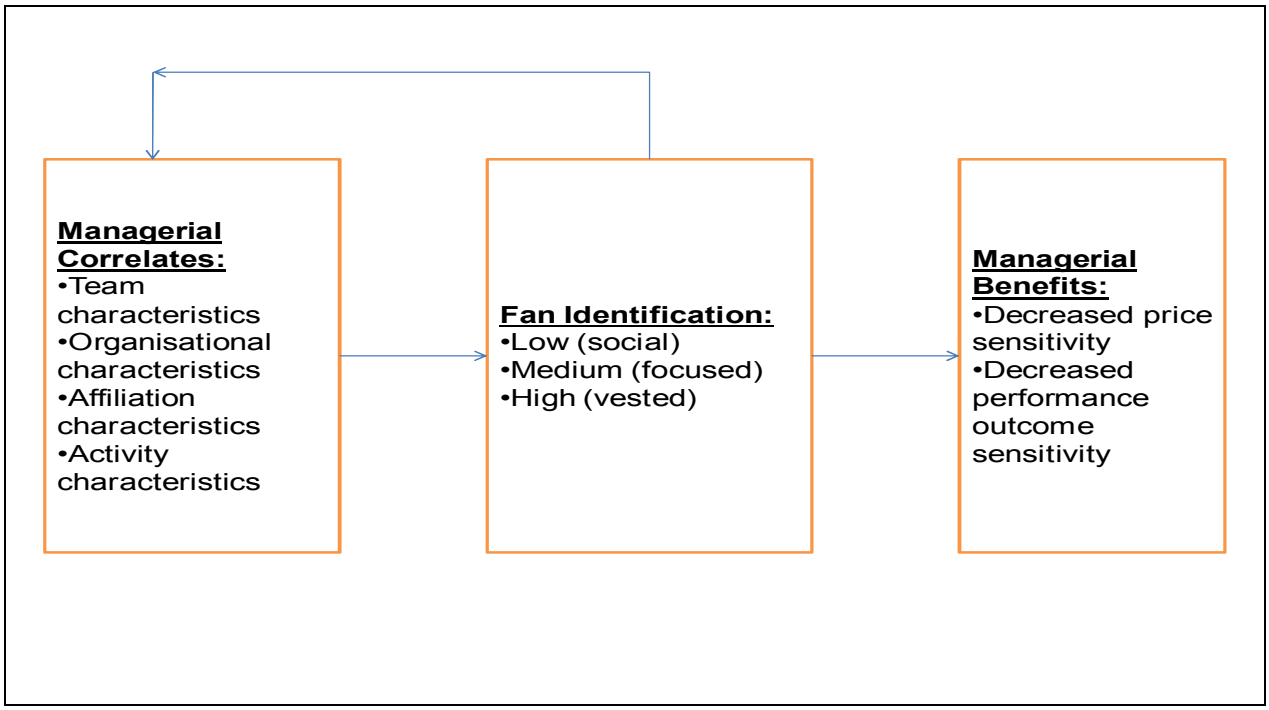
The figure above illustrates the symbiotic and interdependent relationship between the three subsystems of sports marketing. The *media* supply the amount of coverage needed, as determined by the interest level of the fans, as well as the level of credibility that the sponsors can afford.

Furthermore, *sponsors* provide financial support to the sports organisation dependent on the level of fan interest, as well as the available media partnership. Lastly, the level of *fan* support for a sports organisation can influence the number of sponsors attracted to the team (Mullin *et al*., 2000:223). This figure emphasises the importance of the fans of a sports organisation as the fans have a direct impact on both the media and sponsors attracted to the organisation.

The role of fan loyalty from a sports manager's perspective can be seen in Figure 8 below. According to Shank (2005:173), this figure highlights the benefits of a fan's identification with a team to sport managers. It also illustrates the antecedents and outcomes of fan identification. Fan identification can be defined as both the emotional involvement and personal commitment that a fan has towards a sports team or organisation (Shank,

2005:173). This figure provides a conceptual framework that depicts the position of fan loyalty in the "big picture" of sports marketing.

Figure 8: A model for fan identification



Source: Sutton, McDonald, Milne and Cimperman in Shank (2005:174)

According to Shank (2005:174), *team characteristics* refer to the success of the team on the field, while *organisational characteristics* refer to the successes and failures of the team off the field. Furthermore, *affiliation characteristics* refer to the sense of community that a fan can build by bei ng part of a team, whereas the *activity characteristics* refer to the attendance and exposure of a sporting event.

These four characteristics all have an influence on the varying levels of fan identification (Shank, 2005:174). These levels can be low, medium or high.

A low level of fan identification depicts a fan that only supports a team on a social level, whereas a medium level of fan identification indicates a fan that is comparatively focused on the team. The highest level of fan identification is referred to as "vested", which indicates that a fan is loyal to the team (Shank, 2005:174).

At this point, it is important to note that a high level of team identification therefore indicates fan loyalty. According to Shank (2005:176), sport managers can obtain various benefits from fan identification (Couvelaere & Riechelieu, 2005:23-46; Shank, 2005:176; Smith and Stewart, 2007:155-181). These benefits include:

- A willingness to purchase team memorabilia;
- A decrease in price sensitivity;
- A readiness to sacrifice time and resources; and
- A willingness to travel long distances to support the team

Shank (2005:176) also identifies a decline in the sensitivity of the performance of a team for the fan as a benefit of fan loyalty, whereas Couvelaere and Riechelieu (2005:23-46) believe that having a loyal fan base will lead to a stronger emotional connection between the team and its fans. Also, as profit-oriented goals of sports teams have increased in the sports industry, sports teams have experienced an increase in rivalry amongst their competing teams for the attention and loyalty of their fans (Smith & Stewart, 2007:155-181).

According to the figures illustrated above, as well as the discussion regarding the benefits of fan loyalty, it is clear that fans play an important role and have a significant position in sports marketing. In consequence, the importance of fan loyalty will now be discussed.

2.3 THE IMPORTANCE OF FAN LOYALTY

There has been a surge in the importance of the role that a loyal and stable fan base plays in a team's competitive advantage. This may be attributed to the increasing professionalisation of the sporting industry (Bauer *et al*., 2008:205). According to Buhler and Nufer (2006:3), the loyal sport fan plays a major role in the marketing of sporting events and differs significantly from loyal customers of ordinary consumer goods in three major ways.

Firstly, the level of passion for a sports team or sports product is considerably higher than the passion for a favourite consumer goods brand. Secondly, sports consumers are much more loyal to their teams than to their favourite consumer products; and they experience

sporting events as events that break the routine of their everyday lives. Thirdly, this level of passion and loyalty leads to a consumer that is much more irrational than in any other consumer targeted by marketers.

In addition, according to Rosner and Shropshire (2004:164), there has been an increased need for sports teams to deliver financial results and returns. These financial results can only be achieved by following proper marketing strategies/principles. The main goal of the marketing function of a team should be to develop and maintain relationships with fans, as well as to boost the popularity of the game (Rosner & Shropshire, 2004:164). Supporters should be treated as stakeholders of teams and their need to belong to a team, their need to express their views and opinions of a team, as well as their need to be acknowledged as supporters of a team. These needs should all be satisfied.

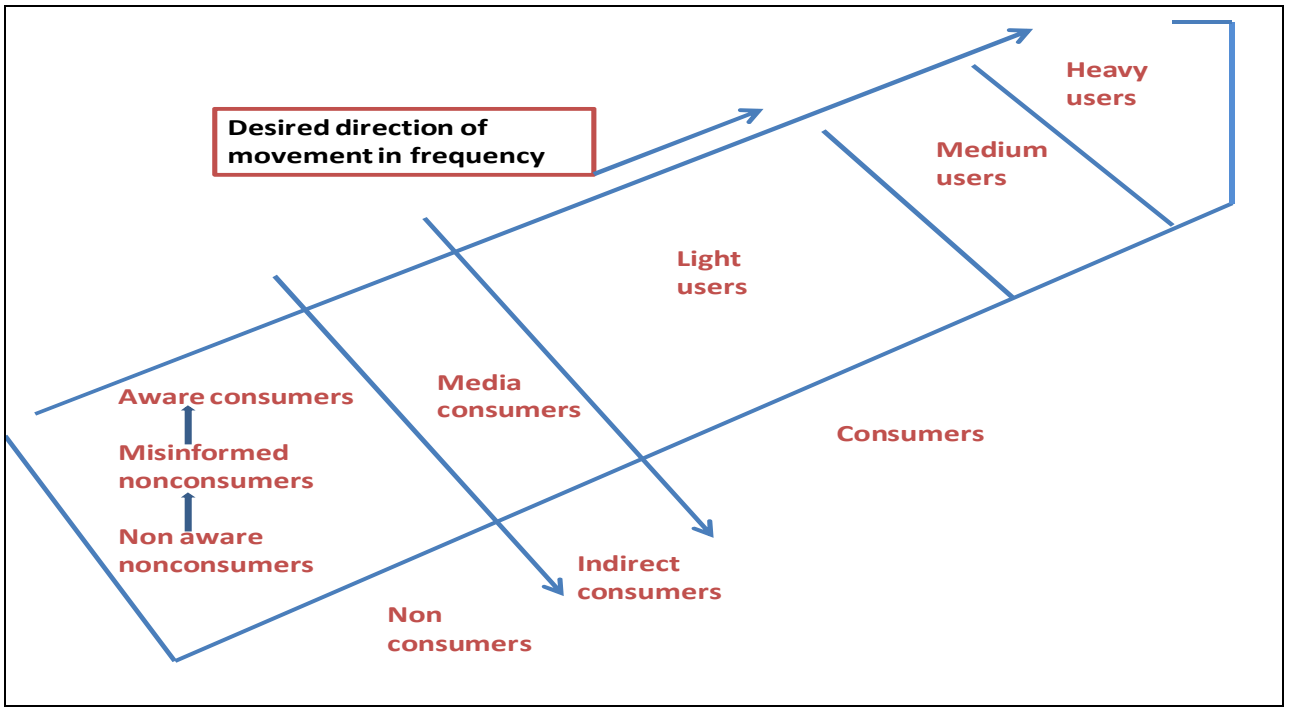
The recognition of a fan as a stakeholder in a team will, in turn, increase the revenue or monetary worth of the team (Rosner & Shropshire, 2004:170). The commercialisation of the sports industry is dependent on ticket sales, the involvement of fans in team support clubs, as well as the selling of team merchandise.

According to Rosner and Shropshire (2004:164), there should be a much stronger emphasis on the selling of merchandise bearing the name, logo and marks of a team than on ticket sales alone.

Figure 9 below demonstrates the different levels of fan loyalty (Mullin *et al*., 2007:27). The highest level of fan loyalty indicated in the figure is heavy users, and this is what sports organisations aim to achieve. By following the desired direction of movement in the frequency of game attendance, the organisation will reach the goal of turning light users (non-loyal fans) into heavy users (loyal fans).

Only by reaching this level of fan loyalty will the organisation be able to achieve the benefits of fan loyalty, as discussed in section 2.2 above.

Figure 9: The frequency escalator for game attendance and fan loyalty



Source: Adapted from Mullin *et al*. (2007:17)

Furthermore, according to Mullin *et al*. (2007:17), sports' organisations should aim to redesign and promote their products in a way that will appeal to the targeted fans.

Based on the above discussion, it is clear that the importance of loyal fans should not be underestimated. An effort to analyse, describe and examine the determinants of fan loyalty will consequently be undertaken. Firstly, the construct of fan loyalty should be defined in order to have a clear understanding of the constructs that will be measured in this study.

2.4 FAN LOYALTY DEFINED

A loyal fan can be defined as someone who has an emotional and personal commitment, as well as a specific level of involvement with a certain sports' team (Sutton *et al*., 1997:15). Chen (2004:6) defines commitment as a high level of attachment to a product (such as a sports' team) where there will be an attempt to purchase the product, even if confronted with sacrifices. In addition, according to Capella (2002:30), involvement can be described as a state of motivation, attention or arousal towards an activity or a product (such as a sports' team). Sutton *et al*. (1997:17) furthermore describe a loyal fan as someone with a long-term relationship and emotional commitment to a team, someone

with a follower trait who invests heavily in a specific team and also shows physical devotion to a specific team by actively supporting the team.

Sutton *et al*. (1997:17) also suggest that fans see teams as extensions of themselves and their community.

The behavioural and attitudinal components of fan loyalty will now be discussed.

2.5 THE BEHAVIOURAL AND ATTITUDINAL COMPONENTS OF FAN LOYALTY

According to Capella (2002:30), sport plays an increasingly important role in our society. Sport is thus accompanied by an increased interest in sports fan behaviour and in the loyalty of sports fans. The level of loyalty amongst sports fans comprises both behavioural and emotional components (Capella, 2002:31). In addition, fan loyalty can be regarded as brand loyalty; and it can therefore be characterised by a strong emotional bond, which consists of attitudinal as well as behavioural components (Argus *et al*., 2004:2).

Chen (2004:2) suggests that loyalty is a multi-dimensional concept that includes both attitudinal and behavioural aspects.

Rooted in the reference to fan loyalty in the discussion above is the clear identification of two vital components of fan loyalty, namely behavioural and attitudinal loyalty. Regarding the importance of the fan loyalty construct in this study, it was therefore important to consider both these main elements of the construct when measuring the fan loyalty component of the study.

In addition, it is imperative to note that attitudinal loyalty can be defined as a psychological commitment, whereas behavioural loyalty is defined as a situation where an individual continuously demonstrates his or her support for a specific sport, team or player (Argus *et al*., 2004:2). According to Argus *et al*. (2004:2), it is important to distinguish between attitudinal loyalty and behavioural loyalty in order to evaluate both perspectives on fan loyalty.

2.5.1 Attitudinal loyalty

According to Capella (2002:31), attitudinal loyalty is a state of enthusiasm and excitement towards a sports' team. The presence of attitudinal loyalty can be seen in the persistent and prejudiced support of a team (Argus *et al*., 2004:3). Furthermore, attitudinal loyalty is the positive involvement that a fan has with a sports' team, where the connotation is resistant to change. This positive relationship is related to and can be measured against words such as "love", "positivity", and "feeling protective towards" (Chen, 2004:14).

In addition, Chen (2004:5) suggests that attitudinal loyalty should be regarded as a proper psychological development in order for it to be measured successfully.

2.5.2 Behavioural loyalty

Behavioural loyalty is a dynamic interest in and engagement with a sports' team that is demonstrated by the sports fan (Capella, 2002:31). Based on interviews conducted with a number of sports fans, Chen (2004:2) discovered that sports fans define loyalty as a state that can be described by a level of attendance, participation, as well as frequent and repeated usage of activities offered by the sport or team.

This suggests that a loyal fan will be someone who attends the team's games and who participates in activities related to that specific team. Behavioural loyalty is based on the observable behaviour of the fans of a specific team (Argus *et al*., 2004:4). Observable behaviour includes actions displayed by fans (such as the attendance of games, the reading, watching or listening to team-related information, as well as the purchasing of team-related memorabilia). Consequently, this can be measured (Argus *et al*., 2004:4).

2.5.3 The relationship between attitudinal and behavioural loyalty

The relationship between attitudinal loyalty and behavioural loyalty can viewed as a positive correlation, where attitudinal loyalty has a positive association with behavioural loyalty (Chen, 2004:4). In addition, according to Capella (2002:35), emotionality can result in either negative or positive fan behaviour, which indicates that the attitudinal component

of fan loyalty can have either a negative or positive impact on the behavioural component. The aforementioned relationship can be explained by a study conducted by Chen (2004:4) where both the attitudinal and behavioural loyalty of the fans of a women's basketball club were measured. According to the results of this study, the fans indicated that they were committed to the club and that they demonstrated this commitment by attending the team's games (behavioural loyalty).

The fans, however, also indicated that they initially attended the games as a result of the commitment and loyalty they felt towards the team (attitudinal loyalty). In addition, Capella (2002:35) indicated that one should take into consideration that fans who demonstrate behavioural loyalty may not be emotionally committed to a team, but they may attend games for a number of different reasons.

A person may attend in order to join family or friends at the game and not necessarily because he or she is a fan of the team. Therefore, the most effective feature for the measurement of fan loyalty is attitudinal loyalty (Capella, 2002:35).

The positive correlational relationship discussed above was taken into consideration in this study. Therefore, attitudinal loyalty is seen as a predictor of behavioural loyalty. Attitudinal loyalty is a psychological commitment where the loyalty to a team or sport is emphasised. In contrast, behavioural loyalty is the continuous demonstration of a fan to support his or her team (Argus *et al*., 2004:2). As a result, this study focused on attitudinal loyalty, since it is viewed as a true depiction of fan loyalty instead of just a repeated action, as portrayed by behavioural loyalty, as well as the indication that behavioural loyalty is just the result of a deep attitudinal loyalty towards a team.

In addition, attitudinal loyalty was used as a form of measurement for fan loyalty in this study, as it was used in the study by Neale and Funk (2005:43) that was replicated. Neale and Funk (2005:43) measured attitudinal loyalty, since it was regarded as the true measurement of loyalty, and not just a measurement of repeated actions, in a number of existing studies (e.g. Eagly & Chaiken, 1993; Mellens, Dekimpe & Steenkamp, 1996; Olivier, 1999).

See Chapter 4 for a further discussion of the items used to measure the attitudinal loyalty construct. See Appendix A and Question 2 in Appendix B for an example of the items and the scale used to measure the attitudinal loyalty construct in this study.

2.6 CONCLUSION

This chapter aimed to define fan loyalty and it started with a discussion of where fan loyalty fits into the broader context of sports marketing. The importance, a definition, as well as previous studies focusing on fan loyalty, were all discussed. The main forms of sports marketing of interest to academics and practitioners, as well as an analysis of the benefits of loyal customers to sports teams, were also included.

It is clear that fan loyalty plays an important role in the realisation of the goals set by sports marketers and that it has a distinct place in the broader context of sports marketing. It soon became apparent that the importance of fan loyalty should not be underestimated. The importance of brand equity to a sports' team has also been highlighted in this chapter.

The existing literature on fan loyalty resulted in a complex definition of fan loyalty that indicates that it is a multi-dimensional construct. Fan loyalty consists of both attitudinal and behavioural loyalty.

Chapter 3 will include a discussion of the conceptual framework, the hypotheses and the Sport Interest Inventory (SII) scale tested in this study.

CHAPTER 3: THE CONCEPTUAL FRAMEWORK, HYPOTHESES AND MEASUREMENT SCALE USED IN THIS STUDY

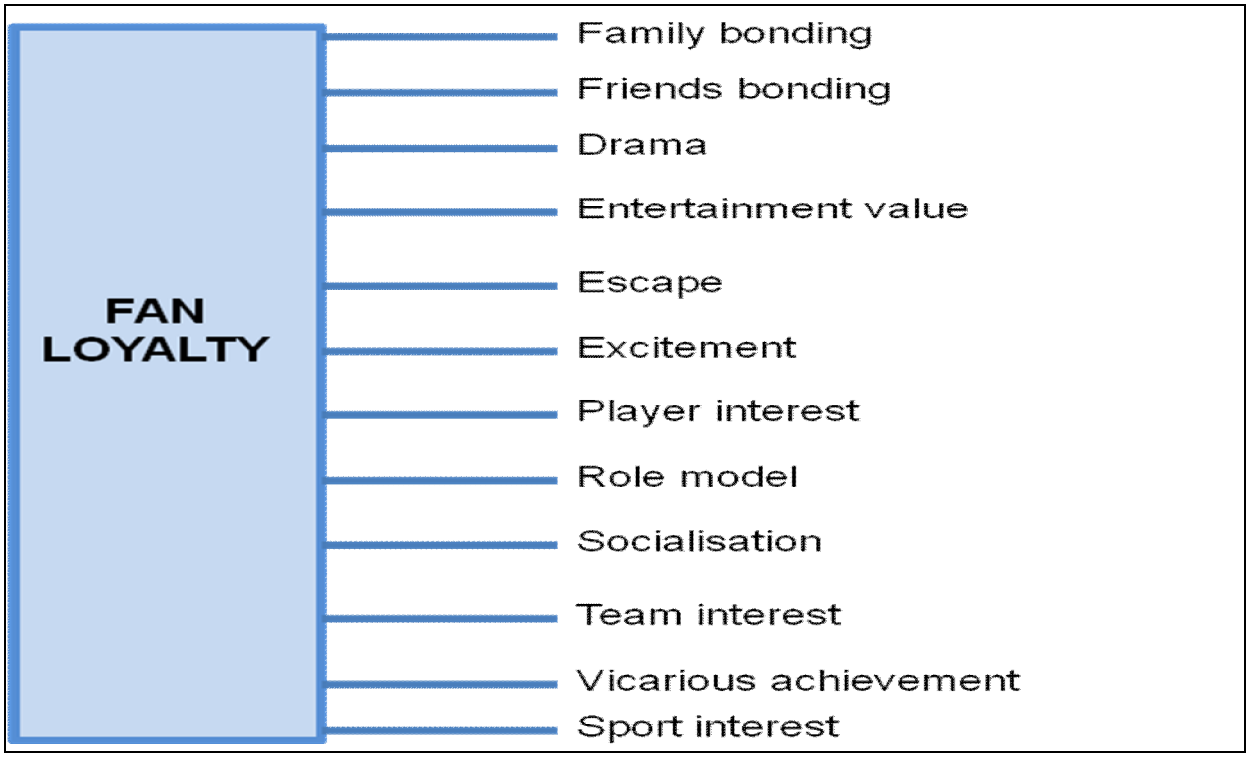
3.1 INTRODUCTION

This chapter provides the conceptual framework and definitions of the different determinants of fan loyalty measured in this study. In addition, the chapter also provides the motivation for the hypotheses that were tested. Next, this chapter discusses the development of the Sport Interest Inventory (SII) scale, which includes a summary of the previous studies utilising the Sport Interest Inventory (SII) scale. The chapter concludes with an identification of the determinants of fan loyalty, as measured in this study.

3.2 THE CONCEPTUAL FRAMEWORK TESTED IN THE STUDY

This study has empirically investigated the relationship between fan loyalty and the twelve identified determinants thereof. These relationships are illustrated in Figure 10 below.

Figure 10: The conceptual framework tested in the study



This section aims to discuss the determinants of fan loyalty as measured in this study. At this point, it is important to note that the relationships indicated in Figure 10 above were treated as correlational relationships and not as causal relationships. The determinants of fan loyalty included in the conceptual framework above were identified with the use of the Sport Interest Inventory (SII) scale, as implemented in a study conducted by Neale and Funk (2005:44).

This scale was also used to measure the identified determinants. It will be discussed later in this chapter. The above figure exhibits the identified determinants. These determinants will each be discussed in the next section in order to investigate all the elements included in the conceptual framework.

3.3 THE TWELVE DETERMINANTS OF FAN LOYALTY AS MEASURED BY THE SPORT INTEREST INVENTORY (SII) SCALE

This study has focused on measuring the twelve determinants of fan loyalty, as identified in Neale and Funk (2005:44) with the Sport Interest Inventory (SII) scale in order to investigate fan loyalty amongst Super 14 rugby fans. A short discussion on the supporting literature of the twelve determinants identified by Neale and Funk (2005:44), as well as in the conceptual model above, will now follow.

3.3.1 Family bonding

Funk *et al*. (2004:44) describe family bonding as being an opportunity to spend quality time with one's family. Bonding can be defined as the development of a strong connection or relationship between two or more entities (Merriam-Webster, n.d.). According to Shank (2005:165), sporting events have the ability to create a feeling of closeness for families that attend the event. The father figure in the family has an impact on the choice of the team, which the family will support.

In addition, a study conducted by Lee (2002:3) regarding factors affecting the motivation and loyalty of baseball fans, identified the "family effect" as an important determining factor. The results of this study indicated that fans of the baseball team considered

spending time with family as a reason for attending the baseball game. It was seen as an opportunity for a leisure activity that could be shared by family or household members. Furthermore, Robertson and Pope (1999:15) investigated the importance of spending time with family as a determining factor in live sports attendance.

The results of their study indicated that a "family outing" scored highly as a determinant of live professional sports attendance.

The family bonding factor has been included in several studies using the Sport Interest Inventory (SII) scale. The results of these studies indicated that family bonding can be considered as a positive predictor of fan loyalty (Funk *et al*., 2002:37; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

The following hypothesis is founded on these previous research results:

> H_1: Family bonding is a positive predictor of the level of fan loyalty in supporters of a Super 14 rugby team.

3.3.2 Bonding of friends

The bonding of friends can be described as an opportunity to spend quality time with friends (Funk *et al*., 2004:44). Bonding can be defined as the growth of a strong relationship or liaison between two or more persons (Merriam-Webster, n.d.). The friends bonding factor has been applied as a determining factor in fan loyalty in various studies using the Sport Interest Inventory (SII) scale and the results indicated that friends bonding may be regarded as a determinant of fan loyalty (Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

Lee (2002:3) conducted a study, which focused on measuring factors regarded as important influencers of fan loyalty. The results of this study indicated that respondents scored high on the "group affiliation" determinant. The "group affiliation" construct in this study is defined as socialisation - or spending time with friends - and is therefore similar to friends bonding. Furthermore, Robertson and Pope (1999:15) conducted a study regarding

the attendance of live professional sports meetings. The results of the study indicated that spending time with friends plays an important role in the decision-making process of live professional sports attendance.

