Social correlates of recreational sport participation among a cohort of South African university students

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Preface

Student contribution to articles

I, **Natasha Janse van Rensburg**, student number **20137753**, declare that this thesis is my own work and I contributed adequately towards the research findings published in the articles stated below. As per the regulations of the North-West University's article format, I am permitted to include the three articles as part of my thesis. The thesis therefore serves as fulfilment of the requirements for the degree Doctor of Philosophy in Recreation Sciences at the Potchefstroom Campus of the North-West University.

Signature of student: _____ Date: _____

Signature of Promotor: _____ Date: _____

Signature of Co-promotor: _____ Date: _____

Agreement of co-authors

The co-authors of the three articles that form part of this thesis, **Dr J Theron Weilbach** (promotor) and **Prof Linda L Caldwell** (co-promotor), hereby give the candidate, Natasha Janse van Rensburg (20137753), permission to include the three articles as part of a doctoral thesis. The contribution (advisory and supportive) of the co-authors was kept within reasonable limits, thereby enabling the candidate to submit this thesis for examination purposes.

Signature of Promotor: _____ Date: _____

Signature of Co-promotor: _____ Date: _____

Dedication

This thesis is dedicated to Prof Charlé du Plessis Meyer (1948-2015), who is the inspiration that led me to education and research.

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This study would not have been possible without the help, support and guidance of special people in my life. I would like to show my gratitude to the following:

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The author
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Abstract

Recreational sport participation is beneficial for university students, increasing physical and social health, reducing stress levels, fostering a better sense of belonging and improving persistence, and identifying factors or constraints that may hinder students from participation is essential. The purpose of this study was to address the influence of different social correlates on undergraduate student recreational sport participation at the Potchefstroom Campus of North-West University. The study data were collected through an online survey. The research instrument consisted of sections on demographics, current recreational sport patterns, reasons for participation, leisure constraints and sense of community. A census sample was used comprising 581 undergraduate students registered as full-time contact students for the academic year. Descriptive statistics were used to establish the students' recreational sport profile, while Chi-square tests and crosstabs analyses were used to determine differences in choice of recreational sport based on demographic variables, with significant differences found according to gender and nationality. Two factor analyses were performed to determine the reasons (motives) for and constraints to participation, with five reasons and five constraints identified. The extracted factors were further used in t-tests and analyses of variance and the results showed significant differences among selected demographic groups in their reasons for participation and perceived constraints. An additional factor analysis determined four factors contributing to students' sense of community. These extracted factors were further used in a Spearman's correlation analysis to determine correlations between recreational sport participation and the factors contributing to sense of community. The study not only contributes to the South African body of knowledge in the field of leisure research, but provides practical information for universities on university students' recreational sport behaviour. The recommendations include the review of recreational sport codes endorsed by the university and their inclusiveness to all members of the student population, as well as a survey of the campus sport infrastructure, focusing on accessibility, quality and relevance. An additional recommendation is a campus initiative for both staff and students to engage in recreational sport to promote a sense of community in a fun and informal way. It is suggested that further research includes the following: translating the research instrument to increase understanding of terms such as leisure and recreation; including more universities for comparison and generalisation of results; and using qualitative research methods to acquire more in-depth knowledge on topics arising from this study.

[Keywords: Campus recreation, constraints, demographic variables, motivation, recreational sport, sense of community, South Africa**]**

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List of abbreviations

The following table lists the various abbreviations and acronyms used throughout the thesis. The meaning and page on which the abbreviations and acronyms are first used are also given.

Abbreviation	Meaning	
ANOVA	Analysis of variance	94
BMI	Body Mass Index	28
DHET	Department of Higher Education and Training	66
EFA	Exploratory Factor Analysis	120
HIV	Human Immunodeficiency Virus	34
KMO	Kaiser-Meyer-Olkin	94
MMA	Mixed Martial Arts	71
NIRSA	National Intramural and Recreational Sports Association	65
NWU	North-West University	iii
OIT	Organismic Integration Theory	38
SDT	Self-Determination Theory	36
STIs	Sexual Transmitted Infections	34
USA	United States of America	1
UK	United Kingdom	4

Definitions of key terms

Several key terms are instrumental to this study and, therefore, they are worth defining:

Term	Definition
Leisure	According to Edginton *et al*. (2004:8) leisure can be viewed as a multidimensional construct in which a person is moderately free from constraints and motivated intrinsically. A person will also experience a positive effect and perceive a sense of freedom during leisure time.
Recreation	Recreation can be described as different kinds of activities in which participation takes place during leisure time (Henderson, 2010:7).
Campus recreation	For the purpose of this study, campus recreation refers to a variety of recreational experiences offered for students both on and off campus. These experiences includes recreational sport activities organised by campus administrators as well as informal campus clubs.
Sport	Nixon (2008:8) and Coakley (2004:19) define sport as an institutionalised competitive activity that includes a certain amount of physical exertion or use of complex skills in a formally organised structure. Participation in sport is usually motivated by a combination of personal enjoyment and external reward.
Recreational sport	Barcelona *et al.* (2015:13) describe recreational sport as activities that have sport and leisure characteristics, and includes freely chosen active and physical involvement of an individual.
University	For the purpose of this study, a university is considered as an institution of higher education or learning, offering several academic programmes to gain skills or further training to advance careers. These programmes include degrees or diplomas in the arts and sciences. Courses are delivered through traditional contact sessions on campus or through distance learning.
University student	The definition of university student for the purpose of this study is any student enrolled full-time for an academic programme at a university.
Undergraduate	Undergraduate refers to a university student enrolled for a bachelor's degree or national diploma at a university, which typically requires three to four years of course work from which a student may continue to postgraduate studies.
Contact student	In contrast to distance learning (or online instruction), contact students receive on-campus instruction or contact sessions with university staff as part of completing their qualification.