Based on the aforementioned discussion, it is hypothesised that:

> H_2: Friends bonding is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.3 Drama

Funk *et al*. (2004:44) describe the drama determinant as a situation where there is a close game versus a one-sided game, with an element of uncertainty as to the outcome of the game. A close game is a game where the lead changes back and forth between the competing teams and where the outcome of the game cannot be predicted (Funk *et al*., 2001:14). Drama can be defined as a circumstance, which involves interesting, intense and conflicting forces (Merriam-Webster, n.d.).

According to Smith and Stewart (2007:170), drama in a sports game leads to an appealing and intense experience shared by sports fans. The excitement of a sports game can lead sport consumers to obtain significant pleasure from the game and the prospect of its outcome.

Drama has been applied as a determining factor of fan loyalty in various studies using the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:301; Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45). The results of the study conducted by Funk *et al*. (2002:33) indicated that drama is among the top three strongest determinants of fan loyalty measured by the SII scale in their study. This leads to the following hypothesis:

> H_3: Drama is a positive predictor of the level of fan loyalty for supporters of a Super 14 rugby team.

3.3.4 Entertainment value

It is important to differentiate between the two perspectives on the meaning of "entertainment".

Firstly, entertainment can be defined as something diverting or engaging as a public performance service (Anon, 2009:1). According to Brokaw *et al.* (2006:5), teams focusing on providing entertainment and promotional activities at their games tend to increase their sports attendance figures. In addition, Correia and Esteves (2007:583) conducted a study with the aim to identify five primary factors that influence the attendance of sport events by fans.

The results of this study indicated that a sporting event should offer some level of entertainment to the spectators in order for them to be motivated to attend the event. Furthermore, the results of a study conducted by Chen (2004:13) indicated that the entertainment offered by teams plays a big role in fans becoming loyal to a specific sports' team. These two studies refer to entertainment as including various added activities (such as music, cheerleaders, food stalls and competitions) provided by a sports' team.

According to Neal and Funk (2005:44), the current study, however, has focused on the second perspective on entertainment. This perspective considers the affordability of the entertainment experienced when attending a sports game (Funk *et al*., 2004:44). In terms of this perspective, entertainment value is essentially measured in terms of value-for-money perceptions.

Entertainment value, seen as sports fans' perceptions of the value for money of the entertainment received when attending a sports game, have been included as a determinant of fan loyalty in a number of studies involving the SII (Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

Funk *et al.* (2003:12) identified entertainment value as one of the three strongest loyalty determinants measured by the Sport Interest Inventory (SII) scale. It is, therefore, hypothesised that:

H_4: Entertainment value is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.5 Escape

Escape can be described as a desire to "get away" or be a part of something different from the "normal routine" (Funk *et al*., 2004:44). Escape can be defined as a breaking free, or to get free (Merriam-Webster, n.d.).

Escape has been included as a determinant of fan loyalty in a number of studies (Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45). Furthermore, according to Chen (2004:12), one of the primary reasons for fans wanting to join their favourite sports fan club is to escape their mundane everyday lives. The study further indicated that the fans felt rejuvenated and refreshed after visiting a sports club meeting, as they felt that it gave them a more balanced life.

In addition, Shank (2005:162) has identified escape as a determinant of fan loyalty because of its importance in assisting people in distracting them from their everyday problems by focusing on their emotional commitment to a specific team. It is therefore posited that:

H_5: Escape is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.6 Excitement

According to Funk *et al*. (2004:44), the excitement determinant can be described as the exhilaration surrounding the game and the associated spectacle. Excitement as a determining factor of fan loyalty has been tested in a number of studies using the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:301; Funk *et al*., 2001:34; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

Solberg and Hammervold (2008:96) suggest that sport viewers can be divided into two main groups. The first group, called “sport spectators”, only watch the game to support their favourite team, while the second group, called “sports fans”, are mainly interested in seeing a good high quality performance and a stimulating game. In addition, Siebrits and Fourie (2008:4) claim that fans will become loyal to a specific team if the games played by the team are exciting and unpredictable. This is an indication of the value of the game.

Excitement increases the level of arousal, positive feelings and stimulation felt by a fan towards his or her favourite team (Shank, 2005:163).

Various studies have referred to the term excitement as an important determinant of the loyalty process (Funk *et al*., 2001:301; Funk *et al*., 2002:34; Neale & Funk, 2005:45; Solberg & Hammervold, 2008:96; Siebrits & Fourie, 2008:4). Previous studies have indicated that excitement falls among the three strongest loyal determinants of fan loyalty measured by the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:301; Funk *et al*., 2002:34; Neale & Funk, 2005:45).

Therefore, excitement will be incorporated in the proposed study and will be measured as a determinant of fan loyalty in the Sport Interest Inventory (SII) scale. The following hypothesis is thus stated:

> H_6: Excitement is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.7 Player interest

Player interest can be described as the watching and following of a specific favourite player (Funk *et al*., 2004:44). Player interest has been included as a loyalty determinant in several studies using the SII (Funk *et al*., 2001:301; Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

Correia and Esteves (2007:583) conducted a study on the motivational drivers of football spectators. One of the determinants tested and analysed in this study was “star players”.

The determinants focused on were merchandising, the fantasy of being one of the players, and watching a game because of your favourite player. The results of this study indicated that "star players" may be considered as determinants of fan loyalty where this loyalty can result in the purchasing of merchandise related to the player.

In addition, according to Shank (2002:274), fan bonding is a determinant of fan loyalty where fan bonding includes the bonding of a fan with a team player.

The following hypothesis is founded on these previous research results:

> H_7: Player interest is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.8 Role model

Role models may be described as players that serve as positive role models for young children (Funk *et al*., 2004:44). The role model concept is based on imitation (Merriam-Webster, n.d.). This indicates that when a person considers someone as a role model, he or she will aspire to mimicking the behaviour of that person. The role model concept has been included as a loyalty determinant in the Sport Interest Inventory (SII) scale in a number of studies (Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

According to Ouaaziz (2006:2), when people consider sports stars as role models they will follow news items about these stars, keep track of their games and training sessions and will, in addition, purchase products related to these stars. Ouaaziz (2006:3) additionally suggests that a person can be so affected by sports stars that the failure or disappointment of these role models can lead to the questioning of their support and loyalty to a specific team.

Previous studies have indicated that role model is among the three strongest loyalty determinants measured by the Sport Interest Inventory (SII) scale (Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44).

Based on the aforementioned discussion, it is hypothesised that:

> H_8: A role model is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.9 Socialisation

Funk *et al*. (2004:44) describe socialisation as the opportunity to interact with other spectators and fans. It is important to note that there is a distinct difference between the "family bonding", "friends bonding", and "socialisation" constructs. While all three of these constructs focus on sharing a social experience with another person, they all focus on different groups.

"Family bonding" is specifically based on sharing an experience with family members and relatives, while "friends bonding" focuses on enjoying the event with friends. "Socialisation", on the other hand, focuses purely on the event as a way of providing opportunities to meet strangers with similar interests.

According to Shank (2005:164), being a fan of a specific sports' team can satisfy one's need to belong. Feeling part of and belonging to a group of fans will motivate one to attend a team's games in the future (Shank, 2005:164). In addition, according to Smith and Stewart (2007:160), a feeling of fitting in and belonging is commonly associated with fan loyalty and sports loyalty.

Watching and discussing a sport, for example, enables fans to share common interests with other sports fans, and as a result to build and provide new relationships.

Socialisation has been applied as a determinant of fan loyalty in a number of studies testing the Sport Interest Inventory (SII) scale (Funk *et al*., 2001: 301; Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45). This leads to the following hypothesis:

H_9: Socialisation is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.10 Team interest

Team interest can be described as an interest in the team as a whole, rather than in individual players (Funk *et al*., 2004:44). According to Sutton *et al*. (1997:15), team characteristics, as well as affiliated characteristics, play a major role in the level of loyalty and type of relationship that a fan has with a specific team. Team characteristics refer to the focus on interests, speech and behaviour of a specific winning team and the way in which an individual wants to be associated with this team and its "personality".

Furthermore, an affiliated characteristic indicates that an individual feels that a certain team has the ability to offer him or her friendship, a sense of belonging and an opportunity for social stimulation. The awareness of a team can result in the development of a loyal relationship where an acquaintance or camaraderie is shaped. According to Brokaw *et al*. (2006:7), a lack of team familiarity is one of the leading reasons for a deficiency in team attentiveness.

One may therefore assume that it is important to create team interest as a possible determinant in the initial attention of sports fans of a specific team (Brokaw *et al*., 2006:7).

Team interest has been analysed and tested as a determinant in the Sport Interest Inventory (SII) scale in a number of studies with various results (Funk *et al*., 2001:301; Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45). Previous studies have indicated that team interest falls among the three strongest loyalty determinants of fan loyalty, as measured by the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:301; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

It is, therefore, hypothesised that:

H_{10}: Team interest is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

3.3.11 Vicarious achievement

Vicarious achievement occurs when the performance level of a team provides a heightened sense of personal or collective esteem for sports consumers (Funk *et al*., 2004:44).

Robertson and Pope (1999:1) conducted an empirical study focusing on the motivation for attendance and the level of loyalty of sporting events. The results of the study indicated that one of the factors that motivated sports consumers to either attend or not attend a sporting event was that they would stay away if their team might lose. This indicated that live action excitement and performance play important roles in sports attendance and fan loyalty levels.

On the contrary, the conclusion of a study conducted by Brokaw *et al*. (2006:7) regarding factors that influence fan loyalty indicates that the win-or-lose records of a team are relatively irrelevant to sports fans. Additionally, according to Gitter and Rhoads (2008:1), earlier research focusing on factors affecting the attendance of baseball games suggests that the performance and number of games won or lost by a team do not affect the loyalty or attendance levels of baseball fans.

Conversely, Gitter and Rhoads (2008:5) soon after conducted an observation study focusing on ticket prices, the length of the sport season, as well as the number of teams participating in the sporting event. This was done by comparing the attendance level of each team against the other. The results demonstrated that there is a positive relationship between the number of fans attending a baseball game and the amount of games won by that specific team (Gitter & Rhoads, 2008:12). This indicates that fans are more loyal and show more support for a team with a good performance record.

Vicarious achievement has been tested as a determinant of fan loyalty in most of the studies using the SII (Funk *et al*., 2001:301; Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45). The feelings attached to the performance levels of a team will indicate the importance and role that vicarious achievement plays in fan loyalty. The importance of vicarious achievement will therefore be applied and tested as a determinant in this study.

The study conducted by Neale and Funk (2005:45) indicated that vicarious achievement is one of the top three strongest determinants of fan loyalty, as measured by the Sport Interest Inventory (SII) scale in their study. The following hypothesis is thus stated:

> H_{11}: Vicarious achievement is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

Subsequently therefore, the importance of determining the key influencing factors of fan loyalty becomes clear. Therefore, this study aimed to develop and increase the accuracy of the Sport Interest Inventory (SII) scale, accompanied with the identified determinants, in order to contribute to and expand the knowledge on this topic in the existing literature.

Furthermore, an additional determinant of fan loyalty was identified in the literature and was included in the current study. This additional determinant, namely sports interest, is discussed below.

3.3.12 Sports interest as an additional determinant of fan loyalty

Sports interest is the degree to which an interest in the sport encourages an interest in the team (Funk *et al*., 2003:26). Interest can be defined as an emotion that accompanies or causes a unique awareness of an entity (Merriam-Webster, n.d.:1). Previous studies utilising the Sport Interest Inventory (SII) scale have included sports interest in their respective studies (Funk *et al*., 2001:301; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61). This study included sports interest in the Sport Interest Inventory (SII) scale in order to determine if it plays a significant role in a professional men's sport.

According to the results of the study conducted by Funk *et al*. (2001:7), sports interest was an important factor underlying the popularity of the specific sporting event. It is thus important to measure sports interest in this study in a rugby context as the determinants of fan loyalty may be unique in each sporting context (Funk *et al*., 2001:4). The goal is therefore to measure sports interest as a determinant of fan loyalty in order to investigate the role that it plays in the popularity of the Super 14 rugby tournament in South Africa.

A fan's interest in rugby as a sport was measured according to his or her responses to certain statements. The statements were adapted from Funk *et al*. (2002:33-43) in order to be applicable to rugby fans. The statement included whether the respondent believes that he or she can be considered a fan of rugby, if he or she loves to follow rugby games, and if he or she is a fan of rugby in general.

The following hypothesis is founded on these previous research results:

> H_{12}: Sports interest is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.

The scale that was used to measure the identified determinants is discussed in the next section.

3.4 THE DEVELOPMENT OF THE SPORT INTEREST INVENTORY (SII) SCALE

The Sport Interest Inventory (SII) scale was developed and used to measure the *determinants* of fan loyalty (Funk *et al*., 2001:1). The basic goal of this scale is to understand the underlying motivational factors of consumers' interest in sport. Funk *et al*. (2001:1-17) developed the 30-item Sport Interest Inventory by employing several prior studies focusing on spectator motivation and fan loyalty (e.g. those of Kahle, Kambara, & Rose, 1996; Madrigal & Howard, 1999; Sloan, 1989; Sloan, Bates, Davis & Schwiger, 1987; Wann, 1995).

The Sport Interest Inventory (SII) scale was used to measure ten possible determinants of fan loyalty. These determinants included drama, vicarious achievement, aesthetics, team interest, player interest, sports interest, national pride, excitement, social opportunity and support for women's opportunities (see Table 2 in Chapter 1, as well as Table 3 below for an overview of these determinants).

Funk *et al*. (2001:299) furthermore suggest that open-ended questions aimed at sports spectators may be analysed qualitatively in order to identify additional determinants that can be added to the Spor t Interest Inventory (SII) scale.

Table 3 below summarises five studies by Funk and his associates (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49) in which the Sport Interest Inventory (SII) scale was used. The table below explains the context in which each study was conducted, whereas the tick mark (✔) indicates which of the fan loyalty determinants were included in the Sport Interest Inventory (SII) scale in each study.

BOLD tick marks accompanied by an asterisk (*) specify the three strongest loyalty determinants identified in each study.

Table 3: Determinants of fan loyalty identified in various studies utilising the Sport Interest Inventory (SII) scale

	Study 1 (Funk *et al.*, 2001:1)	**Study 2** (Funk *et al.*, 2002:33-34)	**Study 3** (Funk *et al.*, 2003:1-32)	**Study 4** (Funk *et al.*, 2004:35-61)	**Study 5** (Neale & Funk, 2005:43-49)
Context	Spectators of the 1999 Women's World Cup (WWC)	Spectators attending the 1999 U.S. Nike Cup	Randomly selected ticket holders of the Women's National Basketball Association	Ticket holders and single game attendees of the Women's National Basketball Association	Spectators of the Australian Football League
Sport type	Soccer	Soccer	Basketball	Basketball	Football
Determinants					
Sport interest	✔ *	✔	✔	✔	
Vicarious achievement	✔	✔	✔	✔	✔ *
Excitement	✔ *	✔ *	✔	✔	✔ *
Team interest	✔ *	✔	✔ *	✔ *	✔ *
Supporting women's opportunity in sport	✔		✔	✔ *	
Aesthetics	✔		✔		
Socialisation	✔	✔	✔	✔	✔
National pride	✔	✔			
Drama	✔	✔ *	✔	✔	✔
Player interest	✔	✔	✔	✔	✔
Role model		✔ *	✔ *	✔ *	✔
Entertainment value		✔	✔ *	✔	✔
Bonding with family		✔	✔	✔	✔
Wholesome environment		✔	✔	✔	
Bonding with friends			✔	✔	✔
Customer service			✔	✔	
Sport knowledge			✔	✔	
Escape			✔	✔	✔

	Study 1 (Funk *et al*., 2001:1)	**Study 2** (Funk *et al*., 2002:33-34)	**Study 3** (Funk *et al*., 2003:1-32)	**Study 4** (Funk *et al*., 2004:35-61)	**Study 5** (Neale & Funk, 2005:43-49)
Context	Spectators of the 1999 Women's World Cup (WWC)	Spectators attending the 1999 U.S. Nike Cup	Randomly selected ticket holders of the Women's National Basketball Association	Ticket holders and single game attendees of the Women's National Basketball Association	Spectators of the Australian Football League
Sport type	Soccer	Soccer	Basketball	Basketball	Football
Determinants					
Community pride			✔	✔	
Style of play				✔	

The summary of the determinants in Table 3 above refers to the relative importance of each determinant in the different sport contexts. The team interest determinant was identified as the most important variable in soccer, basketball, as well as in football. This summary therefore serves as evidence of the importance of team interest as a determinant of fan loyalty in various sporting genres.

Furthermore, it is important to note that the Sport Interest Inventory (SII) scale has been adapted, modified and expanded on in subsequent studies, such as in the study by Bauer *et al*. (2008:210), in order to either add to or reduce the number of determinants of fan loyalty. Bauer *et al*. (2008:210) identified the relevant determinants of fan loyalty applied in previous studies by utilising the Sport Interest Inventory (SII) scale and categorising them as either product or non-product-related attributes.

The authors added additional determinants to be tested and also eliminated the determinants that they did not consider as relevant to the context of their study. This indicates that the Sport Interest Inventory (SII) scale can be adapted by examining the existing literature on fan loyalty and by identifying specific determinants of fan loyalty that one considers as being relevant and applicable to the context of a specific study (Bauer *et al*., 2008:210).

The current study measured the determinants of fan loyalty investigated in Study 5 in Table 3 above with the Sport Interest Inventory (SII) scale. The focus of Study 5 was on applying the Sport Interest Inventory (SII) scale to the Australian Football League. According to Neale and Funk (2005:4), this was the first study outside the United States of America in which the Sport Interest Inventory (SII) scale was used to test fan loyalty and determinants of fan loyalty for a professional men's team.

Confirmatory factor analysis was used to verify that the factor structure of the established fan loyalty measurement scale (the Sport Interest Inventory scale) is confirmed in a new context, such as an Australian men's sport (Neale & Funk, 2005:44). According to Neale and Funk (2005:44), the Sport Interest Inventory (SII) scale was originally developed for North American sports and has rarely been used to understand sport consumers in other countries.

When measuring the determinants of fan loyalty one should keep in mind that each sport is unique, and that one cannot have a single set of loyalty determinants that can be applied in all contexts (Funk *et al*., 2001:1). Each study needs to be considered in isolation, and determinants should be identified in the literature that the researcher deems to be applicable. Data analysis is then conducted in order to test the relevance of these determinants (Bauer *et al*., 2008:210).

In addition, the study conducted by Neale and Funk (2005:45) highlighted the fact that cultural and sport differences in different countries require a replication of the Sport Interest Inventory (SII) scale in these different contexts. Therefore, the determinants in this study were replicated, as it is also a southern hemisphere study focusing on a men 's sport, which is equivalent to the focus of this particular study.

The eleven determinants identified in Study 5 include family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest and vicarious achievement. These determinants were identified, as is demonstrated in Table 3 above.

The reliability of the Sport Interest Inventory (SII) scale will now be discussed.

3.4.1. The internal consistency reliability and the scale items of the identified determinants

Previous studies using the Sport Interest Inventory (SII) scale have all used a Cronbach's alpha analysis to confirm the internal consistency and the reliability of the scale items related to each of the identified determinants (Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61). See Chapter 4 for Cronbach's alpha test results on each of the determinants of fan loyalty identified in studies utilising the Sport Interest Inventory scale.

In addition, it is important to have some insight into the items that have been used in previous studies to measure the determinants of fan loyalty identified in this study. Therefore, it is important to refer to Appendix A, Appendix B, as well as Chapter 4 section 4.5.1 for a discussion of the scale items used to measur e the determinants identified in this study.

3.5 CONCLUSION

This chapter identified the twelve hypotheses formulated for this study. The constructs identified includes family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest, vicarious achievement and sports interest. The chapter provided a background on each construct measured based on the available literature. Most importantly, this chapter has focused on providing significant support for each construct to be included in order to create a sound basis for the hypotheses measured in this study.

Consequently, this chapter has effectively managed to explain the hypotheses tested in this study.

In addition, this chapter included a discussion of the Sport Interest Inventory (SII) scale developed by Funk and his associates (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49). The focus was on an overview of the studies and contexts in which the Sport Interest Inventory (SII) scale has been applied as well as the development of the scale.

The chapter concluded with a discussion of the study conducted by Neale and Funk (2005:45) that was selected and preferred for replication in this study. Additionally, the internal consistency and reliability, as well as the scale items measuring the identified determinants were discussed.

The next chapter discusses the research design and the methodology used to measure the identified relationships between fan loyalty and the determinants of fan loyalty. Chapter Four also discusses multiple-item scales, used for measuring the determinants of fan loyalty.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter includes a discussion of the research design and methodology used in this study. The first section contains the classification of the research design according to the appropriate descriptors, while section two deals with the sampling approach used in this study. This includes a focus on the target population, the sampling method and the sample size used in this study. The third section focuses on the data collection and covers the survey method used, the questionnaire design, as well as a short account of the pre-testing process.

Section four contains a brief description of the data analysis approach followed by a conclusion to this chapter in the last section.

4.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

The strategy of inquiry used in this study is survey research. This was regarded as appropriate, as the study conducted by Neale and Funk (2005:44), replicated in this study, used survey research as its inquiry strategy. Previous studies on the determinants of fan loyalty in which the Sport Interest Inventory (SII) scale were used have all used survey research (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61).

A survey provides answers to questions such as who? what? where? how much? and how many? (in numeric terms). Such questions are commonly asked in exploratory and descriptive research (Cooper & Schindler, 2006:245; Leedy & Ormrod, 2005:183; Saunders, Lewis & Thornhill, 2007:138). Conducting survey research enables the researcher to have more control over the research process at a lower cost than other data-collection techniques (Saunders *et al*., 2007:138). One should, however, take into account that a representative sample is needed in order to ensure the reliability of the findings in

the study, as well as to ensure that the survey data-collection method is not too time-consuming, and there is a limitation on the number of questions that can be asked (Saunders *et al*., 2007:130). A survey provides a researcher with quantitative or numerical data that can be analysed statistically (Saunders *et al*., 2007:138).

The following are appropriate descriptors that best describe the broad research design of the study:

- *Empirical research* – According to Kotzé (2009:6), a study can be regarded as empirical whenever the researcher intends to collect primary data for analysis. The aim of this study has been to gather primary data in order to describe various determinants of fan loyalty. As a result, the research conducted in this study can be regarded as empirical.
- *Basic research* – According to Saunders *et al*. (2007:7), the goal of basic research is to establish an understanding of a particular process primarily in the academic community, rather than to directly inform managerial decision-making. The research for this study was undertaken purely to create an understanding of the determinants of fan loyalty. The results will not be directly presented to the managers of the specific Super 14 rugby teams.
- *Descriptive research* – Robson (in Saunders *et al*., 2007:134) suggests that descriptive research is conducted whenever one wishes to discuss the characteristics of individuals or specific events. The aim of the study is to describe the relationship between specific determinants of fan loyalty and the fan loyalty construct. The study is fundamentally concerned about the correlations between the identified determinants and fan loyalty.
- *Explanatory* – Explanatory research is used when one wants to describe the relationship between two or more variables (Cooper & Schindler, 2006:143; Saunders *et al*., 2007:134). Explanatory research is thus applicable in this study, as the aim of the study is to explain the relationship between the twelve identified determinants and the fan loyalty construct.
- *Cross-sectional research* – Cross-sectional studies focus on a specific incident at a particular point in time (Saunders *et al*., 2007:148). This study meets the criteria of cross-sectional research, as respondents were only asked to complete

questionnaires on one occasion at a specific moment in time. The purpose of the study was not to determine changes in respondents' attitudes or behaviour over time, as is the case in longitudinal research.

- *Ex post facto designs* – According to Leedy and Ormrod (2005:232), ex post facto research enables a researcher to investigate the correlations between variables. This is not an experimental study, as there is no manipulation or experimental testing conducted on the independent variable. The focus of the design is to explain relationships between variables (Leedy & Ormrod, 2005:232). The study meets the criteria of ex post facto research, as the aim of the study is not to conduct experiments regarding the determinants of fan loyalty, but rather to explain the relationship between the twelve identified determinants and the fan loyalty construct.
- *Primary data* – Leedy and Ormrod (2005:89), as well as Saunders *et al*. (2007:607) define primary data as data collected for a specific project or goal. The study produced primary data, as questionnaires were circulated in order to accumulate data to explain the relationships of specific determinants with fan loyalty in the Super 14 rugby tournament context.
- *Numeric data (quantitative data)* – Quantitative research is any technique or procedure that produces statistics, numbers or figures (Saunders *et al*., 2007:145). The data-collection technique that was used in this study is questionnaires with the purpose of generating numeric data that were analysed statistically.

The next section describes the sampling approach used in this study.

4.3 SAMPLING DESIGN

4.3.1 The target population and units of analysis

The target population for this study was Super 14 rugby fans watching and supporting a local Super 14 rugby team at a Super 14 rugby game at the Loftus Versveld stadium in Tshwane during the Super 14 rugby tournament in 2010. Rugby fans were selected as the target population since the focus of the study is on the measurement of the determinants of fan loyalty, specifically of rugby fans.