Campus residence	Campus residences are a South African term used to describe on-campus accommodation specifically for registered male or female university students. These residences function like a fraternity or sorority and have residence managers on the premises referred to as a house fathers/mothers, as well as a house committee with specific portfolios.
Town residence	Town residences also function like a fraternity or sorority and have residence management with a house father/mother and a house committee with specific portfolios. However, they do not provide physical accommodation to students. Thus, students live around campus in private accommodation, but join town residences to as part of organised student life. Town residences have equal access to student activities (such as sport tournaments) but do not physically live in one structure or on campus.

Note: References for citations in the list of definitions are included in the Chapter 1 reference list.

Chapter 1

Problem statement, objectives and structure of the thesis

1.1 INTRODUCTION

Leisure and recreation research is a respected and highly valued research field in countries such as the United States of America (USA) and Canada (Henderson *et al*., 2004:414; Jackson, 2004:324). Consequently, an abundance of information is available on the use of recreational sport by international universities, not only to enhance student health and well-being, but as a method of decreasing university dropout rates (Melendez, 2006:42; Miller & Kerr, 2002:346; Pritchard & Wilson, 2003:19). Student dropout (attrition) is a global problem that has plagued universities across the world, including many South African universities (Braxton *et al.*, 2000:569; Cabrera *et al*., 2006:172; Lam-On & Boongoen, 2014:452; Letseka & Maile, 2008:1; Murray, 2014:1). Limited South African research has been conducted on campus activities such as recreational sports, especially related to their use in decreasing dropout rates of university students. South African universities are faced with worrisome statistics that point to only one in four South African university students entering a contact institution completing their studies in the prescribed time (Council on Higher Education, 2013:15), and a low (15%) graduation rate (Styger *et al*., 2014:1).

South African universities have no lack of campus-based recreational sport activities and facilities, but there has been very little investigation into the impact of these activities on students. Deriving from the success of previous research on international campus recreational sport and student retention rates, this research study aims to provide much-needed information about the different social correlates of student recreational sport participation, to serve as a basis for future research. To fully comprehend these different recreational sport social correlates, the benefits of participation, constraints hindering participation and sense of community will be discussed in the problem statement.

1.2 PROBLEM STATEMENT

The issue of *student dropout* has been an area of research for the last 50 years. Two well-known models on the topic, Tinto's model of student retention (1975) and Astin's theory of student involvement (1984), have been used as a basis for many research studies (Braxton & Hirschy, 2005:61; Milem & Berger, 1997:387). Both theorists wrote about specific factors that may cause students to stay at or leave universities, and one factor both Tinto and Astin agreed on was *involvement* (Astin, 1984:305; Tinto, 1988:453). Student

involvement plays a major role in preventing students from dropping out of university (Demetriou & Schmitz-Sciborski, 2011:12). According to Tinto (1975), student involvement at university refers to both academic and social areas, but it was Astin (1984) who added that students learn more when they are involved in the social area. Astin (1984:304) explained that the amount and quality of time and energy students spend on out-of-class activities are directly linked to the amount of student learning and development that takes place. This involvement in out-of-class activities was also mentioned by Tinto (1975) and other researchers as increasing student retention and persistence, ultimately reducing dropout rates (Levy, 2007:198; Tinto, 1988:453).

Out-of-class activities are known by many different terms, such as recreational sport, intramurals and campus sport (Byl, 2002:5). These terms are used synonymously with noncompetitive sport under the umbrella term of campus recreation (Franklin & Hardin, 2008:4). Noncompetitive campus sport, or recreational sport, are terms popularised in North America, dating back to the early 1900s when students first took part in campus sport during their leisure time (Stein, 1985:42; Stewart, 1992:12; Wilson, 2008:23). In this study, the term 'recreational sport' will be used and refers to a variety of informal sports on campus, with participation on a regular or irregular basis, for which no regular training is required, and for which the exercise level may range from modest to vigorous (Maron *et al*., 2004:2808). As a result, recreational sport is classified as a leisure activity (Edginton *et al*., 2004:224; Franklin, 2013:1).

Why people choose to participate in leisure has been extensively researched by Edginton *et al*. (2004:143) and Iso-Ahola (1980:228). Theories of understanding leisure participation have included aspects such as *leisure needs* and *motivation* (Iso-Ahola, 1980:248). Both Edginton *et al*. (2004:150) and Iso-Ahola (1980:228) focused their explanation of leisure needs by referring to motivation, which drives human leisure behaviour. Two kinds of motivation are mentioned, intrinsic and extrinsic (Iso-Ahola, 1980:231). Intrinsic motivation refers to the force driving individuals to participate for themselves, such as a need to feel better about themselves (Iso-Ahola, 1980:248). In contrast, Ryan and Deci (2000:55) described extrinsic motivation as the external reasons driving a person to participate, such as to receive praise or earn rewards. Unfortunately, most participation in daily life activities is extrinsically motivated due to the dominant force of societal demands, reducing a person's intrinsic motivation (Ryan & Deci, 2000:60).

According to Smith (2008:13), the reasons students choose to participate in recreational sport are closely connected to the perceived benefits of participation. The link between motivation and *needs* in terms of human behaviour is clarified by McShane and Von Glinow (2010:134), who state that negative behaviour or emotions are the result of unfulfilled needs which will then motivate a person to satisfy, or fulfil, the unfulfilled need (McShane & Von Glinow, 2010:134). Unfortunately, terminology may be confusing, as the terms *leisure needs* and *reasons for participation* are used interchangeably throughout research (Iso-Ahola, 1980:229).

Several research studies have described reasons for participating in recreational activities, particularly the perceived benefits; however, only international research on campus recreation has specifically focused on how students benefit from recreational sport participation (Barcelona & Ross, 2002:43; Clark & Anderson, 2011:45; Haines, 2001:30). An increase in physical and social health, reduction in stress levels, a better sense of belonging and greater persistence are some of the many benefits students will experience if they participate in recreational sport on campus (Kanters, 2000:11; Wechsler & Nelson, 2001:290). However, a decrease in negative student behaviours such as alcohol and drug use, and an increase in the likelihood of attaining of a bachelor's degree are the sought-after benefits for most universities (Lisha & Sussman, 2010:404; Sell & Robson, 1998:241). The expectation of students attaining such benefits has been crucial in shaping campus recreational sport programmes in regions such as North America and Australia (Hartmann, 2003:132; Leslie *et al*., 2001:125). Although programmes have shown to be beneficial to international universities, South African-based research is needed to help guide the development of national university campus recreation programmes. Although South African universities have certain factors in common with international university settings, such as a diverse student population, many South African universities are in a crucial stage of transformation (Carrim, 1998:10; Waghid, 2002:480).

Evidently, research carried out in North America has focused on how recreational sport on campus has brought together students from different backgrounds, promoting a sense of campus community (Cheng, 2004:229). One research study showed that by participating in recreational sport on campus, 89.4% of students gained respect for others (stated by Haines, 2001:26). Using a community scale questionnaire, a study carried out by Cheng (2004:224) found that a high correlation (d=0.46) existed between the sense of campus community of students and their caring about each other. Using recreational sport as a means for transformation could help in creating a multicultural climate on campus where all students are respected, whatever their background (Elkins *et al*., 2011:33).

Cheng's quantitative study (2004:222, 226) also expressed the importance of tradition and ritual on campus and their role in the sense of community among students; such traditions include recreational sport. With the use of factor analysis, Cheng achieved a high internal consistency with an alpha value of 0.71, for the factor *history and traditions* which included two variables: 'I am proud of this institution's history and heritage' (0.82), and 'The institution's traditions and celebrations play an important role in my life as a student' (0.67). When Elkins *et al*. (2011:32) used the same quantitative method and instrument as Cheng's 2004 study, *diversity* and *acceptance* were the only two factors that contributed significantly to the students' sense of campus community.

Embracing diversity on campus and building new traditions together can be powerful in promoting transformation (Edginton & Chen, 2008:11). South African universities faced numerous incidents that sparked an investigation from a Ministerial Committee, the report of which, 'Progress Towards Transformation and Social Cohesion and the Elimination of Discrimination in Public Higher Education' (Nkomo, 2013:9), indicated a considerable need for any methods possible to increase transformation and

social cohesion among students. Ultimately, universities seek to build a sense of community among students, where students feel the need to be and want to be involved, both socially and academically (Cheng, 2004:217). According to Elkins *et al*. (2011:24), students who participate in campus recreational sports feel more acceptant of diversity as a factor in sense of community on campus. As such, it may be beneficial to South African universities to explore the positive effects of recreational sport participation in promoting diversity and transformation among students on campus.

The potentially positive benefits of recreational sport participation for both the student and the university suggest that universities need to identify factors or constraints that may hinder students from participation. Building on Tinto's and Astin's theoretical ideology of university student recreational sport involvement and its link to persistence, the factors hindering students from participation will reduce persistence and ultimately increase risk of dropout. Such factors have been researched under the theme *leisure constraints* (Crawford *et al*., 1991:309; Jackson, 2005:5; Kg, 2005:81). Derived from Jackson's definition (1993:273), leisure constraints are described as factors prohibiting participation or involvement in recreational activities. Leisure constraints have been widely researched in the USA, Canada, United Kingdom (UK) and Greece (Alexandris & Carroll, 1997:11; Godbey *et al*., 2010:112; Hashim, 2012:197; Keshkar *et al.*, 2012:561; Kg, 2005:12; Masmanidis & Kosta, 2009:148; Park, 2004:14; Shifman *et al*., 2011:2).