Furthermore, the units of analysis, as well as the sources from which the data were collected for the study was Super 14 rugby fans, located in South Africa, supporting local Super 14 rugby teams. These rugby fans were selected for participation in the study and completion of the questionnaire based on the sampling method discussed below.

4.3.2 The sampling method of the study

The lack of a sample frame indicates that a non-probability sampling technique should be used (Saunders *et al*., 2007:226). Given that no sample frame for Super 14 rugby fans exists, probability sampling is not an option. In addition, quota sampling will be complicated since the fans will be in a hurry to enter the stadium. Therefore, convenience sampling was used where any willing respondent was asked to participate in the study.

Neale and Funk (2005:44) drew their sample by placing eight fieldworkers at four stadium entrances at a Fremantle Dockers home game. They then haphazardly asked the spectators to complete their questionnaires. As this study is a replication of the study conducted by Neale and Funk (2005:43-49), a similar sampling method was used. Funk *et al*. (2002:36) also made use of non-probability sampling with the focus on convenience sampling when measuring the determinants of fan loyalty on the Sport Interest Inventory (SII) scale.

Spectators were haphazardly selected in each section of the stadium and asked to participate in the study.

Subsequent to the above discussion, it became clear that a non-probability sampling technique should be used to identify and approach respondents for the completion of the questionnaires. The study specifically focused on convenience sampling.

Non-probability sampling is a sampling technique where the probability of a case being selected for the study is not known (Cooper & Schindler, 2006:422; Leedy & Ormrod, 2005:206; Saunders *et al*., 2007:207). Non-probability sampling presents a variety of methods that can be utilised to select a sample for a study. The technique used in this

study is convenience sampling. Convenience sampling includes haphazardly selecting respondents that are the easiest to obtain in order to participate in one's study (Cooper & Schindler, 2006:423; Saunders *et al*., 2007:234).

The limitations associated with non-probability sampling, specifically convenience sampling, should, however, be taken into consideration and into account when conducting the study. According to Saunders *et al*. (2007:226), non-probability sampling does not allow one to generalise on statistical grounds from a non-probability sample to a larger target population. One also has no guarantee that the sample is representative of the larger target population. In addition, it is possible that the use of convenience sampling can lead to biased research data, as the samples were selected based on the ease in obtaining them (Saunders *et al*., 2007:234).

The use of a convenience sampling approach is, therefore, a major limitation of the current study.

The number of respondents that were identified and selected by the use of the non-probability sampling technique in the study had to be calculated. This calculation can be seen in the discussion below.

4.3.3 Sample size

The study aimed to include a minimum of 146 respondents in the sample, based on the minimum sample size requirements of multiple regression analysis. The figure of 146 respondents was determined, based on the rule-of-thumb for the minimum sample size required for multiple regression analysis.

According to Hair, Black, Anderson and Tatham (2005:176), multiple regression analysis is a statistical method used to examine the relationship between a number of independent variables and a single dependent variable. These independent variables can be referred to as the predictors, while the dependent variable can be referred to as the criterion. Multiple regression analysis is conducted in order to use the independent variables, which are

known, to predict the single dependent value selected by the researcher (Hair *et al*., 2005:176).

According to Pallant (2005:145), one continuous criterion and two or more continuous predictors are required to conduct multiple regression analysis. The criterion for this study is fan loyalty, whereas the predictors are family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest, vicarious achievement and spor ts interest.

The type of multiple regression analysis suggested for this study was standard multiple regression analysis. Standard multiple regression analysis is used when all the predictors that will be measured in a study are entered into the analysis concurrently. One would implement standard multiple regression analysis if the study contained a set of variables chosen to study the differences in a criterion, as explained by the predictors (Pallant, 2005:141).

According to Tabachnick and Fidell (2007:122), one can calculate the ratio of cases to predictors by applying some simple rules of thumb. In order to test multiple correlations, one will use the following formula (Tabachnick & Fidell, 2007:122):

- $N \geq 50 + 8m$ (m = the number of predictors)

Furthermore, in order to test individual predictors, one would use the next formula (Tabachnick & Fidell, 2007:123):

- $N \geq 104 + m$ (m = the number of predictors)

In order to test multiple correlations, the minimum number of respondents required for this study was 50 + 8(12) = 146, whereas a test for individual predictors required 104 + 12 = 116 respondents. The number of predictors was twelve (12), as twelve determinants of fan loyalty were tested. If one were interested in testing both multiple correlations and individual predictors one should choose the largest number of cases (Tabachnick & Fidell, 2007:123). As a result, a minimum of one hundred and forty-six (146) respondents were required for this study.

The number of cases proposed by the formulas specified by Tabachnick and Fidell (in Pallant, 2005:142) leads to a sufficient number of cases, as this number has the ability to advise the researcher on the extent to which the variation in the criterion can be described and clarified by the predictors. In addition, multiple regression analysis can provide the researcher with a suggestion of the relative importance of the role of each of the predictors of the criterion (Pallant, 2005:145).

See section 5.3 for a discussion of the number of completed questionnaires that were analysed as well as an investigation of the demographic profile of the respondents.

4.4 DATA COLLECTION

4.4.1 Data collection method

Data for the study were collected through an event intercept during which fieldworkers approached potential respondents at the Loftus Versveld stadium with the request that they complete a self-administered questionnaire. Fieldworkers were available to assist respondents in completing the questionnaire, where necessary.

Previous studies using the Sport Interest Inventory (SII) scale also conducted intercept-interviews using self-administered questionnaires (Funk *et al*., 2002:36; Neale & Funk, 2005:44).

Cooper and Schindler (2006:267) state that intercept-interviewing is a data-collection method where respondents are targeted in centralised locations, such as in shopping malls or at events. Intercept-interviews can, furthermore, be defined as a face-to-face communication method (Cooper & Schindler, 2006:711). An advantage of intercept-interviews relevant to this study is the fact that this is a cost-effective interviewing method and it targets respondents whose recollection is current (Bennet, 2010:100; Cooper & Schindler, 2006:266).

One should, however, also consider the disadvantages of intercept-interviewing. The disadvantages of this interviewing technique include the change in the social climate. This

has made people more reluctant to talk to strangers. The content of the questionnaires needs to be short, as the respondent is busy. It is a lengthy process to interview the necessary number of respondents. Furthermore, the presence of the interviewer might lead to biased results (Bennet, 2010:100; Cooper & Schindler, 2006:266).

This study managed to overcome these disadvantages by approaching respondents in a friendly and relaxed manner and by providing training to interviewers in order to reduce the possibility of interviewer bias.

A self-administered questionnaire is a technique utilised for data collection, where the respondent reads and answers the questions included in the questionnaire independently along with an interviewer who is only present to assist the respondent when requested to do so or when necessary (Cooper & Schindler, 2006:254; Saunders *et al*., 2007:611). The advantages of self-administered interviews are that respondents are typically honest and do not construct their answers to be socially acceptable.

The disadvantages of self-administered questionnaires were, however, borne in mind when conducting research for the study. A disadvantage of self-administered questionnaires is that they have a lower response rate than interviewer-administered interviews, as well as the possibility of misinterpretation of the questions by the respondents (Leedy & Ormrod, 2005:185).

The collection of the data for this study will be discussed below.

4.4.2 The use of fieldworkers in this study

Fieldworkers were used in the study in order to complete the research collection in one single event. These fieldworkers underwent basic training in self-administered interviewing, and were educated on the constructs measured in the study. Furthermore, the fieldworkers were supervised and the quality of their work was evaluated. The role of fieldworkers in a self-administered interview is the delivery and collection of the questionnaires to the respondents, as well as enhancing the participation of the respondents (Cooper & Schindler, 2006:246; Saunders *et al*., 2007:358).

4.4.3 Pre-testing

According to Hair *et al*. (2005:780), a pre-test of the questionnaires used in research studies should be conducted, in order to evaluate the items to be measured in the study. A requirement for a pre-test is that the sample selected for the pre-test should be similar to the final sample to be selected for the proposed study (Hair *et al*., 2005:780). The respondents of the pre-test should therefore respond in a similar way to the Super 14 rugby fans present at the Super 14 rugby game in 2010. The pre-test for the questionnaire used in the study was therefore conducted by distributing the questionnaire to fans of the Super 14 rugby tournament.

The questionnaire was pre-tested with twenty respondents participating in the pre-test. After the pre-test, corrections and changes were made to the questionnaire according to the results of the pre-test.

The pre-testing process that was conducted for the study used a collaborative pre-testing method. A collaborative pre-test is an approach taken by researchers where the respondents are informed that the completion of the questionnaire is part of a pre-testing and refinement process (Cooper & Schindler, 2006:396). According to Cooper and Schindler (2006:396), probing plays a big role in a collaborative pre-testing method, as the respondents need to be asked a number of questions in order to detect any issues related to the questionnaires.

The following aspects were considered during the pre-testing process (Cooper & Schindler, 2006:396):

- *Participant interest* – Respondents should find the questions included in the questionnaire stimulating; and a pre-test would assist a researcher in discovering whether the respondent finds the questionnaire interesting and appealing (Cooper & Schindler, 2006:397).
- *Meaning* – The pre-testing of the questionnaires in the study should ensure that the meaning of the questionnaire is clear to the respondents (Cooper & Schindler, 2006:397).

- *Question transformation* – An aspect that was tested duri ng the pre-testing process is whether the questions included in the questionnaire fit the frame of reference of the respondents. One should make sure that the respondents of the questionnaire share the same definitions of the constructs measured and that the questions make sense to these respondents (Cooper & Schindler, 2006:397).
- *Continuity and flow* – An additional aspect that was considered during the pre-testing process is the flow of the questions from one section in the questionnaire to the next, as well as ease of readability of the questions (Cooper & Schindler, 2006:397).
- *Question sequence* – According to Cooper and Schindler (2006:397), one should make sure that the sequence of the questions asked is stimulating and also ensure that interest-building questions are included in the questionnaire. Therefore, this study tested the quest ion sequence duri ng the pre-testing process.
- *Variability* – The pre-testing of the questionnaires in the study ensured that the question alternatives covered the possible range of answer options provided (Cooper & Schindler, 2006:397).
- *Length and timing* – The time that it takes for a respondent to complete the questionnaire was tested, as there is always the possibility that a draft questionnaire could suffer from lengthiness (Cooper & Schindler, 2006:397).

The planned measures for the identified determinants of fan loyalty can be observed in the discussion below.

4.5 MEASURES

4.5.1 Scales used to measure the determinants of fan loyalty

Respondents were asked to indicate their level of agreement with each of the items in the Sport Interest Inventory (SII) scale on a 5-point Likert-type rating scale. Twelve determinants of fan loyalty were measured in this study. The determinants include family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest, vicarious achievement and sport interest.

The scale consists of five levels, with (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, and (5) strongly agree. The scale was used to measure three items for each determinant relevant to the twelve constructs respectively. The three items were selected based on a theoretical analysis, and whether the three items loaded higher than 0.50 on their particular determinant (Funk *et al*., 2004:42).

The Likert scale is included in Appendix B and can be found in studies previously administering a similar questionnaire (Funk *et al*., 2004:42-47; Neale & Funk, 2005:44).

The questionnaire used in this study is provided in Appendix B. Table 4 below contains a list of the constructs measured in this study, accompanied by a list of the corresponding question numbers.

Table 4: Measurement scales used in the current study

CONSTRUCT	ITEM AND VARIABLE NUMBER	SOURCE OF THE SCALE
Family bonding	Attending Super 14 rugby games gives me a chance to bond with my family (V2) I enjoy sharing the experience of attending a Super 14 rugby game with family members (V14) An important reason why I attend Super 14 rugby games is to spend quality time with my family (V26)	Funk *et al*. (2004:42)
Friends bonding	Attending Super 14 games gives me the chance to bond with my friends (V3) I enjoy sharing the experience of attending a Super 14 rugby game with my friends (V15) An important reason why I attend Super 14 rugby games is to spend quality time with my friends (V27)	Funk *et al*. (2004:42)
Drama	I prefer to watch a close Super 14 rugby game rather than a one-sided game (V4) I like Super 14 rugby games where the outcome is uncertain (V16) A close Super 14 rugby game between two teams is more exciting than a blow-out (V28)	Funk *et al*. (2004:42)
Entertainment value	The Super 14 rugby games provide	Funk *et al*. (2004:42)

CONSTRUCT	ITEM AND VARIABLE NUMBER	SOURCE OF THE SCALE
	affordable entertainment (V5) Super 14 rugby games are great entertainment for the price (V17) I attend Super 14 rugby games because it is an entertaining event for a reasonable price (V29)	
Escape	I like attending the Super 14 rugby games because they provide me with distraction from my daily life for a while (V6) The Super 14 rugby games provide me with an opportunity to escape the reality of my daily life for a while (V18) Getting away from the routine of everyday life is an important reason why I would attend a Super 14 rugby game (V30)	Funk *et al*. (2004:42)
Excitement	I like the excitement associated with the Super 14 rugby games (V7) I like the excitement surrounding the Super 14 rugby games (V19) I find the Super 14 rugby games to be very exciting (V31)	Funk *et al*. (2004:42)
Player Interest	I watch the Super 14 rugby games because of individual players more than of the team competing (V8) I'm more of a fan of individual Super 14 rugby game players than I am of the entire team (V20) The main reason why I attend Super 14 rugby games is to cheer for my favourite player (V32)	Funk *et al*. (2004:42)
Role model	Super 14 rugby players provide inspiration for boys and girls (V9) I think the Super 14 rugby players are good role models for young boys and girls (V21) The Super 14 rugby players provide inspiration for young people (V33)	Funk *et al*. (2004:42)
Socialisation	I enjoy interacting with other spectators and fans when attending Super 14 rugby games (V10) Super 14 rugby games have given me the chance to meet other people with similar interests as myself (V22) I like talking to other people sitting near me at Super 14 rugby games (V34)	Funk *et al*. (2004:42)
Team interest	I consider myself as a fan of the whole team more than a fan of a single player	Funk *et al*. (2004:42)

CONSTRUCT	ITEM AND VARIABLE NUMBER	SOURCE OF THE SCALE
	in the Super 14 rugby tournament (V11) I come to Super 14 rugby games to support the whole team (V23) I am a fan of my entire favourite Super 14 rugby team (V35)	
Vicarious achievement	I feel like I have won when my favourite Super 14 rugby team wins (V12) I feel a sense of accomplishment when my favourite Super 14 rugby team wins (V24) When my favourite Super 14 rugby team wins, I feel a personal sense of achievement (V36)	Funk *et al*. (2004:42)
Sport interest	First and foremost, I consider myself a fan of rugby (V13) I love to follow the game of rugby (V25) I am a huge fan of rugby in general (V37)	Funk *et al*. (2004:42)
Fan loyalty	I am very interested in rugby as a sport (V38) I often attend home games of my favourite Super 14 rugby team (V39) I often watch Super 14 rugby games of my favourite Super 14 team on television (V40) I am extremely committed to my favourite Super 14 rugby team (V41)	Funk *et al*. (2004:42)

Furthermore, a question measuring the fan loyalty construct was included in the questionnaire. This question can be seen in the following section.

4.5.2 Scales used to measure the attitudinal fan loyalty

Previous studies additionally included fan loyalty questions with the purpose of measuring the loyalty of fans towards their favourite team. The focus of this questionnaire is on the attitudinal loyalty of the Super 14 rugby fans. Attitudinal loyalty is considered as the aspect of loyalty that separates basic repeat actions from true brand loyalty (Neale & Funk, 2005:44; Oliver, 1999:43).

The questions have been identified in previous studies as measures of fan loyalty (Funk *et al*., 2004:42-47; Neale & Funk, 2005:44). The question regarding fan loyalty includes four items for the loyalty construct. These will be asked on a 5-point Likert scale. The scale consists of five levels, with (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, and (5) strongly agree.

As with previous research, the fan loyalty variable was labelled as the "level of consumer support" and acted as a criterion of the validity of the Sport Interest Inventory (SII) scale (Funk *et al*., 2004:10-11). The question can be seen in Appendix B and is question number two in the questionnaire.

In addition, interesting questions, such as the number of games attended, as well as a question regarding the favourite Super 14 rugby teams were included in Questions 3 and 6 respectively. Furthermore, both gender and age questions were included in the questionnaire.

The reliability and validity of the scale will be demonstrated in the next section.

4.5.3 Reliability and validity assessment

Previous studies measuring determinants of fan loyalty utilising the Sport Interest Inventory (SII) scale conducted a confirmatory factor analysis in order to test the validity of their research instruments (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61). This serves as evidence for the validity of the Sport Interest Inventory (SII) scale as a research instrument.

The reliability of the measurement instrument has also been considered by means of a Cronbach's alpha analysis in previous studies using the Sport Interest Inventory (SII) scale (Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61). The rationale of Cronbach's alpha is to measure the internal consistency reliability of a multiple item-rating scale (Hair *et al*., 2005:102). The measurements range from zero to one, with 0.70 considered as the minimum value acceptable for reliability. Previous studies using the

Sport Interest Inventory (SII) scale all attained a Cronbach's alpha of at least 0.70. This confirms the internal consistency reliability of the scale (Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61).

Table 5 includes the results of the Cronbach's alpha test for each of the determinants of fan loyalty measured by the Sport Interest Inventory (SII) scale in four studies conducted by Funk and his associates (Funk *et al*., 2002:33-34; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49).

Table 5: The Cronbach's alpha test results of the determinants of fan loyalty identified in studies utilising the Sport Interest Inventory (SII) scale

	Study 1 (Funk *et al*., 2002:33-34)	**Study 2** (Funk *et al*., 2003:1-32)	**Study 3** (Funk *et al*., 2004:35-61)	**Study 4** (Neale & Funk, 2005:43-49)
Determinants				
Bonding with family	0.87	0.92	0.92	0.88
Bonding with friends	-	0.81	0.83	0.79
Drama	0.74	0.79	0.79	0.72
Entertainment value	0.88	0.92	0.92	0.92
Escape	-	0.92	0.93	0.88
Excitement	0.81	0.90	0.90	0.77
Player interest	0.82	0.75	0.79	0.67
Role model	0.88	0.93	0.93	0.87
Socialisation	0.64	0.85	0.85	0.76
Team interest	0.78	0.88	0.88	0.81
Vicarious achievement	0.84	0.92	0.92	0.82
Sport interest	0.87	0.87	0.87	0.89
Level of consumer support	0.78	0.77	-	0.68

The results for the Cronbach's alpha analysis for the current study are discussed in Chapter 5.

The section below describes the data analysis method used in this study.

4.6 DATA ANALYSIS

The study used multiple regression analysis to test the stated hypotheses, as the hypotheses tested the relationships between a dependent variable, fan loyalty, and independent variables, as well as the twelve identified determinants of fan loyalty (Cooper & Schindler, 2006:575). The multiple regression analysis technique used in this study will be discussed in detail in Chapter 5.

4.7 APPROVAL OF THE ETHICS COMMITTEE

Formal approval for this study was obtained from the Research Ethics Committee of the Faculty of Economic and Management Sciences at the University of Pretoria in March 2010.

4.8 CONCLUSION

This chapter included a discussion on the research design and the methodology of this study. In addition, this chapter covered the research design, as well as the sampling approach used in the study. Furthermore, it covered the data collection and the data-analysis method approach used.

Concerning the sampling approach used in this study, the sample size of 146, as well as the target population, was defined. The method to be used was identified as convenience sampling. The data-collection method used was also reviewed in this chapter with the specific focus on the survey method, the questionnaire design, the measurement, as well as the pre-testing.

To fulfil the objectives of the study, Funk's (2001:1) Sport Interest Inventory (SII) scale for measuring the determinants of fan loyalty was applied. This chapter has identified this empirical study as a descriptive cross-sectional, non-experimental study.

The focus of the next chapter wi ll be on the empirical findings of the study.

CHAPTER 5: EMPIRICAL FINDINGS OF THE STUDY

5.1 INTRODUCTION

This chapter includes three key sections. The first section contains a discussion of the reliability of the multiple-item measures used in this study. Section two includes an interpretation of the univariate descriptive statistics for the composite scores, while section three comprises a discussion of the results of the multiple regression analysis.

5.2 RELIABILITY ASSESSMENT

On a conceptual level, reliability can be defined as the degree to which the measurement of different occasions, respondents or scale items will generate similar outcomes (Streiner, 2003:100). Reliability is the consistency with which an instrument measures an entity, where this entity is kept constant (Leedy & Ormrod, 2005:29). Reliability can also be described as the ability of an instrument to constantly generate similar and consistent findings (Saunders *et al*., 2007:149). Spiliotopoulou (2009:15) suggests that reliability is about consistency in measurement.

In addition, reliability may be described as the degree to which the responses given by the sample are consistent across all scale items measuring the same construct (Helms, Henze, Sass & Mifsud, 2006:632). Furthermore, reliability may be described as how consistently a construct is being measured, rather than what it is that is being measured (Helms *et al*., 2006:632).

When evaluating reliability one can focus on any one of the three perspectives on reliability (Cooper & Schindler, 2006:322):

- *Stability* - which focuses on the test-retest coefficient, where reliability is measured by administering the same test to the same respondents twice. The correlation method is used to measure stability;

- *Equivalence* - which focuses on parallel forms, where reliability is measured by comparing the results obtained from alternative forms of the same measure. The correlation method is used to measure equivalence; and
- *Internal consistency* - which uses the Split-Half, KR20 or Cronbach's alpha coefficients, where the ability of an instrument to measure consistently the same underlying construct is evaluated. Specialized correlational formulas are used to measure internal consistency.

Reliability may, therefore, be measured by focusing on the stability, equivalence or internal consistency of the data. As this study is interested in evaluating the ability of the scale to measure consistently the same underlying construct, the focus will be on internal consistency as a reliability estimate (Cooper & Schindler, 2006:322). Internal consistency is discussed in the next section.

5.2.1 Internal consistency

Internal consistency refers to whether the respondents have responded to different items in a measurement scale in a consistent manner (Spiliotopoulou, 2009:15). Internal consistency may also be defined as a measure of reliability, where the focus is on the homogeneity among the items that measure an underlying construct (Cooper & Schindler, 2006:711).

In addition, internal consistency assists researchers in interpreting composite scores, which can serve as a reflection of the scale's items. A high degree of internal consistency is thus desirable (Streiner, 2003:100).

Onwuegbuzie and Daniel (2002:90) state that reliability measures focus only on the consistency with which item scores are measured, but it does not take the characteristics of the sample into account. When the items measured by an instrument consistently generate parallel results, this consistency is referred to as internal consistency (reliability) (Leedy & Ormrod, 2005:93).

According to Cooper and Schindler (2006:322), there are three types of coefficients that can used to measure the internal consistency mentioned above. These are the split-half technique, the KR20 test, as well as Cronbach's alpha. These are all techniques used to measure the degree to which the items in an instrument measure the same fundamental construct in a study (Cooper & Schindler, 2006:322).

Previous studies of fan loyalty, in which the Sport Interest Inventory (SII) scale was used, all used Cronbach's alpha to test the reliability of their research efforts (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61) (See Table 5 in Chapter 4). Therefore, this study has also used Cronbach's alpha to measure reliability.

The next section includes a discussion of Cronbach's alpha.

5.2.2 Cronbach's alpha

Cronbach's alpha measures the degree to which the items in a measurement scale are interrelated; and therefore the focus of Cronbach's alpha is on measuring how unified the responses of a sample are to the set of scale items (Helms *et al*., 2006:633; Spiliotopoulou, 2009:151). Yet, Helms *et al*. (2006:633) indicate that Cronbach's alpha assumes unidimensionality, and does not indicate the extent to which the items in a scale will reflect a single underlying construct.

Cronbach's alpha is used to describe the manner in which a sample consistently responds to item measures (Helms *et al*., 2006:633). Hair *et al*. (2005:137) state that internal consistency reliability is an evaluation of the level of constancy with which various scale items measure a construct.

The methods employed to provide evidence for the quality and credibility of the research effort for this study included the implementation of the Cronbach's alpha. The purpose of Cronbach's alpha is to measure the internal consistency reliability of the scales used in this study (Hair *et al*., 2005:102). Cronbach's alpha ranges from zero to one (0–1), with 0.70 considered as being the lowest value acceptable for reliability. Where reverse scored items are present, it is also possible to obtain negative Cronbach's alpha values (Hair *et al*., 2005:102). This is, however, not applicable to the current study.

The formula for Cronbach's alpha can be written as (Roberts & Onwuegbuzie, 2000:4; Streiner, 2003:101):

$$\propto = \frac{k}{k-1}\left[1 - \frac{\sum \sigma_k^2}{\sigma_{Total}^2}\right]$$

Where:

k = the number of items measuring the construct;

$\sum \sigma_k^2$ = the sum of the variances of the individual items in the scale; and

σ_{Total}^2 = the total score variance.

See Section 5.2.3 for an example demonstrating the calculation of Cronbach's alpha, using the above formula.

The formula for Cronbach's alpha shows that, for the same number of scale items, a large alpha value would result from scores with a small sum of individual item variances and a large total score variance (Roberts & Onwuegbuzie, 2000:4). Similarly, a small Cronbach's alpha value will be produced by scores with high individual item variances – resulting in a large sum of individual item variances – and a small total score variance. In short, the smaller the ratio between the sum of individual item variances and the total score variance, the larger the resulting value of Cronbach's alpha.

This ratio will be smaller, the larger the total score variance (Roberts & Onwuegbuzie, 2000:4).