The first major conceptual development in the field was made by Crawford and Godbey (1987:124), who proposed three dimensions of constraint, namely intrapersonal, interpersonal and structural constraints. Following this, major progress was made with scholars such as Jackson (1993:132) in North America and Alexandris and Carroll (1997:2) in Greece, attempting to validate the empirical research and, ultimately, link the three dimensions of constraints to participation. Alexandris and Carroll (1997:14) subsequently produced contradicting results to Jackson (1993:134), explaining that both participants and nonparticipants of recreational sport experience constraints. Numerous other differences in results have been published, making generalisation of these studies difficult. Although considerable progress has been made in leisure constraint research, Jackson (2005:10) describes future constraints research not as 'reinventing the wheel' but in terms of its application to different situations, such as the university setting. Leisure constraint research has been conducted in South Africa (Palen *et al*., 2010:435; Pelak, 2005:65; Wegner *et al*., 2006:248), but only Weilbach (2013:145) has focused on the leisure constraints university students face in their first year of study. It is, therefore, not only important to use the theoretical base, and contradictions and similarities in results provided by both international and national leisure constraints research, but to also start afresh and measure the constraints experienced by university students specific to a South African campus, as proposed in this study.

Through the review of a small amount of relevant literature, recreational sport may be seen as the single common bond between the persistence, involvement and sense of community of university students. Despite these findings, there is a lack of South African-based knowledge about the correlation between university student recreational sport participation and these different social correlates. Universities need to

understand the reasons students choose to be involved in recreational sport, the obstacles that may hinder them from being involved, and the degree to which involvement in campus recreational sports contributes to a sense of campus community (Berger & Milem, 1999:659; Hall, 2006:40). Clearly, the need exists for each university to support a survey on campus to determine these social correlates of recreational sport participation.

As a result, this study addresses how different social correlates are influential to undergraduate student recreational sport participation at a South African university. The purpose of this study is fourfold. Firstly, it describes the patterns of the undergraduate students' recreational sport participation. Secondly, it leads to understanding the reasons undergraduate students want to be involved or participate in recreational sport activities and, thirdly, to understanding the constraints undergraduate students face in being involved or participating in recreational sport activities. Lastly, it determines how recreational sport participation relates to undergraduate students' sense of community. Not only does the study add to the body of knowledge of recreation science, it will be beneficial to the planning of recreational sport programmes in universities. Consideration of the reasons students choose to participate in recreational sport programmes can guide marketing efforts, whereas knowledge of the factors that hinder student participation efforts can assist in minimising those factors to increase participation patterns. Universities may also use the results to facilitate transformation, by providing opportunities for students to develop relationships with individuals from different cultures through recreational sport programmes. To achieve the purpose of this study, various research questions are answered.

1.3 RESEARCH QUESTIONS

The following research questions were posed for this study:

1. **What are the recreational sport participation patterns of undergraduate students?**
    a. What are the kinds of recreational sport activities undergraduate students engage in on campus and are there differences between gender, race, residential type and nationality and the choice of recreational sport activities?
    b. What are the recreational sport participation rates of undergraduate students and are there differences between gender, race, residential type and nationality and participation rates?

2. **What are the reasons why undergraduate students participate in recreational sport?**
    a. Do statistically significant differences exist in the motives of selected demographic groups (gender, race, etc.) of undergraduate students for participating in recreational sport?

3. **What factors are hindering undergraduate students from participating in recreational sport?**
    a. Do statistically significant differences exist in the perceived leisure constraints of selected demographic groups (gender, race, etc.) of undergraduate students to participating in recreational sport?

4. **In what ways does recreational sport participation contribute towards undergraduate students' sense of community at a South African university?**
    a. Do statistically significant differences exist between the factors contributing to sense of community and selected demographic groups (gender, race, etc.) of undergraduate students at a South African university?
    b. Does a positive correlation exist between the frequency of recreational sport participation and sense of community of undergraduate students at a South African university?
    c. Does a positive correlation exist between the level of participation in different types of recreational sport activities and sense of community of undergraduate students at a South African university?
    d. Does a positive correlation exist between the frequency of recreational sport participation and sense of community of undergraduate students at a South African university?
    e. Do the factors contributing to sense of community predict undergraduate students at a South African university choice to participate in recreational sport activities?
    f. Do the factors contributing to sense of community predict undergraduate students at a South African university choice of type of recreational sport activities?

1.4 STRUCTURE OF THE THESIS

This thesis is structured according to the 'article format'. The article format differs from the traditional format in that Chapters 3, 4 and 5 are written for specific peer-reviewed academic journals. The specified journal of each individual article was selected based on the journal's purpose and audience.

Chapter 1: **Chapter 1** gives an overview of current research and highlights shortcomings in the research field. The chapter also introduces the research problem and research questions. The references included in this chapter are represented at the end of the chapter and in accordance with the NWU 2012 guidelines for quoting sources.

Chapter 2: **Chapter 2** provides an overview of relevant literature and research, as well as theoretical models on which the study is based. The references included in this chapter are represented at the end of the chapter and in accordance with the NWU 2012 guidelines for quoting sources.

Chapter 3: **Article 1:** *Recreational sport participation patterns of university students at a South African university* (Research Question 1). This article is intended for the Recreational Sports Journal and is formatted and sourced accordingly.

Chapter 4: **Article 2:** *Factors influencing undergraduate students' recreational sport participation: results from a South African study*. This article answers Research Questions 2 and 3. The article is intended for the South African Journal for Research in Sport, Physical Education and Recreation and is formatted and sourced accordingly.

Chapter 5: **Article 3:** *The contribution of recreational sport participation towards undergraduate students' sense of community at a South African university.* This article answers Research Question 4 and provides implications for recreational sport marketing and programming on campus. As such, the article is written for publication in the South African Journal for Research in Sport, Physical Education and Recreation.

Chapter 6: **Chapter 6** summarises the whole study, and draws conclusions based on the answers to the research questions. Limitations and recommendations for future studies are also discussed. The references included in this chapter are represented at the end of the chapter and in accordance with the NWU 2012 guidelines for quoting sources.

1.5 REFERENCES

Alexandris, K. & Carroll, B. 1997. An analysis of leisure constraints based on different recreational sport participation levels: results from a study in Greece. *Leisure sciences,* 19(1):1-15.

Astin, A. W. 1984. Student involvement: a developmental theory for higher education. *Journal of college student personnel,* 25(4):297-308.

Barcelona, R. J. & Ross, C. M. 2002. Participation patterns in campus recreational sports: an examination of quality of student effort from 1983 to 1998. *Recreational sports journal,* 26(1):41-53.

Barcelona, R., Wells, M. & Arthur-Banning, S. 2015. Recreational Sport: Program Design, Delivery, and Management. Champaign, IL: Human Kinetics.

Berger, J. B. & Milem, J. F. 1999. The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in higher education,* 40(6):641-664.

Braxton, J. M. & Hirschy A. S. 2005. Theoretical developments in the study of college student departure. *College student retention: formula for student success,* 3, 61-87.

Braxton, J. M., Milem, J. F. & Sullivan, A. S. 2000. The influence of active learning on the college student departure process: toward a revision of Tinto's theory. *Journal of higher education*, 71(5):569-590.

Byl, J. 2002. Intramural recreation: a step-by-step guide to creating an effective programme. Champaign, IL: Human Kinetics.

Cabrera, L., Bethencourt, J. T., Pérez. P. A. & Afonso, M. G. 2006. The problem of university dropout. *Relieve,* 12(2):171-203.

Carrim, N. 1998. Anti-racism and the 'new' South African educational order. *Cambridge journal of education,* 28(3):301-320.

Cheng, D. X. 2004. Students' sense of campus community: what it means, and what to do about it. *Journal of student affairs research and practice,* 41(2):415-433.

Clark, B. S. & Anderson, D. M. 2011. "I'd be dead if I didn't have this class:" the role of leisure education in college student development. *Recreational sports journal,* 35(1):45-54.

Coakley, J. 2004. Sports in society: Issues & controversies. 8th ed. New York, NY: McGraw-Hill.

Council on Higher Education ***see*** South Africa. Council on Higher Education.

Crawford, D. W. & Godbey, G. 1987. Reconceptualizing barriers to family leisure. *Leisure sciences*, 9(2):119-127.

Crawford, D. W., Jackson, E. L. & Godbey, G. 1991. A hierarchical model of leisure constraints. *Leisure sciences*, 13(4):309-320.

Demetriou, C. & Schmitz-Sciborski, A. 2011. Integration, motivation, strengths and optimism: retention theories past, present and future. The 7th National Symposium on Student Retention, Charleston, Norman, OK: The University of Oklahoma.

Edginton, C. R. & Chen, P. 2008. Leisure as transformation. Champaign, IL: Sagamore Publishing.

Edginton, C. R., Edginton, S. R., Hudson, S. D., & Dieser, R. B. 2004. Leisure programming: service-centred and benefits approach. 4th ed. New York, NY: Karpacz.

Elkins, D. J., Forrester, S. A & Noël-Elkins, A. V. 2011. The contribution of campus recreational sports participation to perceived sense of campus community. *Recreational sports journal*, 35(1):24-34.

Franklin, D. 2013. Evolution of campus recreational sports. (*In* National Intramural-Recreational Sports Association., *ed*. *Campus recreational sports*. Champaign, IL: Human Kinetics. p. 12-40).

Franklin, D. S. & Hardin, S. E. 2008. Philosophical and theoretical foundations of campus recreation: crossroads of theory. (*In* Callender, M., *ed*. *Campus recreation.* Champaign, IL: Human Kinetics. p. 3-21).

Godbey, G., Crawford, D. W. & Shen, X. S. 2010. Assessing hierarchical leisure constraints theory after two decades. *Journal of leisure research*, 42(1):111-134.

Haines, D. J. 2001. Undergraduate student benefits from university recreation. *NIRSA journal*, 25(1):25-33.

Hall, D. A. 2006. Participation in a campus recreation program and its effect on student retention. *Recreational sports journal*, 30(1):40-45.

Hartmann, D. 2003. Theorizing sport as social intervention: a view from the grassroots. *Quest*, 55(2):118-140.