As is shown in Table 6, this study obtained a Cronbach's alpha value for each of the twelve determinants of fan loyalty, measured independently, as well as for the fan loyalty construct. Cases where the Cronbach's alpha value is smaller than the generally accepted cut-off of 0.70 are highlighted in grey.

Table 6: The Cronbach's alpha values for the determinants of fan loyalty and the fan loyalty construct

Variable	Alpha
Excitement	0.574
Friends bonding	0.576
Drama	0.592
Entertainment value	0.614
Role model	0.667
Team interest	0.689
Family bonding	0.774
Sport Interest	0.775
Socialisation	0.783
Vicarious achievement	0.806
Escape	0.839
Player interest	0.854
Fan loyalty	0.796

The Cronbach's alpha reliability coefficients for the scales measuring escape, player interest, socialisation, vicarious achievement, and sport interest are 0.839, 0.854, 0.783, 0.806, and 0.775, respectively. These values are all larger than the accepted minimum value of 0.70; and as a result, they may be considered as having an acceptable level of internal consistency reliability (Hair *et al*., 2005:137; Spiliotopoulou, 2009:151).

However, from Table 6, it is clear that the remaining determinants do not meet the 0.70 cut-off value. In order to explain and clarify the reason for this, it is important to consider the reasons for their low reliability values. To achieve this goal, the study continues with a discussion of the various possible reasons for low reliability scores. **It is important to note that low Cronbach's alpha reliability coefficients are not necessarily an indication that the measurement scales used are flawed, or that the collected data are useless** (Roberts & Onwuegbuzie, 2001:5).

In addition, Roberts and Onwuegbuzie (2000:11) point out that researchers should investigate the reasons for low reliability before declaring the data to be useless.

In sections 5.2.3 to 5.2.6, it will be argued that the low Cronbach's alphas observed in Table 6 are not the result of flaws in the measures used, but are the consequences of the

homogeneous sample investigated in this study, and more specifically, of the low variances in respondents' scores on the relevant variables.

Sections 5.2.3 to 5.2.6 discuss the influence of the total score variance, the characteristics of the data, inconsistent Cronbach's alpha scores, and homogeneous samples with the purpose of discovering the reasons for the low Cronbach's alpha scores obtained in this study.

5.2.3 The influence of the total score variance on Cronbach's alpha

As was indicated in the previous section, the variance of the total score has a significant influence on the value of Cronbach's alpha. More specifically, a low total score variance will lead to a low Cronbach's alpha value, while a high total score variance will lead to a high Cronbach's alpha value (Streiner, 2003:101).

In order to grasp the above statement, it is important to understand how the Cronbach's alpha is calculated when using the total score variance. Therefore, a practical example adapted from Thorndike (2005:118), is used to explain how the Cronbach's alpha formula works.

Suppose we have given a measurement scale with three items, which all measure the same construct to five respondents. Since each scale item was measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), the total (summated) scores on these three items can range from 3 to 15. The five respondents gave the following responses:

Table 7: An example in calculating the total score variance

Respondent	Item 1	Item 2	Item 3	Total (summated) scale scores
1	2	3	1	6
2	3	3	3	9
3	4	5	4	13
4	3	4	5	12
5	5	4	5	14
$\sum x$	17	19	18	54
$\sum x^2$	63	75	76	626
Variance	**1.04**	**0.56**	**2.24**	**8.56**

Note: The total (summated) scale scores are created by summing up each respondent's answers to the three scale items.

These values can now be entered into the Cronbach's alpha formula:

$$\propto = \frac{k}{k-1}\left[1 - \frac{\sum \sigma_x^2}{\sigma_{Total}^2}\right]$$

$$\propto = \frac{3}{3-1}\left[1 - \frac{(1.04 + 0.56 + 2.24)}{8.56}\right]$$

$$\propto = 0.827$$

The above example demonstrates how Cronbach's alpha is calculated.

Two examples taken from the current study will now demonstrate the difference in reliability results when the total score variance is either low or high. The aim of these examples is thus to prove the statement made by Streiner (2003:101), that the total score variance has a significant influence on the value of Cronbach's alpha.

Example 1 focuses on the "drama" determinant, where the total score variance is low – resulting in an equally low value for Cronbach's alpha. The opposite is clear in Example 2,

where “player interest” has a high total score variance, which leads to a high value for Cronbach’s alpha.

Table 8 includes the variances and Cronbach’s alpha calculations, for both Examples 1 and 2.

Table 8: The influence of total score variance: Example 1 and 2

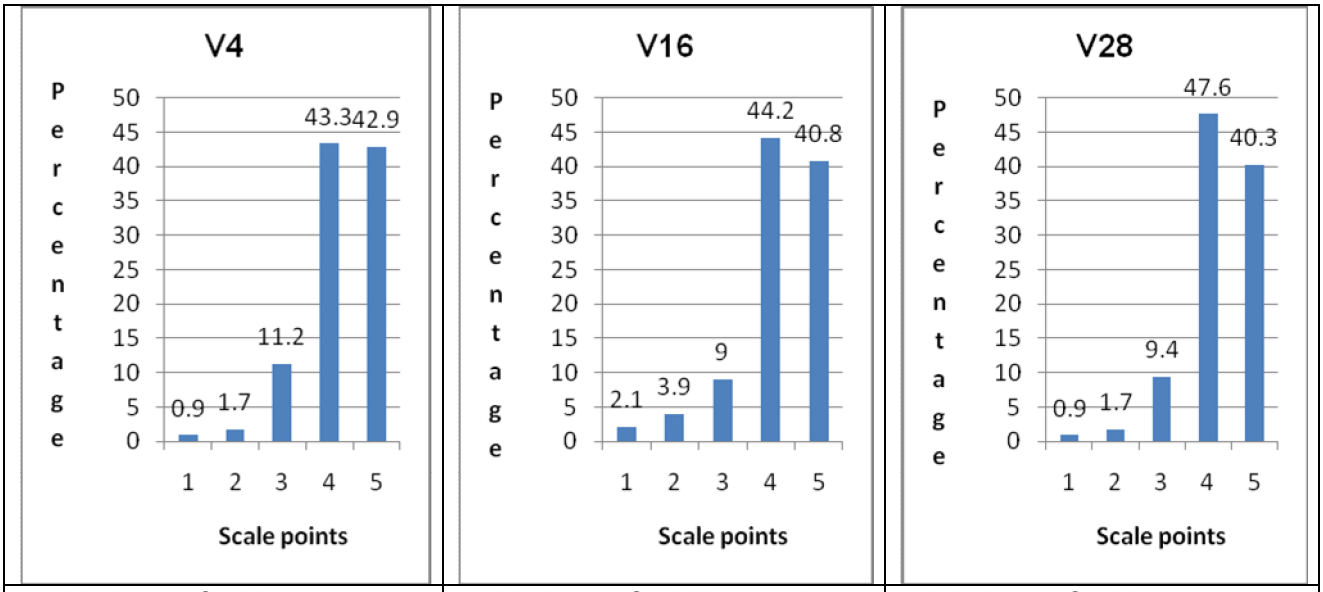
<table>
<tr><td>Example 1: “Drama” determinant</td><td>Example 2: “Player interest” determinant</td></tr>
<tr><td>
<table>
<tr><td>Variables</td><td>Variance</td></tr>
<tr><td>V4</td><td>0.623</td></tr>
<tr><td>V16</td><td>0.818</td></tr>
<tr><td>V28</td><td>0.584</td></tr>
<tr><td>Total (summated) score:</td><td>3.347</td></tr>
</table>
</td><td>
<table>
<tr><td>Variables</td><td>Variance</td></tr>
<tr><td>V8</td><td>1.952</td></tr>
<tr><td>V20</td><td>1.777</td></tr>
<tr><td>V32</td><td>1.624</td></tr>
<tr><td>Total (summated) score:</td><td>12.434</td></tr>
</table>
</td></tr>
<tr><td colspan="2">Note that the variance of the total score for “Player interest” is almost 4 times as large as that for the total score of the “Drama” determinant.</td></tr>
<tr><td>$\frac{3}{3-1}\left(1-\frac{2.025}{3.347}\right)$
0.592</td><td>$\frac{3}{3-1}\left(1-\frac{5.353}{12.434}\right)$
0.854</td></tr>
</table>

Example 1 demonstrates a relatively small total score variance that leads to a low Cronbach’s alpha. Contrary to the “drama” determinant in Example 1 above, the “player-interest” determinant demonstrates a lot more variance – leading to a higher reliability score.

In addition, Figures 11 and 12 below show the spread of the scores achieved on each of the items measuring the “drama” and “player interest” determinants. “Drama” was measured by items 4, 16 and 28 in the questionnaire. The scale width ranged from 1 (strongly disagree) to 5 (strongly agree). From Figure 11 below, it is clear that the variance is at a minimum, seeing that most respondents agreed with the statement by focusing only on scale points 4 (agree) and 5 (strongly agree). In fact, 86.2% of the respondents selected either scale points 4 (agree) or option 5 (strongly agree) for item V4 in the questionnaire.

The corresponding percentages are 85% for item V16, and 87.9% for item 28. These percentages clearly indicate the relatively low variances for items V4, V16 and V28; and they are a result of the fact that most respondents selected either a 4 or a 5 on the scale for these three items.

Figure 11: Percentage of respondents who selected each of the five scale points of the three Likert scale items measuring the "drama" determinant

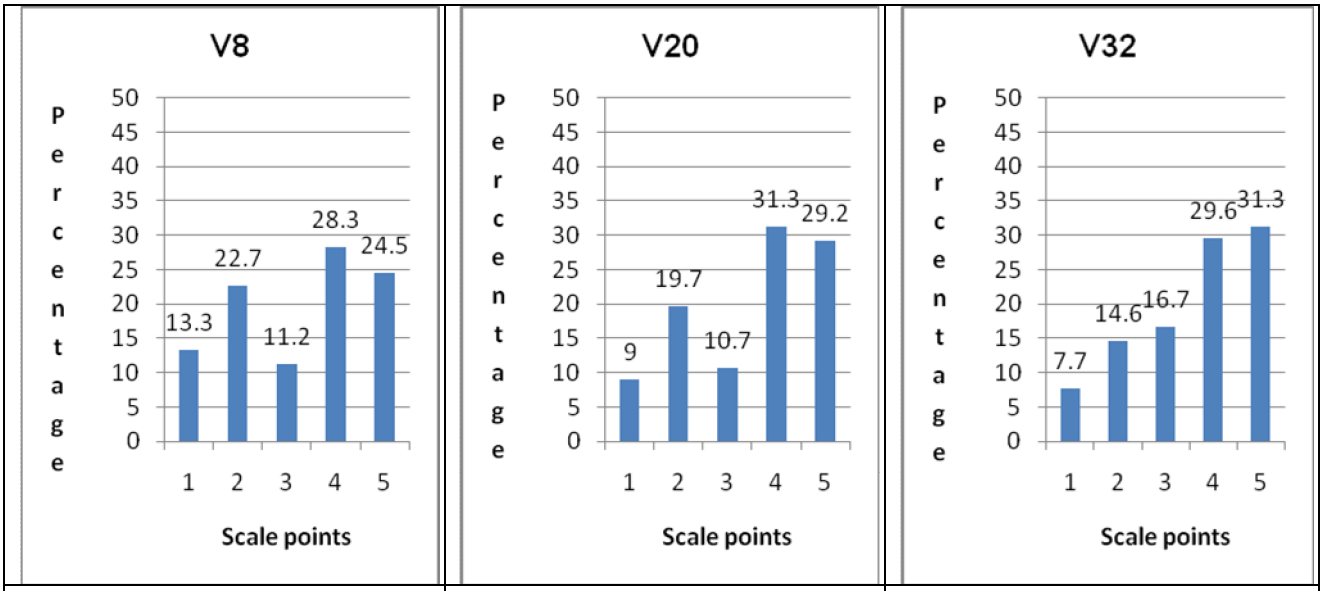


Variance for V4 = .623	Variance for V16 = .818	Variance for V28 = .584

Furthermore, Figure 12 below demonstrates that respondents had a much more varied response to the items measuring the "player interest" determinant. "Player interest" was measured by the variables 8, 20 and 32 in the questionnaire.

A comparison of Figures 11 and 12 clearly indicates that respondents' responses to items 8, 20, and 32 (i.e. the indicators of "player interest) vary much more than respondents' responses to items 4, 16 and 28 (i.e. the indicators of "drama"). For example, item 8, measuring "player interest" has percentages ranging from 13.3% on scale point 1 to 24.5% on scale point 5 – thereby demonstrating a more varied response across the scale points.

Figure 12: Percentage of respondents who selected each of the five scale points of the three Likert scale items measuring the "player interest" determinant

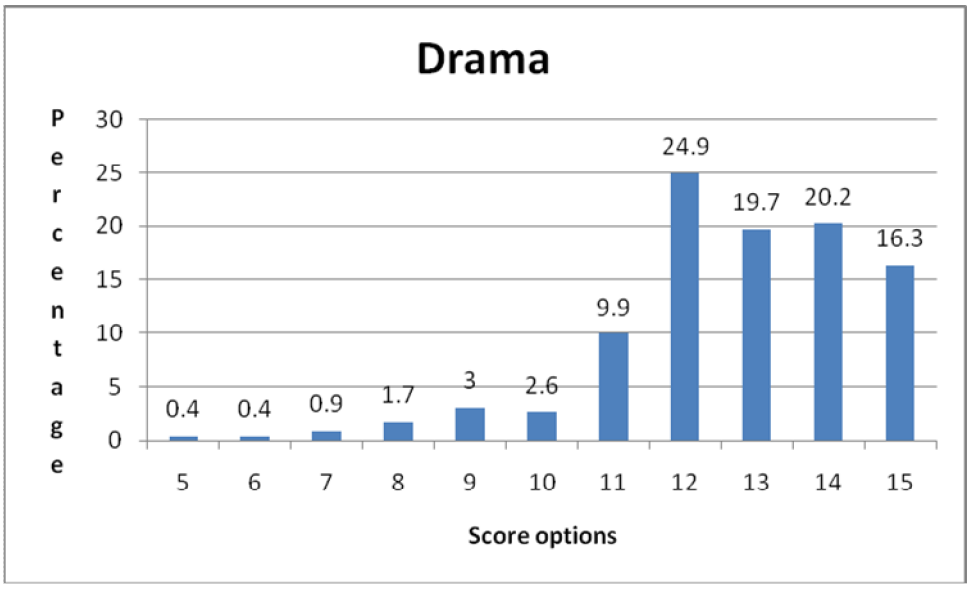


Variance for V8 = 1.952	Variance for V20 = 1.777	Variance for V32 = 1.624

The percentages in Figure 12 above clearly indicate the relatively high variances for items V8, V20 and V32. This is a result of the fact that most respondents selected a broad range of scale points.

In addition, Figure 13 below demonstrates the spread of scores on the total (summated) score. Taking into account that the Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree) and that each construct was measured by three items, it is clear that the minimum score that can be achieved on a construct is three, and the maximum score is fifteen.

Figure 13: The spread of the total (summated) scores for the "drama" determinant

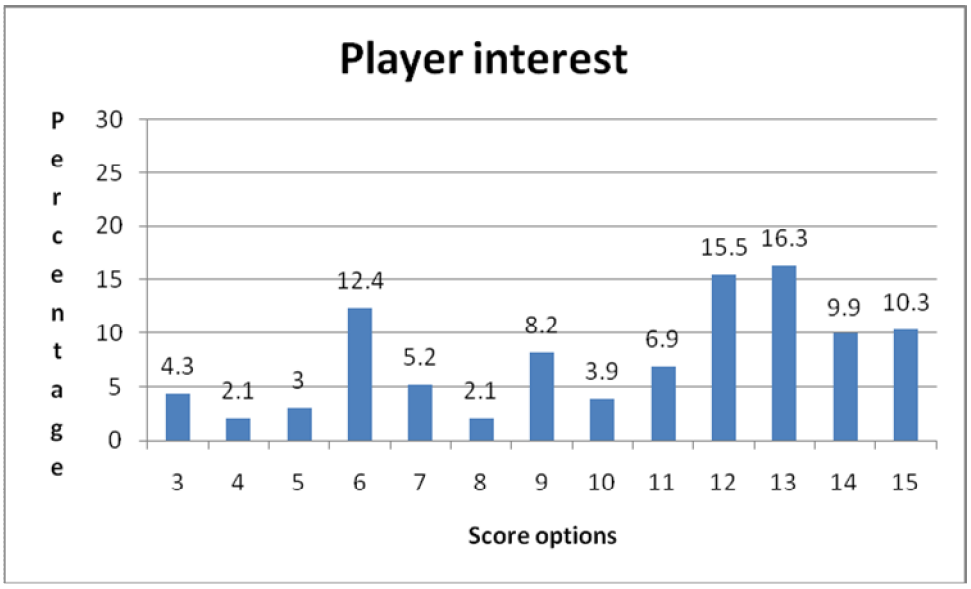


Based on the figure above, it is clear that there is minimum variance in the "drama" determinant. If score options ranged between three and fifteen, then the respondents had total (summated) scores between 11 and 15. This demonstrates the low variance for the "drama" determinant, which also had a low reliability score.

Additionally, as with Example 1, it is important to consider the spread of scores on the total score for the "player interest" determinant. Again, taking into account that the Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree), and that the "player interest" determinant was also measured by three items, the minimum score that can be achieved is again three, while the maximum score is fifteen.

Figure 14 below demonstrates the spread of scores on the total (summated) score.

Figure 14: The spread of the total (summated) scores for the "player interest" determinant



Based on the figure above, it is clear that there is a lot more variance in the "player interest" determinant. If score options ranged between three and fifteen, the respondents had total (summated) scores between 6 and 15. This demonstrates the high variance for the "player interest" determinant, which also had a high reliability score.

In the case of Figure 13, 81.1% of the respondents had total scores of 12 or higher, while in the case of Figure 14, the corresponding percentage is 52%. There is, therefore, a much larger spread of total scores, and thus a larger variance, for "player interest" than for "drama". Thus, from Figures 13 and 14, above it is clear that there is more variance in the total (summated) scores of the "player interest" determinant than in that of the "drama" determinant.

With the "player interest" determinant, respondents had more variation in their responses – including scores from six to fifteen – which displays more variance than that of the "drama" determinant that only included scores from eleven to fifteen. This demonstrates high variance for the "player interest" determinant, which also had a high reliability score. Therefore, the difference in the Cronbach's alpha values for "drama" and "player interest" is due to this difference in the variance of the the two total (summated) scores.

The difference in variance may be ascribed to the fact that respondents "agreed" more in their responses to the "drama" variable than in their responses to the "player interest"

variable – resulting in a smaller variance in the total scores for the "drama" variable than for the "player interest" variable.

The influence of variability on reliability, as demonstrated above, can also be seen by comparing previous studies using the Sport Interest Inventory (SII) scale in different samples. The next section includes a comparison of these studies.

5.2.4 Reliability as a characteristic of data

Reliability should be regarded as a characteristic of the data obtained from a scale, and not from the scale itself (Helms *et al*., 2006:644; Onwuegbuzie & Daniel, 2002:91; Spiliotopoulou, 2009:154). It is therefore important to realise that the value of Cronbach's alpha will vary from one study to another as the scale is used across different samples (Onwuegbuzie & Daniel, 2002:91). In addition, Henson (2001:182) states that it is important for researchers to understand that data features have an impact on the level of reliability estimates.

This means that the reliability coefficients of data collected from one group of respondents will differ from the reliability coefficients of data collected from another group of respondents with the same measurement scale. The data are unique for each group of respondents, even though the same instrument is used in both cases. This implies that **reliability is not a characteristic of the scale or the instrument used, but of the data collected** (Henson, 2001:182).

Table 9 below demonstrates that different Cronbach's alpha values were achieved in different studies, even though the same scale, the Sport Interest Inventory (SII) scale, was used.

Table 9: A comparison of the Cronbach's alpha values of different studies in which the Sport Interest Inventory (SII) scale was used

	Study 1 (Funk *et al.*, 2002:33-34)	**Study 2** (Funk *et al.*, 2003:1-32)	**Study 3** (Funk *et al.*, 2004:35-61)	**Study 4** (Neale & Funk, 2005:43-49)	**Study 1 – 4 Average Cronbach's alpha**	**Current study**
Determinants						
Bonding with family	0.87	0.92	0.92	0.88	0.90	0.77
Bonding with friends	-	0.81	0.83	0.79	0.81	0.58
Drama	0.74	0.79	0.79	0.72	0.76	0.59
Entertainment value	0.88	0.92	0.92	0.92	0.91	0.61
Escape	-	0.92	0.93	0.88	0.91	0.84
Excitement	0.81	0.90	0.90	0.77	0.85	0.57
Player interest	0.82	0.75	0.79	0.67	0.76	0.85
Role model	0.88	0.93	0.93	0.87	0.90	0.67
Socialisation	0.64	0.85	0.85	0.76	0.78	0.78
Team interest	0.78	0.88	0.88	0.81	0.84	0.69
Vicarious achievement	0.84	0.92	0.92	0.82	0.88	0.81
Sport interest	0.87	0.87	0.87	0.89	0.88	0.77
Fan loyalty	0.78	0.77	-	0.68	0.74	0.70

Note: The blank cells for "Bonding with friends" in the second column and "Level of consumer support" in the third column are due to the fact that these two determinants were not included in study 1 and study 3.

It is clear from Table 9, that previous studies using the Sports Interest Inventory (SII) scale obtained diverse Cronbach's alpha values. The Cronbach's alpha for socialisation, for example, ranges from 0.64 in Study 1 (which is considered as unreliable, seeing that it is lower than 0.70) to 0.85 in Studies 2 and 3 (which is considered as satisfactory) – with an average value of 0.78 for Studies 1 – 4.

The next section attempts to explain the inconsistencies in these Cronbach's alpha values across the different studies.

5.2.5 An explanation for the inconsistent Cronbach's alpha values across multiple studies when using the same measurement scale

Most researchers incorrectly believe that reliability, and thus the value of Cronbach's alpha, is a property of a scale. However, according to Streiner (2003:101), Cronbach's alpha is a characteristic of the data obtained, and not of the scale used to obtain the data. Therefore, the value of Cronbach's alpha obtained for a specific scale, will vary from study to study. In addition, Streiner (2003:101) states that the value of Cronbach's alpha is depended on the total score variance. This total score variance will not remain the same from one sample of respondents to another. This suggests that a scale that has achieved high internal consistency reliability with one group of respondents may not necessarily achieve the same high reliability with another group.

This is because heterogeneous groups attain larger variances, and thus have higher reliability coefficients, whereas more homogeneous groups will not accomplish the same results (Streiner, 2003:101).

Spiliotopoulou (2009:153) suggests that there are guidelines that researchers can follow to interpret low internal consistency scores. These guidelines identify various factors that could cause low internal consistency reliability. These factors are (Spiliotopoulou, 2009:153):

- The length of the scale used,
- The width of the scale,
- A central response tendency in the scale,
- The variability of the data, and
- The data characteristics.

Helms *et al*. (2006:645) suggest that it is important to provide a basic description of the sample characteristics when Cronbach's alpha is being discussed. Therefore, the target population definition for this study is highlighted once more:

> *The target population for this study was Super 14 rugby fans watching and supporting a local Super 14 rugby team at a Super 14 rugby game at the Loftus Versveld stadium in Tshwane during the Super 14 rugby tournament in 2010. Rugby fans attending the game were selected as the target population, since*

the focus of the study is on the measurement of the determinants of fan loyalty, and specifically of rugby fans.

The descriptive findings (see Section 5.3) indicate that the majority of the respondents were male (66.95%) Blue Bull fans (55.36%) between the ages of 18 and 25 (38.63%). In addition, since being a "fan" of a Super 14 rugby team was a prerequisite for participation in the study, it is clear that that the sample was fairly homogeneous. In addition, it is fair to assume that the most ardent fans tend to attend live rugby games, whereas less enthusiastic fans will probably watch the games on television at home.

This provides further support for the argument that the **sample realised in this study consisted of the most dedicated rugby fans, and the sample may therefore be considered as homogeneous**. The variability of the sample was thus less than anticipated. As indicated above, Spiliotopoulou (2009:153) and Streiner (2003:101) identified low variability in homogeneous samples as a factor that influences the results of the Cronbach's alpha reliability test. The influence of a homogeneous sample with a low level of variability on the results of the Cronbach's alpha reliability test will be discussed in the next section.

5.2.6 The influence of low variability and homogeneous samples on Cronbach's alpha

Sections 5.2.3 to 5.2.5 identified a lack of variability and a homogeneous sample as reasons for the low Cronbach's alpha values found for some of the determinant sub-dimensions in this study.

The characteristics of a sample targeted in a study, such as the lack of variability in the particular sample, influence the degree of reliability, and can, therefore, be held responsible for yielding a low Cronbach's alpha (Roberts & Onwuegbuzie, 2000:4). It is important to take the homogeneity of a sample into account when interpreting the reliability of data, because ignoring it could result in ambiguous results and in the erroneous conclusion that the measures used in a study were flawed (Onwuegbuzie & Daniel, 2002:96).