Hashim, H.A. 2012. Perceived barriers to recreation sport participation in university students: a comparison between international and local students in the United States. *Pertanika journal of social sciences & humanities*, 20(1):197-203.

Henderson, K.A. 2010. Importance of Leisure to individuals and society. (*In* Human Kinetics., *eds*. dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 3-26).

Henderson, K.A., Presley, J. & Bialeschki, M.D. 2004. Theory in recreation and leisure research: reflections from the editors. *Leisure sciences*, 26(4):411-425.

Iso-Ahola, S.E. 1980. The social psychology of leisure and recreation. Dubuque, IA: Brown Company Publishers.

Jackson, E. L. 1993. Recognizing patterns of leisure constraints: results from alternative analyses. *Journal of leisure research,* 25(2):129-129.

Jackson, E.L. 2004. Individual and institutional concentration of leisure research in North America. *Leisure sciences*, 26(4):323-348.

Jackson, E. L. 2005. Constraints to leisure. State College, PA: Venture Publishing.

Kanters, M. A. 2000. Recreational sport participation as a moderator of college stress. *Recreational sports journal,* 24(2):11-24.

Keshkar, S., Ehsani, M., Koozechian, H., Ghasemi, H. & Mohammadi, S. 2012. Examining the hierarchical model of leisure constraints among women in Tehran regarding sports participation. *Annals of" Dunarea de Jos" University of Galati-Fascicle XV: Physical education and sport management,* 2(11):176-185.

Kg, J. K. 2005. University students' leisure exercise behaviour – a Hong Kong study. Queensland: QUT (Thesis – PhD).

Lam-On, N. & Boongoen, T. 2014. Using cluster ensemble to improve classification of student dropout in Thai university. Soft Computing and Intelligent Systems (SCIS), 2014 Joint 7th International Conference on and Advanced Intelligent Systems (ISIS), 15th International Symposium on, IEEE.

Leslie, E., Sparling, P. B. & Owen, N. 2001. University campus settings and the promotion of physical activity in young adults: lessons from research in Australia and the USA. *Health education*, 101(3):116-125.

Letseka, M. & S. Maile. 2008. High university drop-out rates: A threat to South Africa's future. Human Sciences Research Council Pretoria.

Levy, Y. 2007. Comparing dropouts and persistence in e-learning courses. *Computers & education,* 48(2):185-204.

Lisha, N. E. & Sussman, S. 2010. Relationship of high school and college sports participation with alcohol, tobacco, and illicit drug use: a review. *Addictive behaviors,* 35(5):399-407.

Maron, B. J., Chaitman, B. R., Ackerman, M. J., De Luna, A. B., Corrado, D., Crosson, J. E., Deal, B. J., Driscoll, D. J., Estes III, N. M. & Araujo, C. G. S. 2004. Recommendations for physical activity and

recreational sports participation for young patients with genetic cardiovascular diseases. *Circulation,* 109(22):2807-2816.

Masmanidis, T. & Kosta, G. 2009. Information as a factor of perceived constraints and students' participation in campus recreational sports programs. (*In* Sport Management: 2009 17th EASM Conference, Greece. p.148-150).

McShane, S.L. & Von Glinow, M.A. 2010. Organizational behaviour: emerging knowledge and practice for the real world. 5th ed. New York, NY: McGraw-Hill/Irwin.

Melendez, M.C. 2006. The influence of athletic participation on the college adjustment of freshmen and sophomore student athletes. *Journal of college student retention: research, theory & practice*, 8(1):39-55.

Milem, J. F. & Berger, J. B. 1997. A modified model of college student persistence: exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of college student development*, 38(4):387-400.

Miller, P.S. & Kerr, G. 2002. The athletic, academic and social experiences of intercollegiate student-athletes. *Journal of sport behavior*, 25(4):346-367.

Murray, M. 2014. Factors affecting graduation and student dropout rates at the University of KwaZulu-Natal. South African journal of Science, http://dx.doi.org/10.1590/ sajs.2014/20140008

Nkomo, M. 2013. South Africa's Achilles' heel and Phoenixian possibilities: reflections on structured underdevelopment and transformation challenges: initiating the debate. *South African journal of higher education,* 27(1): 5-23

Nixon, H.L., II. 2008. Sport in a changing world. Boulder, CO: Paradigm.

Palen, L., Patrick, M.E., Gleeson, S.L., Caldwell, L.L., Smith, E.A., Wenger, L. & Flisher, A.J. 2010. Leisure constraints for adolescents in Cape Town, South Africa: a qualitative study. *Leisure sciences*, 32(5):434-452.

Park, S. 2004. Constraints to recreational sport participation for adolescents exposed to internet-related delinquency: developing marketing strategies for increasing sport participation. *International journal of applied sports sciences,* 16(1):41-54.

Pelak, C. F. 2005. Negotiating gender/race/class constraints in the new South Africa a case study of women's soccer. *International review for the sociology of sport,* 40(1):53-70.

Pritchard, M.E. & Wilson, G.S. 2003. Using emotional and social factors to predict student success. *Journal of college student development*, 44(1):18-28.

Ryan, R. M. & Deci, E. L. 2000. Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary educational psychology,* 25(1):54-67.

Sell, L. & Robson, P. 1998. Perceptions of college life, emotional well-being and patterns of drug and alcohol use among Oxford undergraduates. *Oxford review of education,* 24(2):235-243.

Shifman, R., Moss, K., D'Andrade, G., Eichel, J. & Forrester, S. 2011. A comparison of constraints to participation intramural sports between international and noninternational students. *Recreational sports journal,* 36(1):2-12.

Smith, B. D. 2008. Motivational factors for student participation in collegiate club sports. Indiana: Indiana University. (Dissertation – MSc).

South Africa. Council on Higher Education. 2013. *Higher education participation 2011*. Pretoria: Council on Higher Education http://www.che.ac.za/sites/default/files/publications/Higher%20Education%20Participation%202011.pdf

Stein, E. 1985. The first organized intramural event (1869): Princeton Univeristy's cane spree. *NIRSA journal,* 9(2):42-43.

Stewart, R. E. 1992. A brief history of the intramural movement. *NIRSA journal,* 17(1):12-14.

Styger, A., van Vuuren, G. & Heymans, A. 2014. Case study of postgraduate student dropout rate at South African universities. *International business & economics research journal (IBER),* 14(1):1-14.

Tinto, V. 1975. Dropout from higher education: A theoretical synthesis of recent research. *Review of educational research,* 45(1):89-125.

Tinto, V. 1988. Stages of student departure: reflections on the longitudinal character of student leaving. *The journal of higher education,* 59(4):438-455.

Waghid, Y. 2002. Knowledge production and higher education transformation in South Africa: Towards reflexivity in university teaching, research and community service. *Higher education,* 43(4):457-488.

Wechsler, H. & Nelson, T. F. 2001. Binge drinking and the American college students: What's five drinks? *Psychology of addictive behaviors,* 15(4):287-291.

Wegner, L., Flisher, A.J., Muller, M. & Lombard, C. 2006. Leisure boredom and substance use among high school students in South Africa. *Journal of leisure research,* 38(2):249-266.

Weilbach, J. T. 2013. The relationship between demographic variables and leisure perceptions of selected South African first year university students. Potchefstroom: NWU (Thesis – PhD).

Wilson, P.E. 2008. History and evolution of campus recreation. (*In* Callender, M., *ed.* National Intramural-Recreational Sports Association, *ed.* 2008. Campus recreation. Champaign, IL: Human Kinetics. p. 21-33).

Chapter 2

Literature review

Social correlates of recreational sport participation by university students

2.1 INTRODUCTION

As discussed in the previous chapter, the purpose of this study was to examine three social correlates of recreational sport participation by undergraduate students at a South African university. This chapter reviews the existing literature on the themes relating to the study, beginning with background information on recreational sport and the university setting. The major topics and central elements to the study, namely reasons for participation, leisure constraints and sense of community, are then reviewed. The chapter finishes with a summary.

2.2 THEORETICAL FOUNDATION: RECREATIONAL SPORT AS LEISURE

To fully understand the role and place of recreational sport on university campuses, the terminology and components of recreational sport should be discussed (Henderson *et al.*, 2004:411). A North American term, *recreational sport* is also known by other names (Barcelona *et al*., 2015:5; Franklin, 2013:1; Franklin & Hardin, 2008:4; Mull *et al*., 1997:4). According to Mitchell (cited in Franklin, 2013:1) the term *intramurals* was originally used, which translated to 'within the walls'; the term referred to available sport activities within the grounds of a university campus. Later, more terms were added to create a better understanding of such programmes. These terms included *physical*, *recreation* or *recreational activities*, and *sport* or *fitness activities* (Franklin, 2013:2; Mull *et al*., 1997:4). Mull *et al*. (1997:4) explained that earlier titles of recreational sport programmes on campuses differed, and although the activities were alike, the differing titles reflected the poor understanding of the exact nature of recreational sport. The theoretical foundation of recreational sport is constructed from three concepts: leisure, recreation and sport (Barcelona *et al*., 2015:5; Mull *et al*., 1997:4). Consequently, it is necessary to discuss each concept and describe how they relate to the foundation of recreational sport.

2.2.1 Leisure

The concept of *leisure* is contested among scholars (Goodale & Witt, 1991:1; Kelly, 2012:4; Leitner & Leitner, 2012:3; Lewis, 2003:344; McLean & Hurd, 2011: 2; Rossman & Schlatter, 2008:6). Findings by Parr and Lashua (2004:12) indicate that professionals working in the field of leisure have a deeper and more differentiated understanding of leisure than the nonprofessional. Many professionals and scholars acquire