The sample selected by the researcher, as well as the variability of this sample, has an influence on the reliability coefficient (Helms *et al*., 2006:644). In addition, it is important to know that an increase in the variability in the sample will lead to larger Cronbach's alpha value. Therefore, a heterogeneous sample has a better chance of achieving a high Cronbach's alpha value than does a homogeneous sample (Helms *et al*., 2006:646). It can, therefore, be concluded that homogeneity does have an effect on the Cronbach's alphas obtained from the sample (Helms *et al*., 2006:656).

In addition, Roberts and Onwuegbuzie (2000:11) stated that the data obtained from a homogeneous sample might have a low reliability coefficient, but should not be eliminated on this basis, as it is a characteristic of the sample (Roberts & Onwuegbuzie, 2000:12).

According to Roberts and Onbwuegbuzie (2000:8), the mean item variances may be used to identify homogeneity in data. Comparing the mean item variance of the current study with that of a previous study will enable the researcher to determine whether the sample of the current study is more or less homogeneous than was that of the previous study. The difference between the mean item variance in the studies is referred to as the "relative mean item variance index". This has the advantage of being comparable across studies (Roberts & Onwuegbuzie, 2000:8).

If the mean item variance of the current studies is considerably smaller than that of previous studies, then it is deemed necessary to examine the data extensively in order to explain and understand the difference between these mean item variances (Roberts & Onbwuegbuzie, 2000:8). However, since the necessary data from previous studies in which the Sport Interest Inventory (SII) scale was used are not available, this useful identifier of data homogeneity, unfortunately, cannot be used in the current study. It is, however, important to note that such an identifier is available.

Furthermore, Henson (2001:182) suggests that reliability revolves around the total score variance. This proposes an issue with reliability, as total variance is likely to be affected if a measure is applied to different samples. Henson (2001:182) states that applying the same measure to both heterogeneous and homogeneous groups will yield different results – which will lead to different levels of reliability (Henson 2001:182). A homogenous sample

will lead to a small total score variance, which, in turn, will result in a low Cronbach's alpha score (Pike & Hudson, 1998:153).

Based on the preceding discussion, it is argued that the low reliability in the current study is due to sample homogeneity, and to the associated low variance in some of the sub-dimension total scores, and not to any inherent deficiencies in the Sport Interest Inventory (SII) scale. In conclusion, Helms *et al*. (2006:647) note that benchmark levels of reliability have historically ranged from 0.50 to 0.90. They highlight the fact that each study is unique and should be treated and judged accordingly.

Future studies can avoid similar problems by drawing more heterogeneous samples, where not only a group of fanatical Super 14 team fans are targeted. Including Super 14 rugby fans, general rugby fans, as well as non-rugby fans, should ensure a sample with higher variability. This should lead to a higher and more appropriate Cronbach's alpha.

The next section discusses the descriptive statistics of the study.

5.3 DESCRIPTIVE STATISTICS

To begin with, this section identifies the number (*n*) of completed questionnaires analysed. This is followed by a discussion of the demographic profile of the respondents. The section concludes with a discussion on the univariate descriptive statistics – for the composite scale scores and for the individual questions in the questionnaire.

5.3.1 The number of questionnaires analysed

During the data collection, 240 questionnaires were collected. Seven of these questionnaires were rejected on the basis of incomplete responses or the lack of clear patterns in the responses provided. As a result, **233** completed questionnaires were analysed.

Next, the demographic profile of the respondents was examined, in order to have a basic description of the respondents included in the study.

5.3.2 Demographic profile of respondents

The target population for this study was local Super 14 rugby fans supporting local Super 14 rugby teams. See Section 4.3 for an extensive discussion regarding the sampling techniques implemented in this study.

Table 10 below provides a demographic profile of the respondents who participated in the study.

Table 10: A demographic profile of respondents who participated in the study (*n* = 233)

Gender	***n***	**Percentage**
Male	156	66.95
Female	77	33.05
Age	***n***	**Percentage**
18 - 25	90	38.63
26 - 35	85	36.48
36 - 45	38	16.31
46 - 55	17	7.3
56 and older	3	1.29

The sample was dominated by male respondents (66.95%); and 38.63% of the respondents were in the 18 – 25 age group, followed by 36.48% in the 26 – 35 age group.

In addition, there was a focus on measuring the support for the various local Super 14 rugby teams, as seen in Table 11.

Table 11: Favourite Super 14 rugby teams identified by respondents (n = 233)

Favourite Super 14 rugby team	*n*	Percentage
Bulls	129	55.36
Sharks	58	24.89
Stormers	20	8.58
Lions	19	8.15
Cheetahs	7	3.00

The sample consisted of a majority of Bulls (55.36%) and Sharks (24.89%) supporters. This is due to the fact that the game pl ayed on the date of the data col lection was between the Bulls and Sharks. The game was also played on Loftus Versveld, the home field of the Bulls team.

The next section includes a discussion of the univariate descriptive statistics for the composite scale scores in the questionnaire.

5.3.3 Univariate descriptive statistics for the composite scale scores in the questionnaire

A Likert-type scale produces data at an interval level of measurement (University of Pretoria, 2008:95). The current study used a questionnaire containing Likert-type scale questions, as well as nominal and ordinal-scaled questions. The minimum univariate descriptive statistics that should be reported for an interval level of measurements is the mean and standard deviation of the reported data (University of Pretoria, 2008:96). The mean and standard deviation of the determinants of fan loyalty identified in the study have also been reported in previous studies utilising the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:301; Funk *et al*., 2002:33; Funk *et al*., 2003:12; Funk *et al*., 2004:44; Neale & Funk, 2005:45).

Furthermore, the number of respondents to each question is included in this study, as studies using interval levels of measurement should include the sample size in data analysis (University of Pretoria, 2008:45).

In order to prepare the data in the study for data analysis, composite (total) scale scores were created – in order to create a new single variable for each of the scale sub-dimensions. Thirteen composite (total) scores were created; one for each of the 12 loyalty determinants included in the study, and one for the fan loyalty construct.

The process followed to create the 13 composite (total) scores will now be illustrated with reference to the "family-bonding" dimension. The first step was to calculate a mean score for each respondent across his/her responses to the three items measuring "family bonding". The mean (*M*) of these three items are: 3.914, 4.189, and 3.918. To calculate the composite score for the family- bonding construct, the mean values (*M*) of the three items are added together and divided by the number of items (12.021/3=**4.007**).

See Table 12 for the means and standard deviations of the composite (total) scores, as calculated in the current study.

Table 12: The means and standard deviations of the 13 composite (total) scores representing the main constructs in the study (*n* = 233)

Variable	*M*	*SD*
Loyalty	4.232	0.685
Excitement	4.439	0.479
Friends bonding	4.403	0.499
Team interest	4.373	0.566
Sport interest	4.353	0.663
Drama	4.227	0.609
Vicarious achievement	4.212	0.732
Role model	4.187	0.606
Entertainment value	4.143	0.617
Escape	4.109	0.791
Socialisation	4.054	0.743
Family bonding	4.007	0.798
Player interest	3.474	1.175

Notes: Scales values range from 1 (Strongly disagree) to 5 (Strongly agree); the higher the mean score, the higher the level of agreement associated with the particular aspect.

M = mean, *SD* = standard deviation.

The highest total score (*M* = 4.439, *SD* = 0.479) is associated with excitement, while the lowest total score is associated with player interest (*M* = 3.474, *SD* = 1.175). All of the total

scores are above the scale mid-points of 3; in fact, with the exception of player interest, all the mean scores are above 4. This indicates that, on average, respondents had positive perceptions of all the determinants, as well as of fan loyalty.

The focus of the next section is on the correlations between the total scale scores in the study.

5.3.4 Correlations between the total scale scores

In order to measure the strength of the linear relationship or correlation between two interval-scaled variables, a statistical test called the Pearson's product moment correlation coefficient can be conducted (Saunders *et al*., 2007:606).

According to Cooper and Schindler (2006:714), Pearson's product moment correlation is derived from sampling data and ranges from -1 to +1. The direction of the relationship (either positive or negative) is indicated by the prefix (+, -). The number following the prefix indicates the strength of the relationship that exists between the two variables. The closer the value is to 1, the stronger the relationship, whereas a value of 0 indicates that no relationship exists (Cooper & Schindler, 2006:714).

The top values in Table 13 are Pearson's product moment correlation coefficients (Pallant, 2005:142). According to Pallant (2005:126), the relationships that the determinants measured in the study have with fan loyalty can be classified into three different categories. Pallant (2005:126) proposes that these relationships can either be strong (with values between 0.5 and 1.0), medium (with values between 0.29 and 0.5), or weak (with values smaller than 0.29).

Table 13: Pearson's product moment correlations between "fan loyalty" and each of its 12 determinants

		Fan loyalty	Family bonding	Friends bonding	Drama	Entertain-ment value	Escape	Excite-ment	Player Interest	Role Mode	Socia-lisation	Team interest	Vicarious
Pearson	Fan Loyalty												
Correlation	Family Bonding	**0.503**											
	Friends Bonding	**0.445**	0.324										
	Drama	**0.268**	0.245	0.353									
	Entertainment Value	**0.361**	0.338	0.462	0.388								
	Escape	**0.371**	0.423	0.273	0.284	0.425							
	Excitement	**0.397**	0.282	0.538	0.349	0.509	0.339						
	Player Interest	**0.163**	0.431	0.096	0.207	0.209	0.442	0.052					
	Role Model	**0.245**	0.332	0.317	0.314	0.366	0.399	0.251	0.239				
	Socialisation	**0.359**	0.379	0.341	0.327	0.395	0.44	0.248	0.409	0.513			
	Team Interest	**0.438**	0.224	0.458	0.227	0.413	0.282	0.47	-0.051	0.381	0.307		
	Vicarious	**0.48**	0.348	0.374	0.197	0.371	0.459	0.367	0.175	0.252	0.297	0.518	
	Sport Interest	**0.755**	0.387	0.46	0.304	0.335	0.256	0.427	0.049	0.317	0.322	0.479	0.527
Sig.	Fan Loyalty												
(1-tailed)	Family Bonding	0.000											
	Friends Bonding	0.000	0.000										
	Drama	0.000	0.000	0.000									
	Entertainment Value	0.000	0.000	0.000	0.000								
	Escape	0.000	0.000	0.000	0.000	0.000							
	Excitement	0.000	0.000	0.000	0.000	0.000	0.000						
	Player Interest	0.006	0.000	0.072	0.001	0.001	0.000	0.216					
	Role Model	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
	Socialisation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
	Team Interest	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.219	0.000	0.000		
	Vicarious	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.004	0.000	0.000	0.000	
	Sport Interest	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.230	0.000	0.000	0.000	0.000

The correlation coefficients (in bold, in Table 13 above) refer to the correlations between "fan loyalty" and each of its determinants. The strongest correlation is between "fan loyalty" and "sport interest" (r = 0.755); this is followed by the correlation between "fan loyalty" and "vicarious achievement" (r = 0.480), and then between "fan loyalty" and "friends bonding" (r = 0.445). All these correlations, which range from 0.163 to 0.755, are positive and statistically significant at a 1% level of significance (i.e., $p < 0.01$).

Based on these correlations, one would expect to find **positive** regression coefficients in a multiple regression analysis with "fan loyalty" as the dependent variable and each of the determinants as independent variables.

Furthermore, most of the correlations between the twelve determinants of fan loyalty (shown in normal text in the top portion of Table 13) are positive and statistically significant. The only non-significant correlations are between "player interest" and "friends bonding" (r = 0.096, p = 0.072), between "player interest" and "excitement" (r = 0.052, p = 0.216), between "team interest" and "player interest" (r = -0.051, p = 0.219), and between "sport interest" and "player interest"(r = 0.049, p = 0.230).

In addition, the highest correlation between two determinants is 0.538 between "friends bonding" and "player interest". Since this correlation is well below the value of 0.7, as mentioned by Pallant (2005:126), multicollinearity does not seem to be a problem in the data.

The focus of the next section is on the inferential statistics used in this study.

5.4 INFERENTIAL STATISTICS

Multiple regression analysis was used to test the hypotheses stated in Section 3.3. This section provides background on multiple regression analysis and it also presents the results for the multiple regression analysis conducted for this study.

5.4.1 An introduction to multiple regression analysis

The statistical method used in this study to examine the relationships between fan loyalty, as the dependent variable, and its twelve determinants as independent variables, is multiple regression analysis. Multiple regression analysis is a statistical method used to examine the relationship between a number of independent variables and a single dependent variable (Hair *et al*., 2005:176). According to Hair *et al*. (2005:176), multiple regression analysis is conducted in order to use the independent variables to predict the single dependent value. One dependent and two or more independent variables are required to conduct multiple regression analysis (Pallant, 2005:145).

Multiple regression analysis is applicable to this study, as the objective of the study was to investigate the relationships between a dependent and multiple independent variables (Cooper & Schindler, 2006:575). The regression model investigated in this study had one dependent variable, fan loyalty, which was predicted by twelve independent variables, namely family bonding, friends bonding, drama, entertainment value, escape, excitement, player interest, role model, socialisation, team interest, vicarious achievement and sport interest.

Multiple regression analysis can address a number of issues (Pallant, 2005:140):

- The ability of a set of variables to predict a particular outcome.
- The ability to identify the best predictor of an outcome from of a set of variables.
- The ability to determine whether a particular predictor variable will still be able to predict an outcome if the other variables are controlled.

One can develop a multiple correlation by including a set of independent variables in the regression equation (Tabachnick & Fidell, 2007:129). A basic formula for the regression equation is (Tabachnick & Fidell, 2007:129):

$$Y' = A + B_1X_1 + B_2X_2 + ... B_kX_k$$

Where:
Y' = the predicted value of the dependent variable
A = the intercept
X = the independent variables
k = the number of independent variables
B = the coefficient assigned to each of the individual variables

According to Hair *et al*. (2005:176), each independent variable is weighted by the regression analysis procedure. The resulting weights are referred to as regression coefficients. These regression coefficients indicate the contribution of each specific independent variable to the prediction of the dependent variable (Hair *et al*., 2005:176).

Pallant (2005:142) states that multiple regression analysis is based on certain assumptions about the data; and it can only be used successfully if these assumptions are satisfied. These assumptions will be discussed in the next section.

5.4.2 The assumptions made in multiple regression analysis

Field (2009:220) identifies a number of assumptions regarding the data. These assumptions have to be met in order for the multiple regression analysis results to be generalisable to a wider population. The assumptions that should be met, include (Field, 2009:220; Pallant, 2005:142):

- *Variable types* – This assumption stipulates that the outcome variables should be measured at an interval level (i.e. should be quantitative) and that there should be no constraints on the variability of the outcome (i.e. the outcome should be unbounded). In addition it is important that the predictor variables are either quantitative or categorical (Field, 2009:220). This assumption was met by using a scale that measures the

outcome variables at an interval level (see Appendix B for an example of the measurement instrument).

- *Non-zero variance* – The predictors should not have a variance of zero and should preferably include some level of variability in their values (Field, 2009:220).
- *No perfect multicollinearity* – Multicollinearity refers to the relationships between the predictors. It is therefore important that there should not be a perfect linear relationship between the predictors (Field, 2009:220). Multicollinearity occurs when the predictors are highly (but not necessarily perfectly) correlated. The results for the assessment of multicollinearity are discussed in Section 5.4.4.
- *Predictors are uncorrelated with 'external variables'* – The 'external variables' referred to in this assumption can be described as any outside variables not included in the regression analysis that may influence the outcome variable. The variables themselves should be avoided, as the results derived from the model are unreliable, seeing that the outcome could well have been caused by these so-called 'external variables' (Field, 2009:220).
- *Homoscedasticity* – Homoscedasticity occurs when the residuals for the predictors all have an equal variance (Field, 2009:220). In contrast, when the variances are unequal, this will lead to heteroscedasticity, which will violate the assumption.
- *Independent errors* – This assumption highlights the fact that the residuals in the outcome should not show any sign of a relationship with one another (Field, 2009:221).
- *Normally distributed errors* – It is important that the residuals (or errors) in the outcome be distributed normally, and have a mean of zero (Field, 2009:221).
- *Independence* – The values of the outcome variables should all come from separate entities, and should not be dependent on each other (Field, 2009:221). "Separate entities" thus indicates that the values should be independent.
- *Linearity* – In order to increase the generalisability of the outcome, it is important that the relationship depicted be linear, which implies that all the predictors will lie along a straight line (Field, 2009:221).

When any one of the above assumptions is violated, the regression model obtained from the data cannot be generalized outside the current sample (Field, 2009:251). In order to evaluate the data based on these assumptions, the results for the multiple regression

analysis should be presented. The assumptions were tested as part of the regression analysis conducted in the study. The relevant results are, therefore, discussed in the next section.

5.4.3 The multiple regression analysis results for this study

This section focuses on the assumptions, as well as on the results of the multiple regression analysis of the data. It includes several multiple regression analyses. The first analysis was conducted to obtain diagnostic information to assess the assumptions mentioned above and to identify any influential observations. Once these issues have been dealt with and the influential cases removed, a second multiple regression analysis was conducted representing the final findings of the study.

In order to test the assumptions listed in Section 5.4.2, a multiple regression analysis was conducted to obtain the necessary diagnostic information. The dependent variable in the analysis was "fan loyalty", while the twelve determinants were the independent variables. The results of this analysis are shown in Table 14.

Table 14: Regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	0.808	0.653	0.635	0.415	0.653	34.565	12	220	0.000	1.797

a. Predictors: (Constant), Sport Interest, Player Interest, Drama, Role Model, Excitement, Vicarious, Family Bonding, Entertainment Value, Friends Bonding, Socialisation, Escape, Team Interest
b. Dependent Variable: Fan Loyalty

According to Field (2009:211), *R* – the multiple correlation coefficient – is the correlation between the observed values of the dependent variable, Y, and the values of Y predicted by the regression model. R^2 – the coefficient of multiple determination – indicates the proportion of variation in the dependent variable, Y, that is explained by the predictors in the model as a set taken together (Field, 2009:237).

The table above identified the "R" value as 0.808, which suggests that 80.8% is the value of the multiple-correlation coefficient between the predictors and the dependent variable. In addition, R^2, the squared multiple-correlations coefficient, shows the percentage of variance in the dependent variable that maybe explained by the independent variables. The non-zero variance assumptions can be met here – based on the fact that the R^2 represents the variance in the values of each of the predictors, and not on the amount of variance in the dependent variable that is explained by the independent variables as a set (Field, 2009:237).

It is clear that variance is present in this study, based on the fact that the R^2 score is 0.653, and that this change is significant, based on the fact that the value for significant change (as demonstrated in the column labelled Sig. F Change) is smaller than 0.05 (Field, 2009:237). Thus, the assumption for non-zero variance is met. In addition, the use of the adjusted R^2 value is to provide researchers with an idea of how well the model can be generalized. Ultimately, the goal is to get the value of the adjusted R^2 as close as possible to the value of the R^2 (Field, 2009:235).

Furthermore, in order to confirm the assumption that the errors in regression are independent, the Durbin-Watson value should be close to 2 and between 1 and 3 (Field, 2009:237). The assumption of independent errors in the current study is thus met, as the value for the Durbin-Watson statistic is 1.797, which is close to 2, and between 1 and 3.

In addition, the ANOVA table below demonstrates the significant fit of a regression model to the overall data (Field, 2009:237). According to Field (2009:237), the p-value should be smaller than 0.05 in order to be regarded as statistically significant.

Table 15: The ANOVA table

Model		Sum of Squares	Df	Mean Square	F	p-value
1	Regression	71.509	12	5.959	34.565	.000[a]
	Residual	37.929	220	.172		
	Total	109.437	232			

a. Predictors: (Constant), Sport Interest, Player Interest, Drama, Role Model, Excitement, Vicarious, Family Bonding, Entertainment Value, Friends Bonding, Socialization, Escape, Team Interest

Model	Sum of Squares	Df	Mean Square	F	p-value

b. Dependent Variable: Fan Loyalty

SPSS only display the first three values after the decimal point for the p-value. Therefore, whatever the p-value is, it is smaller than 0.0005. As can be seen in T able 15, the p-value is 0.000, which is less than 0.05. This value thus demonstrates that the model is a significant fit for the overall data.

In addition, Field (2009:238) suggests that it is necessary to investigate the coefficients of the regression model. In this model, it is necessary to analyse the unstandardized regression coefficients or *b-values*. The *b-values* demonstrate the contribution of each predictor to the model individually. The *b-value* tells us something about the relationship between fan loyalty and each of the determinants. Thus, the *b-values* indicate by how much the dependent variable will increase if the specific independent variable is increased with one scale point, while the other independent variables are held constant. Positive values suggest positive relationships between the predictor and the outcome, whereas negative values indicate negative relationships (Field, 2009:238).

It is also important to examine the results of the *t-tests* associated with the *b-values*. The *t-test* demonstrates the statistical significance of the *b-values*. In order for the relationship to be statistically significant, the p-value should be smaller than 0.05 (Field, 2009:238). The p-value should thus be smaller than 0.05 for the predictor, in order to be considered a statistically significant contributor to the model.

Table 16 below includes both the b and Beta values of each predictor in the regression model. The b-values examine the relationship between fan loyalty and each of the identified determinants. Values can either be positive (which indicates a positive relationship between the predictor and the outcome) or negative (which represents a negative relationship). According to Field (2009:238), the b-value also demonstrates the degree to which each predictor influences the outcome when the effects of all other predictors are held constant. On the other hand, Beta (the standardized version of the b-value) informs us about the number of standard deviations that the outcome will change,

as a result of one standard deviation change in a specific determinant, while the others are being held constant.

The Beta should be used when one is examining the relative importance of a predictor in the regression model (Field, 2009:239).

Table 16: Coefficients of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.123	.315		.391	.696
	Family Bonding	.177	.043	.206	4.118	.000
	Friends Bonding	.081	.072	.059	1.125	.262
	Drama	-.022	.052	-.020	-.432	.666
	Entertainment Value	.022	.058	.020	.378	.706
	Escape	.111	.046	.127	2.380	.018
	Excitement	-.018	.076	-.013	-.242	.809
	Player Interest	.000	.030	-.001	-.011	.991
	Role Model	-.164	.057	-.145	-2.888	.004
	Socialization	.059	.048	.064	1.220	.224
	Team Interest	.100	.066	.082	1.505	.134
	Vicarious	-.021	.051	-.022	-.404	.686
	Sport Interest	.641	.055	.618	11.558	.000

a. Dependent Variable: Fan Loyalty

The five determinants that are statistically significant predictors of fan loyalty are highlighted in grey in Table 16 above. These determinants are regarded as such, on the basis of their positive relationships with the outcome, as well as having *p-values* of less than 0.05 (Field, 2009:238). However, by looking at the results for the "role model" determinant, it is clear that the results of the model do not seem to be logical. The *b-value* for this determinant is -0.164, which indicates a negative relationship. Thus, the relationship that the "role model" determinant has with fan loyalty is negative. The *p-value* result, however, is 0.004, which is less than 0.05. According to Field (2009:238), *p-value* results lower than 0.05 indicate that the determinant is a statistically significant contributor to the model. In addition, the negative B coefficient for "role model" is not sensible,

because the results in Table 13 shows a statistically significant positive correlation ($r = 0.245$, $p < 0.001$) between the total score for "role model" and that for "fan loyalty".

This unexpected result could be caused by multicollinearity or influential cases in the dataset; an issue that will be discussed in Section 5.4.5.

Before these unexpected results are examined, the assumptions of normally distributed residuals, homoscedasticity and linearity will be discussed.

A residual (or error) is the difference between the actual and the predicted values of the dependent variable. This measures the predictive fit for a single observation (Hair *et al*., 2005:5). Figure 15 shows a histogram of the standardized residuals. A prerequisite for normality is that the residuals should be normally distributed, which would be demonstrated by a bell-shaped curve (Field, 2009:248). As Figure 15 indicates, the distribution of the standardized residuals is nearly bell-shaped. This indicates that the residuals have a distribution that is close to a normal distribution, which further suggests that the data meet the assumption of normally distributed errors.

Figure 15: Histograms of normally distributed residuals

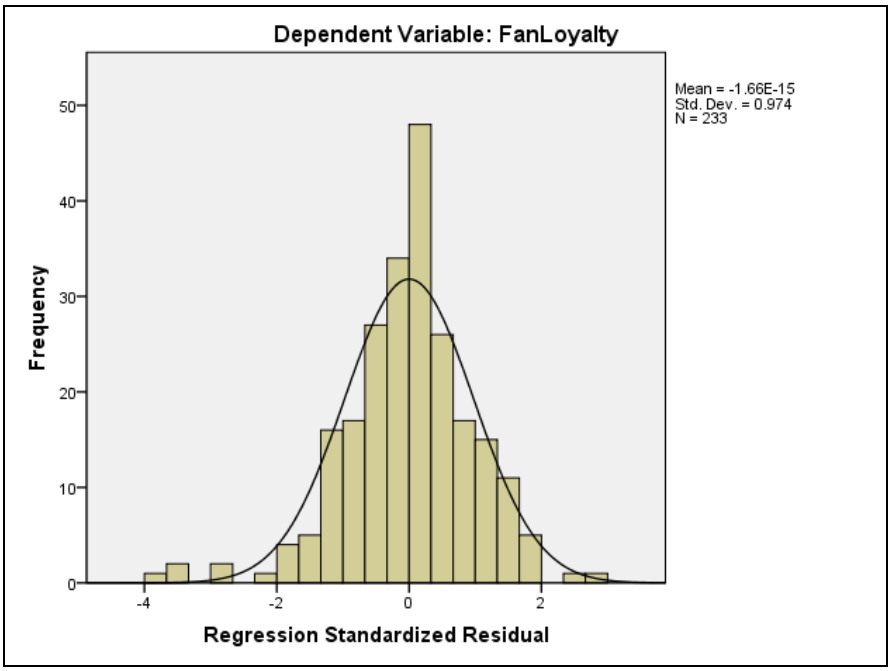
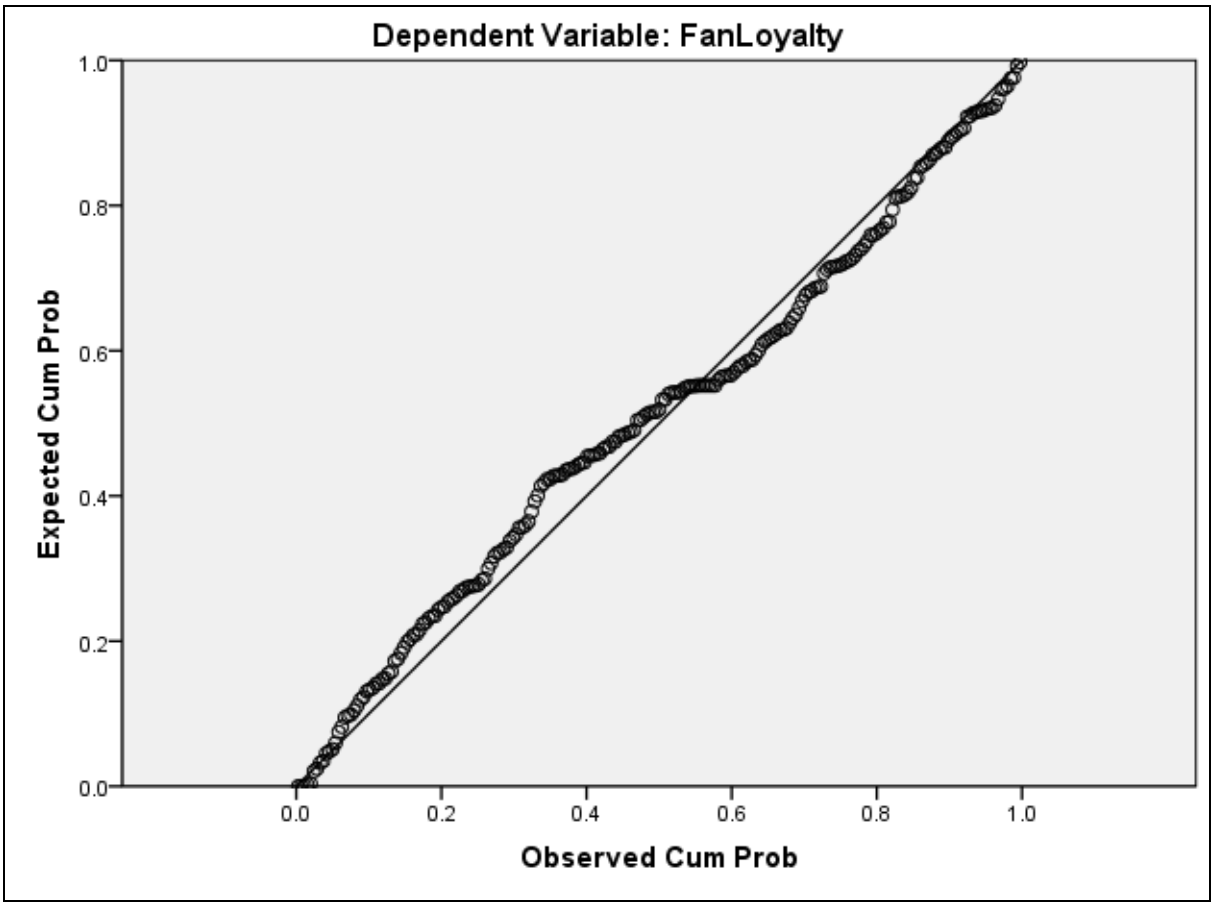


Figure 16 shows a normal probability plot of the standardized residuals. This plot indicates that the residuals do not have a perfectly normal distribution because the black circles do not all fall exactly on the solid, diagonal line.

Figure 16: Normal probability plot of standardised residuals



However, Figure 16 clearly demonstrates that the observed residuals are not far removed from the solid, diagonal line which indicates that the data do not deviate very far from normality (Field, 2009:249). Thus, the assumption of normally distributed errors was met.

At this point it is important to note that Figure 17 (in Section 5.4.5) demonstrates that the assumption of homoscedasticity was also met, seeing that the graph looks like a random array of dots with the dots evenly dispersed around zero (Field, 2009:247). This demonstrates that there is no curve in the data, which would denote heteroscedasticity. This would have indicated that the data had not satisfied the assumption of linearity (Field, 2009:247). In addition, if the dots spread out more at certain points in the graph (i.e. imitate the shape of a funnel), then the data are considered to be non-linear (Field,

2009:251). A “funnel shape” is not present in Figure 17, which indicates that the data meet the assumption of linearity.

Field (2009:214) suggests that it is important to evaluate the ability of the model fit in order to describe the data, as well as the generalisability of the model to other samples. Consequently, the next section focuses on providing guidelines for the interpretation of the results achieved with the multiple regression analysis. In the attempt to explain the unexpected results identified in Table 16, the multicollinearity of the data will be investigated in the next section.

5.4.4 Assessing multicollinearity

Multicollinearity is the relationship between two or more variables, where a correlation coefficient of 1 indicates that a relationship is present (Hair, Black, Babin & Anderson, 2010:6). In essence, multicollinearity occurs when the predictors are highly (but not perfectly) correlated. The implication of multicollinearity is that it identifies that two variables are measuring the same variance. This would then amplify the R value (Burns & Burns, 2008:386). An additional implication of multicollinearity is that this makes it difficult to assess the individual contribution of each independent variable as a predictor in the model. To determine whether multicollinearity is a problem, one should interpret the *Variance Inflation Factor (VIF)* and *tolerance* values provided by SPSS (Field, 2009:242). According to Field (2009:242), a VIF value larger than 10 and a tolerance value below 0.1 indicate potential problems with multicollinearity.

Table 17 includes the multicollinearity diagnostics for the current study.

Table 17: Multicollinearity statistics

	Collinearity Statistics	
	Tolerance	**VIF**
Family Bonding	0.630	1.587
Friends Bonding	0.576	1.735
Drama	0.746	1.340
Entertainment Value	0.579	1.727
Escape	0.550	1.819

	Collinearity Statistics	
	Tolerance	**VIF**
Excitement	0.555	1.801
Player Interest	0.613	1.630
Role Model	0.629	1.590
Socialization	0.576	1.736
Team Interest	0.529	1.892
Vicarious	0.533	1.875
Sport Interest	0.551	1.817

None of the values for tolerance leads to reasons for concern, as all the tolerance scores are above 0.1 (Field, 2009:242). In addition, the VIF values are all below 10, which suggests that multicollinearity is not a cause for concern (Field, 2009:242).

As multicollinearity is not to blame for the unexpected results obtained with the multiple regression analysis (as seen in Section 5.4.3), it was deemed necessary that this study focus on a more specific procedure that could be used to investigate influential observations (Hair *et al*., 2010:7). This procedure is discussed in the next section.

5.4.5 Identifying influential observations

The results of the multiple regression analysis are based on the observations (data) in the study's dataset. Some of these observations (data points) could be outliers, leverage points or influential observations because they have a distorting impact on the results of the regression analysis (i.e., on the regression parameters). These observations could fall into either one of the three categories identified for influential observations (Hair *et al*., 2010:7):

- *Outliers* are observations that are prominent, based on the fact that their actual value is different from their predicted values (Hair *et al*., 2010:5). Their actual values also differ vastly from other observations in the study. Outliers, in other words, are considered to constitute an inappropriate representation of the rest of the sample because they are positioned remotely from the other observations in the study.
- *Leverage points* are observations that have a big influence on the results of the multiple regression analysis. The leverage point is measured by using leverage

values that are contained in the leverage matrix (Hair *et al*., 2010:5). Thus, leverage points are observations that differ vastly from other observations on the independent variables in the study.

- *Influential observations* have an incoherent influence on the multiple regression analysis; and they can be either good or bad (Hair *et al*., 2010:5). These influential observations can be either substantially different from the other independent variables, or they can have extremely (high or low) values for the criterion. They could also have a combination of these effects. Hence, influential observations occur when certain observations have an inconsistent influence on the features of the regression estimates.

In order to identify problematic cases or observations in the current study, outliers, leverage points and influential observations have to be considered. In order to identify outliers, leverage points and influential observations, the four-step process recommended by Hair *et al.* (2010:7) must be followed. The four-step process is a more detailed method used to determine the influence that an observation has on a number of components of the multiple regression analysis. Thus, only cases that have been identified as problematic in all four steps should be considered for deletion, so as not to overfit the regression model. It is necessary to go through the four steps, and not to only rely on traditional diagnostics, such as the standardised residuals, because this might classify observations as being influential, but might not recognise the observation as an outlier.

The four-step process is described below (Hair *et al*., 2010:7):

➢ **Step 1: Examining residuals**

Residuals are the differences between the actual and predicted values of the dependent variable in a multiple regression analysis (Hair *et al*., 2010:7). The role of the residual is twofold: It serves to identify outliers and influential observations, and it is used to check whether the data satisfy the assumptions underlying multiple regression analysis. In order to detect outliers and influential observations, the standardized residuals have to be analysed (Hair *et al*., 2010:7).

A residual is calculated by subtracting the predicted value of the dependent variable for a specific observation from the actual value of the dependent variable for that observation. The residuals are then standardized. A standardized residual is calculated when each residual is divided by the standard deviation of the residuals, and then demonstrated on a common scale (Hair *et al*., 2010:7).

It can be difficult to establish a cut-off point for the point when a standardised residual is large enough to be considered as an outlier (Field, 2009:216). According to Field (2009:216), in a normally distributed sample, 95% of the cases should have standardised residuals between -1.96 and +1.96. As many as 99% of the cases should have standardised residuals that lie between -2.58 and +2.58, while 99.9% of cases should have standardised residuals that lie between -3.29 and +3.29. Field (2009:216) points out that cases with standardised residuals larger than 3.29 (rounded to 3), or smaller a -3.29 (rounded to -3), are a cause for concern, as such values are highly unlikely to happen by chance in a normally distributed sample.

The analysis of standardized residuals can be seen in Figure 17.

Figure 17: Analysis of residuals

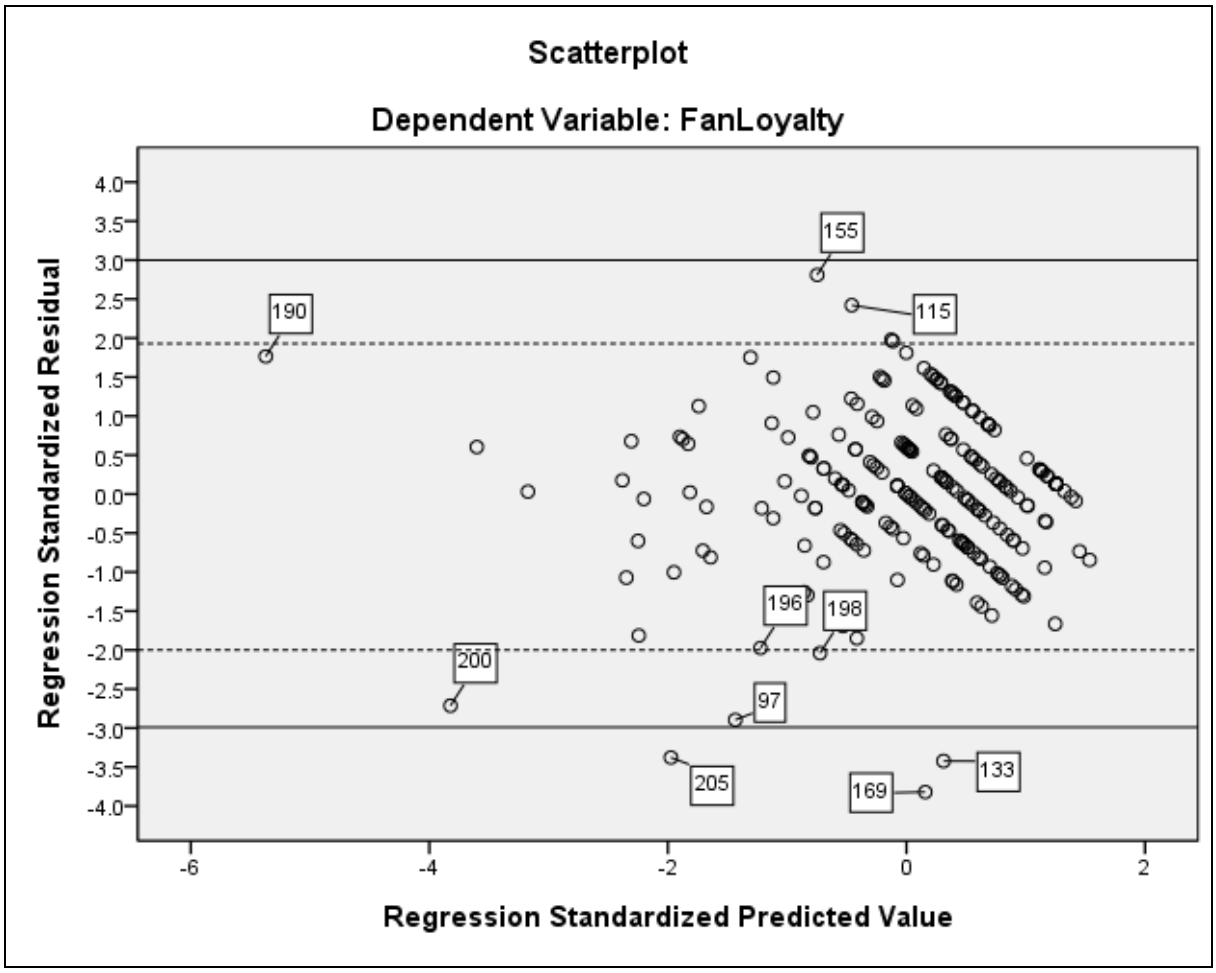


Figure 17 above shows cases that lie above or below the broken horizontal lines and have standardised residuals that are >2 or <-2 respectively, while cases that lie above or below the solid horizontal lines have standardised residuals of >3 or<-3 respectively. Thus, the three cases (i.e. cases 205, 169 and 133) with standardised residuals smaller than -3, are a particular concern and were investigated further.

- **Step 2: Identifying leverage points from the predictors**

When an observation is substantially different from the other observations, it is important to note that this observation can "lever" or "change" the relationship between the dependent and independent variable. This is then referred to as a leverage point. Leverage values basically determine how the predicted values were influenced by the observed value of the dependent variable (Hair *et al.*, 2005:217). These leverage points can be identified by inspecting the leverage values contained in the *leverage matrix* and also by consulting the values of the *Mahalanobis distances* (Hair *et al*., 2010:9).

- *Leverage matrix*

When one wants to investigate the impact of an observation that differs vastly from other observations in a regression analysis, one can use the leverage matrix. The leverage matrix contains values for each observation that has leverage points (i.e. has values differing vastly from other values in the analysis). The combined effects of all the independent variables included in the analysis are then compared (Hair *et al*., 2010:9). Thus, a leverage value for each case in the dataset is calculated, and by inspecting these values, one can identify cases with large leverage values. These cases may act as influential observations by distorting the results of the analysis.

One can identify the leverage points by calculating a cut-off point for large leverage values (Hair *et al*., 2010:10). If p (the number of predictors in the model + 1) is greater than 10 and the sample size exceeds 50, Hair *et al.* (2010:10) recommend that one should select cases with a leverage value > 2 x $\frac{p}{n}$.

The resulting calculation for the current model with its 12 predictors is shown below:

p = 12 +1 = 13

n = 233

2 x $\frac{p}{n}$ = 2 x 0.055794 = 0. 11159

Cases with a leverage larger than 0.11159, can thus be considered as leverage points. Table 18 below shows the 20 cases in the current study with the highest leverage values.

Table 18: The 20 cases with the highest leverage values

	Case number	Leverage value
1	36	0.28337
2	65	0.28266
3	200	0.24993
4	190	0.21025
5	159	0.17662
6	55	0.17617

	Case number	Leverage value
7	100	0.17293
8	184	0.17086
9	20	0.16252
10	23	0.15896
11	199	0.15128
12	97	0.14259
13	183	0.14172
14	68	0.13895
15	219	0.13883
16	202	0.13710
17	28	0.13418
18	193	0.13341
19	22	0.12878
20	34	0.12078

Based on the information presented in Table 18 above, the following cases have been identified as leverage points, based on the fact that they have leverage values that are larger than 0.11159: 36, 65, 200, 190, 159, 55, 100, 184, 20, 23, 199, 97, 183, 68, 219, 202, 28, 193, 22 and 34.

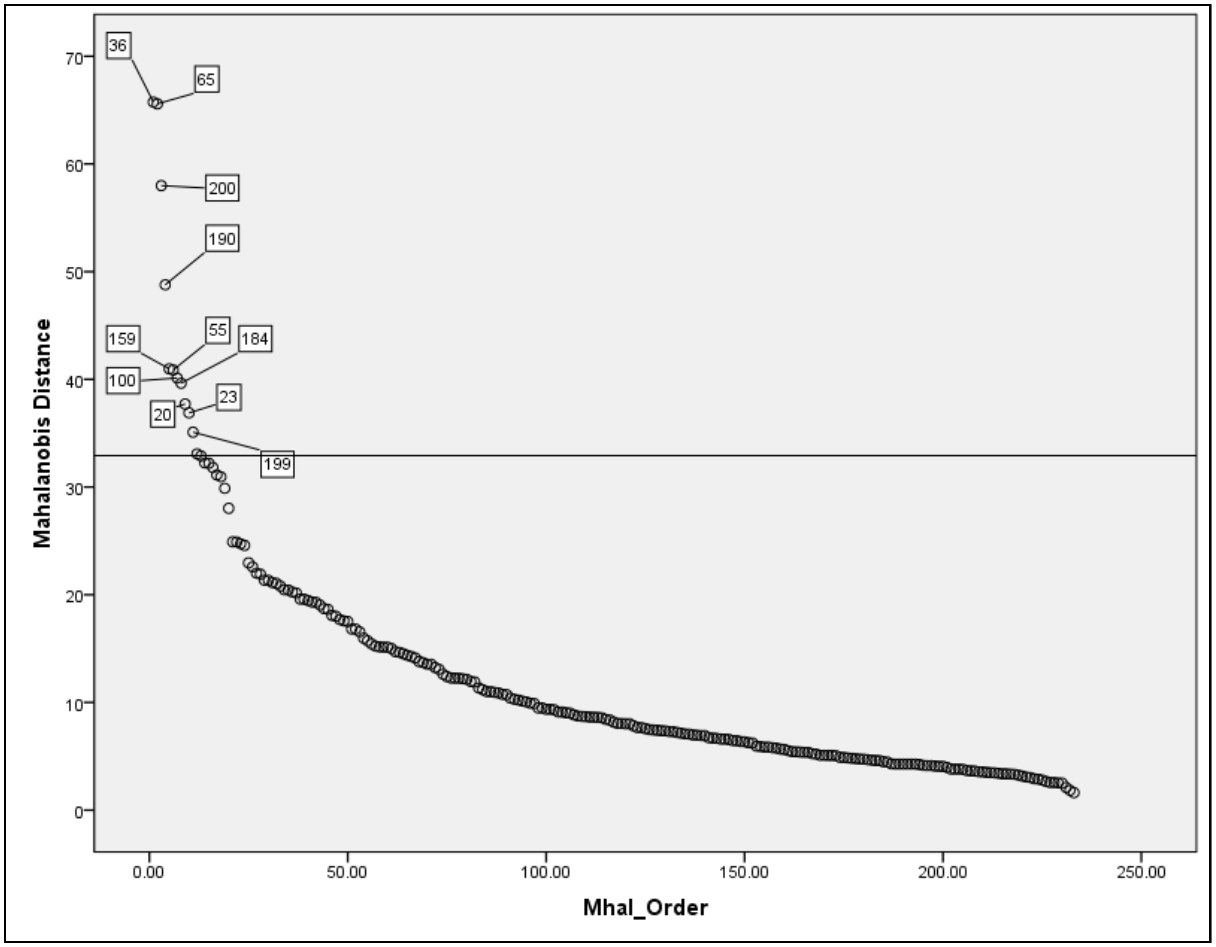
- *Mahalanobis distance*

The focus of the Mahalanobis distance is on measuring the difference between the mean value of the observation and the mean value of all the other cases. This distance would then represent the uniqueness of the observations (Field *et al*., 2010:5). This measure is comparable with that of the leverage values (Field *et al*., 2010:5).

According to Hair *et al*., (2010:10), the Mahalanobis distance can be used to identify cases that have a significantly higher distance from the mean values of the independent variables than the remaining observations. In addition, Tabachnik and Fidell (2007:166) point out that the Mahalanobis distance is distributed as a chi-square variable. The degrees of freedom are equal to the number of predictors in a study. According to Tabachnik and Fidell (2007:949), the chi-square value for 12 degrees of freedom (the

number of determinants measured in the study) is 32.909. Cases with Mahalanobis distances larger than 32.909 can thus be considered as multivariate outliers. The graph for the Mahalanobis distances can be seen below.

Figure 18: Mahalanobis distances



Based on the figure above, it is clear that there are a number of cases exceeding the limit of 32.909 (Tabachnik & Fidell, 2007:949). As a result, the following cases have been identified as multivariate outliers: 36, 65, 200, 190, 159, 55, 100, 184, 20, 23, 199 and 97.

- **Step 3: Single-case diagnostics identifying influential observations**

This step describes the way in which a researcher can delete one or more observations in order to evaluate the changes in the regression results, based on which observations are deleted. Hair *et al.* (2010:10) mention various methods that can be used to identify influential observations. These methods include:

- *Investigating the influence of observations on individual regression coefficients*; and
- *Overall influence measures, which include the Cook's distance, the COVRATIO and the SDFFIT;*

- *Influence of observations on individual coefficients.*

The influence of each observation in the dataset on the regression coefficients is determined by calculating a SDFBETA for each observation on each predictor in the model. Those individual observations that have a large influence on one or more of the model coefficients, based on their SDFBETA values, are then classified as influential observations. In other words, influences on individual coefficients are where the change in the coefficient (when certain observations are deleted) is calculated. The impact of deleting these items is demonstrated by the DFBETA, as well as the standardized version of the DFBETA, referred to as the SDFBETA.

A threshold for identifying high values in this calculation is ±1.0 or ±2.0, when measuring small samples. However, when a study is using medium to large datasets (such as this study) the formula for calculating the threshold is $\perp 2/\sqrt{n}$ (Hair *et al*., 2010:11).

That is:

$\perp 2/\sqrt{n}$ = 0.13102

According to Field (2009:219), one should look at the absolute value of the SDFBETA in each case. If this is larger than 0.13102 then an influential case is present. Table 19 demonstrates the five highest-scoring and lowest-scoring cases in the dataset for each of the predictors and the intercept in the regression model.

Table 19: Standardised DFBETA statistics for each of the predictors in the model

			Case number	SDFBETA value
Standardized DFBETA Intercept	Highest	1	190	.79745
		2	200	.20419
		3	131	.15549
		4	198	.14282
		5	155	.14280
	Lowest	1	97	-.57965
		2	205	-.40700
		3	159	-.27129
		4	121	-.25778
		5	57	-.17602
Standardized DFBETA Family Bonding	Highest	1	200	.92342
		2	97	.63887
		3	169	.35042
		4	155	.23542
		5	195	.22713
	Lowest	1	36	-.57321
		2	196	-.27608
		3	127	-.24600
		4	205	-.18852
		5	100	-.18100
Standardized DFBETA Friends Bonding	Highest	1	169	.44616
		2	36	.24814
		3	10	.22913
		4	68	.20977
		5	188	.17436
Standardized DFBETA Friends Bonding	Lowest	1	200	-.51870
		2	97	-.39972
		3	190	-.33941
		4	131	-.23519
		5	116	-.16928
Standardized DFBETA Drama	Highest	1	97	.45914
		2	200	.33111
		3	36	.29462
		4	5	.20090
		5	137	.19309
	Lowest	1	205	-.61489
		2	219	-.30524

			Case number	SDFBETA value
		3	195	-.23628
		4	127	-.22568
		5	20	-.16019
Standardized DFBETA Entertainment Value	Highest	1	155	.28213
		2	48	.26723
		3	202	.25139
		4	196	.20369
		5	111	.19972
	Lowest	1	97	-.43541
		2	98	-.33307
		3	36	-.30184
		4	183	-.28258
		5	131	-.19916
Standardized DFBETA Escape	Highest	1	121	.23823
		2	158	.19408
		3	169	.18441
		4	37	.17686
		5	97	.16765
	Lowest	1	200	-.42671
		2	205	-.24633
		3	196	-.22099
		4	183	-.16432
		5	20	-.14552
Standardized DFBETA Excitement	Highest	1	121	.34721
		2	159	.33564
		3	97	.25431
		4	183	.23360
		5	36	.22411
	Lowest	1	200	-.33853
		2	190	-.22740
		3	198	-.22421
		4	111	-.18454
		5	114	-.18361
Standardized DFBETA Player Interest	Highest	1	205	.38898
		2	57	.24848
		3	196	.19447
		4	27	.18144
		5	193	.14469

			Case number	SDFBETA value
	Lowest	1	169	-.45951
		2	97	-.45461
		3	133	-.18742
		4	23	-.17828
		5	98	-.17066
Standardized DFBETA Role Model	Highest	1	97	.55454
		2	205	.48175
		3	190	.41884
		4	196	.21269
		5	27	.20287
Standardized DFBETA Role Model	Lowest	1	36	-.64962
		2	200	-.37737
		3	37	-.28288
		4	180	-.24586
		5	23	-.22541
Standardized DFBETA Socialization	Highest	1	36	.28001
		2	183	.23540
		3	55	.20231
		4	131	.13434
		5	116	.13273
	Lowest	1	205	-.32467
		2	27	-.25578
		3	220	-.17440
		4	202	-.16768
		5	219	-.16441
Standardized DFBETA Team Interest	Highest	1	37	.22711
		2	97	.21286
		3	133	.21132
		4	80	.20620
		5	205	.20207
	Lowest	1	200	-.38115
		2	155	-.38031
		3	125	-.30184
		4	36	-.24881
		5	131	-.18932
Standardized DFBETA Vicarious	Highest	1	36	.27800
		2	200	.27458
		3	99	.18248
		4	152	.16279

			Case number	SDFBETA value
		5	37	.14422
	Lowest	1	121	-.29815
		2	97	-.20207
		3	80	-.19080
		4	205	-.18682
		5	100	-.18323
Standardized DFBETA Sport Interest	Highest	1	200	1.00541
		2	205	.59181
		3	57	.34788
		4	196	.33235
		5	198	.24138
	Lowest	1	190	-.24812
		2	23	-.24027
		3	195	-.20401
		4	37	-.18047
		5	133	-.17175

In the table above, all the cases scoring either more than +0.13102 or less than -0.13102 can be regarded as influential observations (Field, 2009:219). Table 20 identifies all the problematic cases identified for each determinant in the table above.

Table 20: Cases identified as influential observations

Determinants	**Case numbers**
Family bonding	200, 97, 36, 169, 196
Friends bonding	200, 169, 97, 190, 36
Drama	205, 97, 200, 219, 36
Entertainment value	97, 98, 36, 183, 155
Escape	200, 205, 121, 196, 158
Excitement	121, 200, 159, 97, 190
Player interest	169, 97, 205, 57, 196
Role model	36, 97, 205, 190, 200
Socialisation	205, 36, 27, 183, 55
Team interest	200, 155, 125, 36, 37
Vicarious achievement	121, 36, 200, 97, 80
Sport interest	200, 205, 57, 196, 190

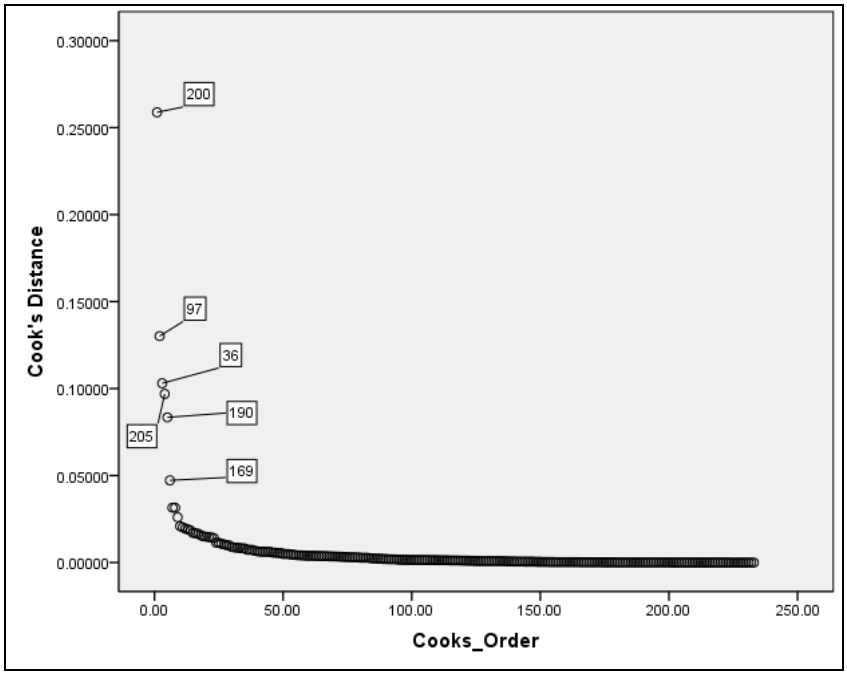
Cases appearing over the majority of the independent variables include case numbers: 200, 97, 36, 169, 196, 190 and 205. These cases are thus considered to be influential.

- *Cook's distance*

Cook's distance measures both the change in the results when an observation is deleted, as well as the distance between this observation and the other observations in the analysis (Hair *et al*., 2010:11). Hair *et al*. (2010:11) indicate that cases with Cook's distances larger than 4 / (n – k – 1) should be regarded as influential observations. In this formula, n is the sample size and k is the number of independent variables in the model. When this formula is applied to the current study, the threshold value can be calculated as 4 / (233 – 12 – 1) = 0.01818.

Observations with Cook's distances larger than 0.01818, can therefore be regarded as influential observations. These influential cases are shown in Figure 19 below.

Figure 19: The Cook's distance



In the graph above, cases larger than 0.01818 were identified as cases with substantially higher values than those of the other observations in the study. These cases are: 200, 97, 36, 205, 190, 169, 155, 196 and 121.

- *COVRATIO*

In addition, the covariance ratio (COVRATIO) is a similar measure that can be used to identify influential observations. The covariance ratio (COVRATIO) is where the efficiency of the estimation process is affected by observation. The difference between the COVRATIO and the Cook's distance is that the COVRATIO focuses on the coefficients as a group, and not on them individually. Problematic cases can be identified by using the covariance ratio formula (Hair *et al*., 2010:11):

COVRATIO < 1 – [3(k + 1)/*n*]
COVRATIO < 1 – [3(13)/233]
COVRATIO < 1 – 0.167382
COVRATIO < 0.83262

Cases smaller than 0.83262 should thus be labelled as problematic. See Table 21 for the identification of these cases.

Table 21: The covariance ratio (COVRATIO)

COVRATIO	Lowest	1	169	169	.43560
		2	133	133	.52361
		3	205	205	.54389
		4	155	155	.67608
		5	97	97	.68667
		6	115	115	.75326
		7	200	200	.78341

Based on the figure above, the following cases can be identified as problematic: 169, 133, 205, 155, 97, 115 and 200.

- *SDFFIT*

Additionally, the SDFFIT measures the degree to which the elimination of the observation influences the fitted values (Hair *et al*., 2010:11). In order to calculate a cut-off value, the following formula may be used (Hair *et al*., 2010:11):

$2\sqrt{(k+1)/(n-k-1)}$

$2\sqrt{(12+1)/(233-12-1)}$

$2\sqrt{13/219}$

$2\sqrt{0.05936073}$

0.487

See Table 22 for the SDFFIT results.

Table 22: The SDFFIT results

Standardized DFFIT	Highest	1	36	36	1.16342
		2	190	190	1.04856
		3	155	155	.65068
		4	195	195	.49102
		5	131	131	.47015
		6	219	219	.46399
		7	183	183	.44263
		8	23	23	.43937
		9	127	127	.43805
		10	98	98	.42966
	Lowest	1	200	200	-1.87249
		2	97	97	-1.32773
		3	205	205	-1.15327
		4	169	169	-.81014
		5	196	196	-.64515
		6	121	121	-.58437
		7	159	159	-.52124
		8	133	133	-.51624
		9	37	37	-.51570
		10	57	57	-.50075

The following cases exceeded the cut-off point of 0.487, and are therefore identified as problematic: 200, 97, 36, 205, 190, 169, 155 and 196.

➢ **Step 4: Selecting and accommodating influential observations**

One should use a large number of diagnostic measures to identify influential observations, and not rely only on one or two measures alone (Hair *et al*., 2010:12). Once influential observations have been identified, the researcher can then decide whether deleting these observations would be justified. However, it is important that the researcher does not trim the data in order to find the perfect fit for the regression model, but he/she should rather use discretion when identifying observations to be deleted (Hair *et al*., 2010:12). The aim should be to take the actual sample population into account and then discover a dataset that is most representative of that specific population (Hair *et al*., 2010:12).

In other words, the purpose of the exercise is to find atypical respondents whose answers distort the results of the regression analysis because they are not representative of the population being investigated.

Listed in Table 23 is the number of times specific cases have been identified as problematic in the four steps of identifying influential observations. In order to decide which cases could be considered for deletion from the dataset, the number of times the cases have been identified in Table 23 should be taken into consideration.

Table 23: Cases identified as problematic in the 4 steps involved in identifying influential observations

Cases that appeared once	Cases that appeared twice	Cases that appeared 3 times or more
22	20	36
28	23	97
34	55	155
68	65	169
115	100	190
121	133	196
183	159	200
193	184	205
202	199	
219		

In order to avoid trimming the data to find a perfect fit, the goal was to apply discretion when identifying observations to be deleted (Hair *et al*., 2010:12). Only those cases that were identified as outliers or influential cases in three or more of the tests mentioned above, were investigated further. These eight cases, which are listed in the last column of Table 23, are discussed in detail in the next section.

5.4.6 A profile of the eight cases identified as outliers or influential observations

Based on the four-step process discussed in the previous section, eight cases (i.e., observations or respondents) were identified as outliers or influential observations that could distort the results of a multiple regression analysis. The questionnaires of these eight respondents were carefully examined to determine whether they should be removed from the dataset. The results of this examination are summarized below:

- *Case 36* had a pattern of selecting extreme options, such as either option 1 or option 5 for most questions. The sincerity of the respondent's answers should therefore be questioned.
- *Case 97* was a female respondent who scored high on the "family bonding" determinant, but significantly low on the "fan loyalty" variable. This indicates that the respondent is not really a fan of rugby, and only attended the game for the "family bonding" experience. Not being a fan of rugby eliminates this respondent from the targeted population, which justifies the removal of this case.
- *Case 155* is in contradiction of the average scores for the rest of the cases in the study. The scores for "team interest" and "sport interest" are particularly low, and are contradictory to the high score on "fan loyalty".
- *Case 169* was removed, based on the fact that the respondent scored low on "fan loyalty" and high on "player interest". This case differs then from the average scores achieved. Scoring low on "fan loyalty" also indicates that the respondent does not meet the criteria of the targeted population.
- *Case 190* is a female respondent who scored low on the majority of the determinants included in the study, as well as on the "fan loyalty" construct.

- *Case 196* is a female respondent who scored low on the determinants with a high average score. The respondent also scored low on the "fan loyalty" construct.
- *Case 200,* contrary to expectations, scored low on a number of items, and also scored exceptionally low on the "fan loyalty" construct.
- *Case 205* scored high on the majority of the determinants, followed by an unusually low score on the "fan loyalty" construct.

In addition, Case 133, that only appeared twice, was also excluded from the study. The case was excluded because of the large standardised residual score for this case. The respondent seems to be interested in certain rugby teams, but could not be classified as a loyal fan.

The nine cases mentioned above were deleted from the dataset. The multiple regression analysis was repeated without these nine cases. The results of this second analysis are reported in Tables 24 and 25.

The values of *R* (the value of the multiple correlation coefficient between the predictors and the outcome) and R^2 (a measure of how much of the variance in the dependent variable may be explained by the predictors) can be seen in Table 24 (Field, 2009:235).

Table 24: Regression model summary after the influential cases were removed

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.820[a]	0.673	0.654	0.342633

a. Predictors: (Constant), Sport Interest, Player Interest, Drama, Excitement, Role Model, Vicarious, Friends Bonding, Entertainment Value, Family Bonding, Socialization, Team Interest, Escape

b. Dependent Variable: Fan Loyalty

Table 24 identified the "R" value as 0.820. This is a slight improvement on the "R" value of 0.808 demonstrated in Table 14 prior to the removal of the influential cases.

In addition, Table 25 includes both the b and Beta values for the coefficients after the influential cases had been removed.

Table 25: Coefficients of the regression model after the influential cases had been removed

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.068	.287		.237	.813
	Family Bonding	.119	.040	.148	2.963	.003
	Friends Bonding	.109	.063	.088	1.745	.082
	Drama	-.021	.045	-.022	-.479	.632
	Entertainment Value	.043	.049	.044	.873	.383
	Escape	.137	.039	.185	3.497	.001
	Excitement	.026	.065	.020	.398	.691
	Player Interest	.023	.025	.046	.902	.368
	Role Model	-.195	.053	-.185	-3.672	.000
	Socialization	.055	.041	.069	1.339	.182
	Team Interest	.140	.057	.131	2.480	.014
	Vicarious	-.025	.043	-.030	-.572	.568
	Sport Interest	.572	.050	.585	11.385	.000

a. Dependent Variable: Fan Loyalty

As is indicated in Table 25, the removal of the nine influential cases did not have any effect on the unexpected results for the “role model” determinant. The *b-value* for this determinant is now -0.195, which still indicates a negative relationship between it and fan loyalty, despite the statistically significant, positive bivariate correlation (r = .245) reported in Table 13. In addition, the *p-value* of 0.00031 is considerably smaller than 0.05, which indicates that the “role model” determinant is a statistically significant contributor to the model. This unexpected result could thus not be resolved by identifying and removing outliers or influential cases in the dataset.

In order to explain this unexpected result, further investigation of the literature identified a concept called “net suppression”. This concept provides a possible explanation for this unexpected result. The “net suppression” concept will be discussed in the next section.

5.4.7 Net suppression

According to Pandey and Elliot (2010:30), net or negative suppression was introduced in 1957 in a study conducted by Lubin (1957). Subsequently, the concept was explained mathematically by Darlington (1986) and Conger (1974). Pandey and Elliott (2010:30) state: "A negative suppressor works in a manner similar to that of a classic suppressor by removing irrelevant variance from [another] predictor (or set of predictors), increasing the predictor's regression weight, and increasing the overall predictability of the regression equation."

When an independent variable can predict the dependent variable and also have the ability to increase the R^2 through its strong relationships with other independent variables, then this variable is referred to as a suppressor variable (Tabachnick & Fidell, 2007:329). This reference is based on the fact that this variable has the ability to suppress irrelevant variance in the other independent variables that is unrelated to the dependent variable. A suppressor variable is therefore defined by the effect that it has on the other independent variables in the study and not by its own regression weight. It should, however, be noted, that a variable only qualifies as a suppressor for those independent variables whose regression weights have increased as a result of the presence of the suppressor (Tabachnick & Fidell, 2007:329).

An example of a negative (net) suppressor is discussed, based on the following regression equation (Pandey & Elliott, 2010:30):

$$Y = a + b_1 X_1 + b_2 X_2 + e$$

Where:

a = the intercept;

e = represents the error in Y;

X_1 = predictor variable;

X_2 = is another predictor variable that is positively correlated with X_1.

In this example, X_2 is the negative suppressor that is positively correlated (at the bivariate level) with both Y and X_1. Because X_2 is correlated with one or more of the other predictor

variables, two changes are produced: Firstly, the regression weight of X_1 is increased; while, secondly, the regression weight of X_2 will be significant, even though the value will have a negative sign. The negative sign is an indication that X_2 has a relationship with the error in X_1 (Pandey & Elliott, 2010:30).

Negative (net) suppression can also be explained by referring to the following figure taken from Cohen and Cohen (1975:86):

Figure 20: A representation of different relationships of Y and two independent variables

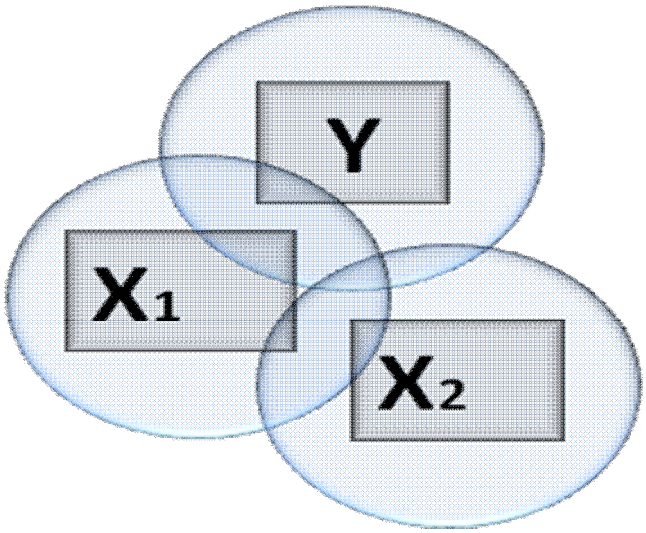


Figure 20 demonstrates the primary function of X_2 as a suppressor of a part of the variance in X_1 that is unrelated to, and has no relationship with Y (Cohen & Cohen, 1975:89). The figure above thus demonstrates that a negative suppressor often has a stronger positive correlation with the other predictors in the model than it has with the dependent variable (Cohen & Cohen, 1975:89).

Currently, no statistical test for suppressor identification is available (Tabachnick & Fidell, 2007:329). However, the presence of a net suppressor variable can be identified if the simple correlation between the suppressor variable and the dependent variable, and the corresponding beta weight in the regression output have opposite signs. In addition, Pandey and Elliott (2010:30) suggest that the first sign that one is dealing with a negative suppressor is when a negative beta weight is present. Once a suppressor variable has been identified, it can be construed as a variable that augments the importance of some of

the other independent variables in the regression model. It does this by suppressing the irrelevant variance in them (Tabachnick & Fidell, 2007:329).

In order to verify whether "role model" functions as a negative (net) suppressor, two additional multiple regression analyses were conducted. The first of these analyses included all the statistically significant predictors of fan loyalty identified in Table 25, **except "role model"**.

In other words, this analysis included "sport interest", "family bonding", "team interest" and "escape" as predictors of "fan loyalty", but excluded "role model" as a predictor (see Tables 26 and 27).

In the second analysis, "role model" was added as a predictor to determine its influence on the other predictors and on the overall predictive ability of the regression model as a whole. The second analysis, therefore, included "role model" as a predictor of "fan loyalty" along with "sport interest", "family bonding", "team interest" and "escape" (see Tables 28 and 29).

Table 26 shows the R, R^2 and adjusted R^2 for the regression model that excludes "role model", while Table 28 shows the corresponding results for the model with "role model" included. The inclusion of "role model" as a predictor leads to a slight increase in the overall predictive ability of the regression model, with R increasing from 0.803 to 0.811, R^2 increasing from 0.644 to 0.658, and the adjusted R^2 increasing from 0.638 to 0.650.

The fact that "role model" served as a negative (net) suppressor is clearly evident from a comparison of the information provided in Tables 27 and 29.

Table 26: Summary of the regression model with "role model" excluded

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.803[a]	0.644	0.638	0.350718

a. Predictors: (Constant), Team Interest, Family Bonding, Escape, Sport Interest

b. Dependent Variable: Fan Loyalty

Table 27: Coefficients of the regression model with "role model" excluded

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	.132	.229		.577	.565	-.320	.584			
	Sport Interest	.555	.047	.567	11.801	.000	.462	.648	.737	.623	.476
	Escape	.132	.034	.178	3.932	.000	.066	.199	.441	.257	.159
	Family Bonding	.150	.037	.187	4.061	.000	.077	.223	.477	.265	.164
	Team Interest	.133	.050	.123	2.669	.008	.035	.230	.471	.177	.108

a. Dependent Variable: Fan Loyalty

Table 28: Summary of the regression model with "role model" included

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.811[a]	0.658	0.650	0.344573

a. Predictors: (Constant), Role Model, Family Bonding, Team Interest, Escape, Sport Interest

b. Dependent Variable: Fan Loyalty

Table 29: Coefficients of the regression model with "role model" included

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	.365	.238		1.530	.127	-.105	.835			
	Sport Interest	.580	.047	.593	12.353	.000	.488	.673	.737	.642	.489
	Escape	.158	.034	.214	4.630	.000	.091	.226	.441	.299	.183
	Family Bonding	.158	.036	.197	4.344	.000	.086	.230	.477	.282	.172
	Team Interest	.161	.050	.150	3.237	.001	.063	.259	.471	.214	.128
	Role Model	-.144	.048	-.137	-2.980	.003	-.240	-.049	.276	-.198	-.118

a. Dependent Variable: Fan Loyalty

Tables 27 and 29 respectively, provide the b and Beta values for the two regression models with “role model” excluded, and with it included. It is clear that the b and Beta values in Table 27 (which excludes the “role model” determinant) are lower than those of the corresponding values in Table 29 (which includes the “role model” determinant). This indicates that the determinants in Table 29 have a stronger relationship with “fan loyalty” than the determinants in Table 27. Including the “role model” construct in the multiple regression analysis thus improves the relationship that the other determinants have with the “fan loyalty” construct.

In addition, negative (net) suppressors can be identified by comparing the partial correlation results of the significant determinants with and without the suspected net suppressor (Howell, 2010:536). In other words, to determine whether “role model” acts as a negative (net) suppressor, one has to compare the partial correlations of the model with “role model” included with those of the model with “role model” excluded.

With regard to partial correlation, Howell (2010:536) states: “… it is the correlation between the two sets of residuals formed from the prediction of the original variables by one or more other variables.” Partial correlation can thus be described as the ability of a variable to influence the “prediction” ability of another variable in a study which will influence the relationships among the residuals.

From a comparison of the columns labelled “partial” in Tables 27 and 29, it is clear that the partial correlation scores were higher when the “role model” determinant was present than when it was excluded. The partial correlations in Table 27 for “sport interest”, “escape”, “family bonding” and “team interest” were 0.623, 0.257, 0.265 and 0.177 respectively with “role model” excluded, while the partial correlations in Table 29 increased to 0.642, 0.299, 0.282 and 0.214 for “sport interest”, “escape”, “family bonding” and “team interest”, with “role model” included. This is an indicator that the “role model” determinant increased the partial correlation scores, which suggests that it had a positive influence on the other predictors in the model, and consequently improved their predictive ability and increased their b and Beta values – as well as their partial correlations.

As the role of a negative (net) suppressor is to improve the values of certain predictors in a regression model by eliminating unnecessary variance, it is clear that the “role model” determinant may be classified as a net suppressor. This was the basis and grounds on which the “role model” determinant was removed. In addition, it was decided that the negative suppressor “role model” should be excluded, as it is difficult to interpret the meaning and managerial implications of a negative suppressor.

The final regression coefficients to be used in the study can thus be seen in Table 27. As a result, the significant determinants of fan loyalty in this study are “sport interest” (b=0.555), “family bonding” (b=0.150), “team interest” (b=0.133) and “escape” (b=0.132).

The next chapter will discuss the implications of the current study’s findings and compare these findings with those of previous studies.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

6.1 INTRODUCTION

This chapter contains seven key sections. The first section restates the main purpose of the study, while the second section focuses on the importance of the study. Section three presents a summary of the findings of the study. The fourth section relates the findings of the study to the literature, followed by the managerial implications in section five. Section six describes the limitations of the study and the chapter concludes with suggestions for future research in section 7.

6.2 THE MAIN PURPOSE OF THE STUDY

The main purpose of this study was to use the Sport Interest Inventory (SII) scale developed by Funk *et al*. (in Neale & Funk, 2005:3) in order to empirically measure the determinants of fan loyalty identified in their study in a South African rugby context, and more specifically, in the Super 14 rugby tournament. Therefore, the main purpose of this study was to investigate the extent to which the twelve determinants are related to and predict “fan loyalty” in the context mentioned.

6.3 THE IMPORTANCE OF THE STUDY

Empirically, the rationale for the importance of this study is threefold. Firstly, this study contributes to the limited body of knowledge on the rugby fan loyalty construct in South Africa. Secondly, this study adds to an understanding of the relationship between fan loyalty and the 12 possible determinants thereof. Thirdly, this study validates the Sport Interest Inventory (SII) scale, as a measure of fan loyalty and the fan loyalty determinants. It does so by building on previous research studies applying the scale.

The study also makes two conceptual contributions, which further emphasise its importance. Firstly, it highlights the strategic importance of the fan loyalty construct for marketing and, secondly, it also discusses the relationship between fan loyalty and the determinants thereof.

Practically, the results of the study are important, as it identifies the determinants of fan loyalty that are important to South African rugby fans. This knowledge can, in turn, assist rugby marketers in South Africa in doing their strategic marketing planning, as well as to plan their promotional strategies and market segment approaches more effectively.

This study aimed to create a better understanding of the fan loyalty determinants regarded as important by South African rugby fans. More specifically, this study has empirically validated the relationship between fan loyalty and the identified determinants in a South African rugby context. To the best of the researcher's knowledge, this is the first study investigating the relationships between fan loyalty and fan loyalty determinants in South Africa with a focus specifically on rugby.

This study is important, as there has been minimal attention given to this topic in South Africa. Furthermore, despite countless previous studies conducted regarding the determinants of fan loyalty (Brokaw *et al*., 2006:1; Correia & Esteves, 2007:573; Gerber-Nel, 2006:10; Shank, 2005:161) no consensus has, as yet, been reached on the key determinants of fan loyalty. According to Funk *et al*. (2001:10), continuous research should be conducted on this topic, in order to identify the most important determinants of fan loyalty, as identified by sports fans of different sports and cultures.

The next section summarises the main findings of the study.

6.4 A SUMMARY OF THE FINDINGS OF THE CURRENT STUDY

This study aimed to test twelve hypotheses. The results of these tests are summarised in Table 30 below.

Table 30: The results of the twelve hypotheses tested in this study

Wording of the alternative hypothesis	Summary of result
H_1: Family bonding is a positive predictor of the level of fan loyalty in supporters of a Super 14 rugby team.	H_1 was accepted
H_2: Friends bonding is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_2 was not accepted
H_3: Drama is a positive predictor of the level of fan loyalty for supporters of a Super 14 rugby team.	H_3 was not accepted
H_4: Entertainment value is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_4 was not accepted
H_5: Escape is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_5 was accepted
H_6: Excitement is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_6 was not accepted
H_7: Player interest is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_7 was not accepted
H_8: A role model is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_8 was not accepted
H_9: Socialisation is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_9 was not accepted
H_{10}: Team interest is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_{10} was accepted
H_{11}: Vicarious achievement is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_{11} was not accepted
H_{12}: Sports interest is a positive predictor of the level of fan loyalty of supporters of a Super 14 rugby team.	H_{12} was accepted

The independent variables “family bonding”, “escape”, “team interest” and “sport interest” are all statistically significant, positive predictors of the dependent variable “fan loyalty”, with “sport interest” being the strongest predictor of “fan loyalty”. The results in the model summary (see Table 28 in Chapter 5) indicated that the coefficient of determination (R^2) was 0.644. This means that 64% of the variance in the dependent variable, “fan loyalty”, is explained by the variance in the four independent variables: “family bonding”, “escape”, “team interest” and “sport interest”.

However, seven independent variables, namely “friends bonding”, “drama”, “entertainment value”, “excitement”, “player interest”, “socialisation”, and “vicarious achievement” were not statistically significant predictors of the dependent variable, “fan loyalty”.

The fact that seven of the 12 predictors included in this study were not statistically significant predictors of fan loyalty is not surprising. The results of previous studies in which the Sport Interest Inventory (SII) was used, indicate that the statistically significant predictors of fan loyalty often differ from study to study, and from one type of sport to another.

Table 31 below identified the four most significant predictors of fan loyalty in four previous studies involving the Sport Interest Inventory (SII). Study 1 conducted by Funk *et al*. (2001:1) identified “player interest”, “vicarious achievement”, “excitement” and “team interest” as the most statistically significant predictors of “fan loyalty”; whereas, Study 2 conducted by Funk *et al*. (2002:33-43) identified “sport interest”, “team interest”, “vicarious achievement” and “role model” as the four most significant predictors. In addition, Study 3 conducted by Funk *et al*. (2003:1-32) identified “team interest”, “escape”, “role model” and “aesthetics” as significant predictors of “fan loyalty”, while Neale and Funk (2005:43-49) identified “player interest”, “vicarious achievement”, “excitement” and “team interest” as statistically significant predictors of “fan loyalty” in Study 4.

Thus, it would seem as if the results for each study have differed in the past, and therefore the exclusion of these determinants as significant determinants is not out of the ordinary.

The findings of the current study are discussed further, along with the relevant literature, in the next section.

6.5 RELATING THE FINDINGS TO THE LITERATURE

This section compares the importance of the predictors used in the current study with the importance of the same predictors used in previous studies. In addition, this section includes a comparison of the relative importance of the predictors tested in the current study with those of the same predictors tested in previous studies.

In order to compare the results of the study with the results obtained from previous studies, Table 31 summarises four studies by Funk and his associates (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Neale & Funk, 2005:43-49), including the results of the current study. The table below explains the context in which each study was conducted, whereas the tick mark (✔) indicates the predictors included in the study. Tick marks accompanied by an asterisk (✔*) indicate the four most important and statistically significant predictors (based on their Beta values) identified in each study. The goal of Table 31 is thus to compare the four statistically significant predictors identified in the current study with the top four statistically significant predictors identified in previous studies.

Table 31: Determinants of fan loyalty identified in various studies utilising the Sport Interest Inventory (SII) scale including the four significant determinants identified in the current study

	Study 1 (Funk *et al*., 2001:1)	**Study 2** (Funk *et al*., 2002:33-34)	**Study 3** (Funk *et al*., 2003:1-32)	**Study 4** (Neale & Funk, 2005:43-49)	**Current study**
Context	Spectator of the 1999 Women's World Cup (WWC)	Spectator attending the 1999 U.S. Nike Cup	Randomly selected ticket holders of the Women's National Basketball Association	Spectator of the Australian Football League	Super 14 rugby tournament fans
Sport type	Soccer	Soccer	Basketball	Football	Rugby
Determinant					
Sport interest	✔	✔*	✔		✔*
Vicarious achievement	✔*	✔	✔	✔*	✔
Excitement	✔*	✔	✔	✔*	✔
Team interest	✔*	✔	✔*	✔*	✔*
Supporting women's opportunity in sport	✔		✔		
Aesthetics	✔		✔*		
Socialisation	✔	✔	✔	✔	✔
National pride	✔	✔			

	Study 1 (Funk *et al*., 2001:1)	**Study 2** (Funk *et al*., 2002:33-34)	**Study 3** (Funk *et al*., 2003:1-32)	**Study 4** (Neale & Funk, 2005:43-49)	**Current study**
Context	Spectator of the 1999 Women's World Cup (WWC)	Spectator attending the 1999 U.S. Nike Cup	Randomly selected ticket holders of the Women's National Basketball Association	Spectator of the Australian Football League	Super 14 rugby tournament fans
Sport type	Soccer	Soccer	Basketball	Football	Rugby
Determinant					
Drama	✔	✔	✔	✔	✔
Player interest	✔ *	✔	✔	✔ *	✔
Role model		✔	✔ *	✔	✔
Entertainment value		✔	✔	✔	✔
Bonding with family		✔	✔	✔	✔ *
Wholesome environment		✔	✔		
Bonding with friends			✔	✔	✔
Customer service			✔		
Sport knowledge			✔		
Escape			✔ *	✔	✔ *
Community pride			✔		
Style of play					

Table 31 summarises the determinants, based on their statistical significance to fan loyalty in the different sport contexts. "Team interest" was identified as the most significant determinant of fan loyalty in soccer, basketball, as well as in football. Therefore, this summary serves as confirmation of the statistical significance of "team interest" as a determinant of fan loyalty. In addition, the current study also identified "team interest" as a significant determinant of fan loyalty.

See Table 32 for a comparison of the significance and relative importance of the four significant predictors of "fan loyalty" in the current and previous studies.

Table 32: A comparison of the significance and relative importance of the predictors of "fan loyalty" in the current and previous studies

	Current study	**Study 1** (Funk *et al.*, 2001:1)	**Study 2** (Funk *et al.*, 2002:33-34)	**Study 3** (Funk *et al.*, 2003:1-32)	**Study 4** (Neale & Funk, 2005:43-49)
Determinants					
Sport interest	Sign./1	✔	Sign.	✔	-
Team interest	Sign./3	Sign.	Sign.	Sign.	Sign.
Bonding with family	Sign./2	-	✔	✔	✔
Escape	Sign./4	-	-	Sign.	✔

Note: Sign. = significant predictor
The numbers 1, 2, 3 etc. indicate the relative importance of each predictor in predicting fan loyalty with 1 being the most important predictor.
The tick mark (✔) indicate that the determinant was included in the study

The importance of "team interest" is once again emphasised in Table 32, where it is clear that all of the previous studies regarded "team interest" as one of their top four significant determinants. "Team interest" is followed by "sport interest" and "escape", which only qualified as a significant determinant in one previous study. However, even though "family bonding" was regarded as a significant determinant in the current study, none of the previous studies identified this determinant as part of their top four statistically significant determinants of fan loyalty.

The managerial implications of these findings will be discussed in the next section.

6.6 MANAGERIAL IMPLICATIONS OF THE STUDY

This section focuses on the benefits that managers can gain by evaluating the empirical results of the study. Analysing determinants of fan loyalty is important for the marketing of sport events, because it explains how and why fans decide to spend their available resources (i.e. time, money and effort) on enforcing their loyalty to the Super 14 rugby

tournament. A better understanding of fan behaviour could be reflected in effective marketing and communication strategies.

An example of the knowledge that management can gain from the empirical findings of the study can be found in the descriptive results, as seen in Chapter 5. The descriptive results of the study identified "excitement" as the highest scoring determinant of fan loyalty, while "player interest" was the lowest. For management, this can be interpreted as the fact that their marketing strategies and communication to fans should reflect and focus more on the "excitement" element of the team or game, instead of on any one single player.

In addition, the results of the multiple regression analysis identified "sport interest", "family bonding", "team interest" and "escape" as significant determinants of fan loyalty.

The first suggestion to managers is to focus their attention on sport interest as a significant determinant of fan loyalty. Sport interest specifies an interest in rugby as a sport in general. The Sport Interest Inventory (SII) scale that Funk and his associates (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk et *al*., 2004:35-61; Neale & Funk, 2005:43-49) developed and refined to measure determinants of fan loyalty, as well as the fan loyalty construct, measured sport interest using the following items:

- First and foremost, I consider myself a fan of rugby;
- I love to follow the game of rugby; and
- I am a huge fan of rugby in general.

Therefore, management is advised to focus their marketing and communication strategies on developing programmes focused on increasing the knowledge, interest and awareness of fans in the Super 14 rugby tournament.

In addition, "family bonding" was also identified as a significant determinant of "fan loyalty". The following are the items measuring "family bonding" as a determinant of "fan loyalty" *(*Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49*):*

- Attending Super 14 rugby games gives me a chance to bond with my family;

- I enjoy sharing the experience of attending a Super 14 rugby game with family members; and
- An important reason why I attend Super 14 rugby games is to spend quality time with my family.

Thus, managers should create methods of focusing the attention of their marketing mix on the "family bonding" determinant, thereby demonstrating to fans that attending Super 14 rugby games will give them the opportunity to spend more time with their family members.

Furthermore, the "team interest" determinant has been identified as a significant determinant of fan loyalty in a number of studies (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49) including the current study. The following are the items measuring "team interest" as a determinant of "fan loyalty" (Funk *et al*., 2001:1; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49):

- I consider myself a fan of the whole team more than the fan of a single player in the Super 14 rugby tournament;
- I come to Super 14 rugby games to support the whole team; and
- I am a fan of my entire favourite Super 14 rugby team.

As a result, management can focus on including all the teams competing in the Super 14 rugby tournament in all their communication and marketing strategies. Promoting the teams may increase the attendance levels of Super 14 rugby games.

Lastly, managers should start identifying and creating methods of focusing the attention of their marketing mix on the "escape" determinant. The following are the items measuring "escape" as a determinant of "fan loyalty" *(*Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49*)*:

- I like attending the Super 14 rugby games because they provide me with distraction from my daily life for a while;
- The Super 14 rugby games provide me with an opportunity to escape the reality of daily life for a while; and

- Getting away from the routine of everyday life is an important reason why I would attend a Super 14 rugby game.

The communication and marketing strategies of management should thus be based on the distraction from everyday life that fans experience when they attend a Super 14 rugby game.

The limitations of the current study will be discussed in the next section.

6.7 LIMITATIONS OF THE STUDY

This study contains several boundaries related to the constructs, theoretical perspectives, as well as the specific population and units of analysis suggested. Firstly, the constructs measured by the Sport Interest Inventory (SII) scale in previous studies were investigated and tested empirically in this study. Additionally, the study only considered one additional determinant of fan loyalty identified in the literature review, namely sport interest. This omitted any other possible determinants of fan loyalty from being tested empirically.

Secondly, the literature reviewed in this study was primarily based on literature concerning topics related to sporting disciplines other than rugby, as literature based on rugby fans was not generally obtainable. Therefore, the factors identified as determinants of fan loyalty in various sporting disciplines were generalised, applied and viewed as determinants of all sporting disciplines, including rugby in this study.

Furthermore, only South African rugby fans of local teams competing in the Super 14 rugby tournament were included in this study. This implies that rugby fans in Australia and New Zealand were omitted. In addition, by focusing only on the Super 14 rugby tournament, rugby tournaments and fans in other countries were excluded. Also, the fact that the data were only collected at a single rugby match, and that rugby fans that prefer to watch rugby at home could not be included in the sample, is also regarded as a limitation. The sample is therefore not representative of all South African rugby fans.

Finally, the results of the study discussed in Chapter 5 demonstrate that the lack of variability in the sample selected for the study is problematic, since homogeneous samples can lead to a lack of reliability in any study. The lack of variance also had a negative influence on the results obtained with the multiple regression analysis.

Some recommendations for future research will be discussed in the next section.

6.8 RECOMMENDATIONS FOR FUTURE RESEARCH

The results of the reliability assessment discussed in Chapter 5 highlight the fact that the sample selected for this study was problematic. The homogeneity of the sample led to various problems with the use of Cronbach's alpha as an indicator of the reliability of the Sport Interest Inventory scale. Therefore, it is suggested that future researchers should select a more heterogeneous sample in order to avoid issues faced by samples that lack variance.

The descriptive results of the study identified "excitement" as the highest scoring determinant, and "player interest" as the lowest. The "excitement" determinant was also one of the highest scoring determinants in previous studies using the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Neale & Funk, 2005:43-49). It is therefore recommended that further investigation should be done on the "excitement" determinant in order to fully understand the impact that this determinant has on fan loyalty.

In contrast, it is recommended that the lowest scoring determinant, namely "player interest" should be reconsidered for inclusion in future studies, as it has also not been a high scorer in other studies using the Sport Interest Inventory (SII) scale (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49).

Some unexpected results of the multiple regression analysis occurred because of problematic cases in the dataset. These problematic cases were identified by implementing the four steps for identifying influential observations recommended by Hair

et al, (2010:7). After an analysis of these cases, it was decided that they should be removed; and as a result, the multiple- regression analysis had to be conducted once more. These problematic cases led to unstable results; and after analysis, it seems as if the homogeneity of the sample had led to this problematic result.

It is therefore recommended that a more heterogeneous sample should be used in future research, in order to avoid problematic cases.

After the problematic cases were removed, the multiple regression analysis was conducted again. This did not solve the unexpected results regarding “role model” as a negative predictor of fan loyalty. Subsequently, the “role model” determinant was identified as a net suppressor, which suggests that “role model” reduced the unnecessary variance in the other independent variables, thereby increasing their predictive values.

Thus, future studies including the “role model” determinant should be aware of the possibility of the “role model” determinant acting as a net suppressor.

To explain “fan loyalty” in the South African context, further research is required. Such research could facilitate a better understanding of the relationship between the determinants of fan loyalty and fan loyalty itself; and ultimately, reveal how they would influence fan loyalty.

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APPENDIX A

- Funk's (2001) Sport Interest Inventory (SII) scale-

The Sport Interest Inventory (SII) scale that Funk and his associates (Funk *et al*., 2001:1; Funk *et al*., 2002:33-43; Funk *et al*., 2003:1-32; Funk *et al*., 2004:35-61; Neale & Funk, 2005:43-49) developed and refined to measure determinants of fan loyalty, as well as the fan loyalty construct, is as follows:

Family bonding (3 items):
Attending Super 14 rugby games gives me a chance to bond with my family.
I enjoy sharing the experience of attending a Super 14 rugby game with family members.
An important reason why I attend Super 14 rugby games is to spend quality time with my family.

Friends bonding (3 items):
Attending Super 14 rugby games gives me the chance to bond with my friends.
I enjoy sharing the experience of attending a Super 14 rugby game with my friends.
An important reason why I attend Super 14 rugby games is to spend quality time with my friends.

Drama (3 items):
I prefer to watch a close Super 14 rugby game rather than a one-sided game.
I like Super 14 rugby games where the outcome is uncertain.
A close Super 14 rugby game between two teams is more exciting than a blow-out.

Entertainment value (3 items):
The Super 14 rugby games provide affordable entertainment.
Super 14 rugby games are great entertainment for the price.
I attend Super 14 rugby games because it is an entertaining event for a reasonable price.

Escape (3 items):
I like attending the Super 14 rugby games because they provide me with distraction from my daily life for a while.
The Super 14 rugby games provide me with an opportunity to escape the reality of daily life for a while.
Getting away from the routine of everyday life is an important reason why I would attend a Super 14 rugby game.

Excitement (3 items):

I like the excitement associated with the Super 14 rugby games.

I like the excitement surrounding the Super 14 rugby games.

I find the Super 14 rugby games to be very exciting.

Player interest (3 items):

I watch the Super 14 rugby games because of individual players more than of the team competing.

I'm more of a fan of individual Super 14 rugby game players than I am of the entire team.

The main reason why I attend Super 14 rugby games is to cheer for my favourite player.

Role model (3 items):

Super 14 rugby players provide inspiration for boys and girls.

I think the Super 14 rugby players are good role models for young boys and girls.

The Super 14 rugby players provide inspiration for young people.

Socialisation (3 items):

I enjoy interacting with other spectators and fans when attending Super 14 rugby games.

Super 14 rugby games have given me the chance to meet other people with similar interests as myself.

I like talking to other people sitting near me at Super 14 rugby games.

Team interest (3 items):

I consider myself of a fan of the whole team more than a fan of a single player in the Super 14 rugby tournament.

I come to Super 14 rugby games to support the whole team.

I am a fan of my entire favourite Super 14 rugby team.

Vicarious achievement (3 items):

I feel like I have won when my favourite Super 14 rugby team wins.

I feel a sense of accomplishment when my favourite Super 14 rugby team wins.

When my favourite Super 14 rugby team wins, I feel a personal sense of achievement.

Sports Interest (3 items):

First and foremost, I consider myself a fan of rugby.

I love to follow the game of rugby.

I am a huge fan of rugby in general.

Fan loyalty (4 items):

I am very interested in rugby as a sport.

I often attend home games of my favourite Super 14 rugby team.

I often watch Super 14 rugby games of my favourite Super 14 team on television.

I am extremely committed to my favourite Super 14 rugby team.

APPENDIX B
- Questionnaire-

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Economic and
Management Sciences

Informed consent for participation in an academic research study

Department of Marketing and Communications Management

Determinants of Super 14 rugby fans' team loyalty

Research conducted by

Ms. C.S. Kotzé (25033698)
Cell: 083 556 2522

Dear Respondent,

You are invited to participate in an academic research study conducted by Carina Kotzé, a Master's student from the Department of Marketing and Communications Management at the University of Pretoria.

The purpose of the study is to test the determinants of fan loyalty identified in previous studies in a South African rugby context, and more specifically, in the Super 14 rugby tournament.

Please note the following:

- This study involves an anonymous survey. Your name will not appear on the questionnaire and the answers you give will be treated as strictly confidential. You cannot be identified in person based on the answers you give.
- Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 10 minutes of your time.
- The results of the study will be used for academic purposes only, and they may be published in an academic journal. We will provide you with a summary of our findings on request.
- Please contact my supervisor, Mr. T.G. Kotzé (at 012 420 4844 or theuns.kotze@up.ac.za), if you have any questions or comments regarding the study.

Please sign the form to indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.

Respondent's signature **Date**

Questionnaire

Respondent number					
For office use only	V1				

- Determinants of Super 14 rugby fans' team loyalty -

Dear Respondent,

Thank you for your willingness to complete this survey. The purpose of the survey is to analyse your perceptions on factors related to fan loyalty. The survey should not take more than 10 minutes to complete. This is an anonymous and confidential survey. You cannot be identified and the answers you provide will be used for research purposes only.

Please answer all the questions. There are no right or wrong answers. We are interested in understanding your perceptions of important factors related to fan loyalty in the Super 14 rugby tournament.

Q1. The table below contains a list of statements on the determinants of fan loyalty to your favourite Super 14 rugby team. Determinants refer to all factors that predict your loyalty to a specific Super 14 rugby team. Please read each statement **carefully** and then **circle** an appropriate number to indicate the extent to which you agree or disagree with each statement. Choose1 if you 'strongly disagree' with the statement, 2 if you 'disagree' with the statement, 3 if you 'neither agree nor disagree' with the statement, 4 if you 'agree' with the statement, or 5 if you 'strongly agree' with the statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	For office use only
Attending Super 14 rugby games gives me a chance to bond with my family.	1	2	3	4	5	V2
Attending Super 14 rugby games gives me the chance to bond with my friends.	1	2	3	4	5	V3
I prefer to watch a close Super 14 rugby game rather than a one-sided game.	1	2	3	4	5	V4
The Super 14 rugby games provide affordable entertainment.	1	2	3	4	5	V5
I like attending the Super 14 rugby games because they provide me with distraction from my daily life for a while.	1	2	3	4	5	V6
I like the excitement associated with the Super 14 rugby games.	1	2	3	4	5	V7

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	For office use only
I watch the Super 14 rugby games because of individual players more than of the team competing.	1	2	3	4	5	V8
Super 14 rugby players provide inspiration for boys and girls.	1	2	3	4	5	V9
I enjoy interacting with other spectators and fans when attending Super 14 rugby games.	1	2	3	4	5	V10
I consider myself a fan of the whole team more than a fan of a single player in the Super 14 rugby tournament.	1	2	3	4	5	V11
I feel like I have won when my favourite Super 14 rugby team wins.	1	2	3	4	5	V12
First and foremost, I consider myself a fan of rugby.	1	2	3	4	5	V13
I enjoy sharing the experience of attending a Super 14 rugby game with family members.	1	2	3	4	5	V14
I enjoy sharing the experience of attending a Super 14 rugby game with my friends.	1	2	3	4	5	V15
I like Super 14 rugby games where the outcome is uncertain.	1	2	3	4	5	V16
Super 14 rugby games are great entertainment for price.	1	2	3	4	5	V17
The Super 14 rugby games provide me with an opportunity to escape the reality of my daily life for a while.	1	2	3	4	5	V18
I like the excitement surrounding the Super 14 rugby games.	1	2	3	4	5	V19
I'm more of a fan of individual Super 14 rugby game players than I am of the entire team.	1	2	3	4	5	V20
I think the Super 14 rugby players are good role models for young boys and girls.	1	2	3	4	5	V21

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	For office use only
Super 14 rugby games have given me the chance to meet other people with similar interests as myself.	1	2	3	4	5	V22
I come to Super 14 rugby games to support the whole team.	1	2	3	4	5	V23
I feel a sense of accomplishment when my favourite Super 14 rugby team wins.	1	2	3	4	5	V24
I love to follow the game of rugby.	1	2	3	4	5	V25
An important reason why I attend Super 14 rugby games is to spend quality time with my family.	1	2	3	4	5	V26
An important reason why I attend Super 14 rugby games is to spend quality time with my friends.	1	2	3	4	5	V27
A close Super 14 rugby game between two teams is more exciting than a blow-out.	1	2	3	4	5	V28
I attend Super 14 rugby games because it is an entertaining event for a reasonable price.	1	2	3	4	5	V29
Getting away from the routine of everyday life is an important reason why I would attend a Super 14 rugby game.	1	2	3	4	5	V30
I find the Super 14 rugby games to be very exciting.	1	2	3	4	5	V31
The main reason why I attend Super 14 rugby games is to cheer for my favourite player.	1	2	3	4	5	V32
The Super 14 rugby players provide inspiration for young people.	1	2	3	4	5	V33
I like talking to other people sitting near me at Super 14 rugby games.	1	2	3	4	5	V34
I am a fan of my entire favourite Super 14 rugby team.	1	2	3	4	5	V35

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	For office use only
When my favourite Super 14 rugby team wins, I feel a personal sense of achievement.	1	2	3	4	5	V36 V37
I am a huge fan of rugby in general.						

Q2. The table below contains a list of statements on your loyalty or level of support towards your favourite Super 14 rugby team. Please read each statement **carefully** and then **circle** an appropriate number to indicate the extent to which you agree or disagree with each statement. Choose 1 if you 'strongly disagree' with the statement, 2 if you 'disagree' with the statement, 3 if you 'neither agree nor disagree' with the statement, 4 if you 'agree' with the statement, or 5 if you 'strongly agree' with the statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	For office use only
I am very interested in rugby as a sport.	1	2	3	4	5	V38
I often attend home games of my favourite Super 14 rugby team.	1	2	3	4	5	V39
I often watch Super 14 rugby games of my favourite Super 14 team on television.	1	2	3	4	5	V40
I am extremely committed to my favourite Super 14 rugby team.	1	2	3	4	5	V41

Q3. Please indicate the number of Super 14 rugby games you have attended during 2009 and 2010 combined:

	For office use only
	V42

Q4. Please indicate your gender

		For office use only
Male	1	V43
Female	2	

Q5. Please indicate your age:

		For office use only
18 – 25	1	V44
26 – 35	2	

36 – 45	3	
46 – 55	4	
56 and older	5	

Q6. Please indicate which of the following teams, participating in the Super 14 rugby tournament, is your favourite team (choose one option only):

Bulls	1	
Sharks	2	
Stormers	3	For office use only V45
Lions	4	
Cheetahs	5	

Thank you for completing the survey.
We appreciate your assistance.