the definition of leisure from academic textbooks and, although textbooks are based on research, the definition might not agree with the cultural consensus of the term leisure (Parr & Lashua, 2004:5). Chick (1998:116) raised the question of whether the general definition of leisure is the same for non-Western countries (e.g., South Africa) or non-English-speaking cultures. Researchers agree that leisure is not limited to one general definition (Edginton *et al*., 2004:6; Henderson, 2010:6; Leitner & Leitner, 2012:4). The argument behind this statement lies in the influence of demographic characteristics such as gender, ethnicity and race on the definition of leisure (Edginton & Chen, 2008:6). Numerous researchers have presented findings on the effects of gender, ethnicity and race on leisure behaviour in different settings (Floyd & Mowatt, 2014:72; Fox *et al*., 2014:117; Heintzman & Stodolska, 2014:131; Stodolska & Shinew, 2014:86; Walker & Deng, 2014:103). However, research has found that language and how leisure is translated have no influence on how leisure is experienced or perceived, even though non-English-speaking cultures may not have a distinct word for leisure (Chick, 1998:116). Consequently, definitions of leisure are diverse, depending on the person and context from which leisure is perceived. A general description of leisure can be constructed as being intrinsically motivated to participate in a freely chosen activity, during a person's free time (Edginton *et al*., 2004:6; Kelly, 2012:4; Veal, 1992:2). In the context of recreational sport, the competitiveness and physical nature of sport may detract from recreational sport being perceived as leisure (Barcelona *et al*., 2015:5). Throughout the literature, researchers refer to specific perspectives and orientations from which to distinguish leisure, namely free time or nonobligated time (Edginton *et al*., 2004:6; Henderson, 2010:6; Leitner & Leitner, 2012:5; Lewis, 2003:344), activity (Edginton *et al*., 2004:6; Henderson, 2010:6) and state of mind (Edginton *et al*., 2004:6; Henderson, 2010:6). These three perspectives provide the platform from which to understand the connection between leisure and recreational sport.

According to Edginton *et al*. (2004:6) and Veal (1992:2), a person's time can be split into three key components: *existence*, *subsistence* and *discretionary* time. Time spent on staying alive, such as when fulfilling basic needs, and time spent making a living, such as when participating in work or school, refers to existence and subsistence. Recreational sport takes place during what a person perceives as their *free time* or *nonobligated time*. This time can be referred to as discretionary time, meaning the limited time not spent on responsibilities such as work, household or family duties (Edginton *et al*., 2004:7; Goodin *et al*., 2006:44; Veal, 1992:2). Depending on personal preference and circumstances, a person may increase or decrease the time allocated to existence, subsistence or discretionary time (Edginton *et al*., 2004:7; Veal, 1992:2). Strictly separating existence, subsistence and discretionary time may be difficult. Clawson and Knetsch (2013:11) ask whether, if eating is considered part of time spent on existence but some people choose to have dinner as a social activity, the time then becomes discretionary time. Based on the example of Clawson and Knetsch (2013:11), recreational sport activities are physical in nature and, therefore, healthy and fun, and so may share in both existence and discretionary time. As part of a healthy existence, a person must balance existence, subsistence and discretionary time. This balance, however, is based on personal preference and may mean choosing to work less, increasing discretionary time, or pursuing a career, decreasing discretionary time (Clawson & Knetsch, 2013:12; Veal, 1992:6). Due to societal pressures and

economic factors, the balance between subsistence and discretionary time leans towards more time spent working (Goodin *et al*., 2005:44; Mattingly & Sayer, 2006:207; Rojek, 2005:4). Henderson (2010:6) further adds that time is cyclical and linear, both of which refer to how a person organises available time. The term *cyclical* refers to the organisation of time by an individual around a recurring cycle that is not fixed or planned, whereas *linear* time is structured around specific beginning and end times (Henderson, 2010:6). With reference to recreational sport, Henderson's (2010:6) addition of the linear organisation of time gives emphasis to the use of diaries and calendars to plan participation around work hours and other responsibilities. Thus, leisure is time a person has free without obligations, work or the tasks needed for existing such as sleeping or eating.

Defining leisure as an *activity*, according to Kelly (2012:6), is problematic. However, some authors attempt to explain this perspective, most frequently by describing leisure as activities in which one chooses to participate during free time (Edginton & Chen, 2008:8; Veal, 1992:3). Edginton *et al*. (2004:6) provide the example of running or swimming during free time as being viewed as leisure. It is in this basic explanation that the paradox lies. Kelly's (2012:6) argument revolves around the determination of *official* recreation activities. The list of official recreation activities is compiled based on research methodologies that viewed frequency, money spent or format of participation as key indicators of leisure patterns (Kelly, 2012:6). According to Kelly (2012:7), determining official recreation activities by frequency of participation is challenging; Kelly explains that some activities are time-fillers, such as watching television, and although once-a-year family vacations are infrequent, they are important to an individuals' health and wellness. Consequently, defining leisure as an activity depends on the context. Personal perceptions and motivations are important factors that influence the view of leisure as activity (Edginton, *et al*., 2004:7). Edginton and Chen (2008:8) use the example of gardening for relaxation and gardening as maintenance to highlight the role of personal perception in classifying leisure activities. Both Henderson (2010:6) and Kelly (2012:10) support Edginton's statement and indicate that the list of leisure activities is endless and related to personal experiences and perceptions. One important clarification is that leisure is seen as a nonwork activity (Edginton & Chen, 2008:8). Kelly and Freysinger (2000:18) further state that if leisure is viewed as a nonwork, organised, personal choice activity, it is referred to as *recreation.* Thus, it is in the effort to explain leisure as activity that terms such as leisure and recreation are used interchangeably (Henderson, 2010:7; Leitner & Leitner, 2012:11). Nonetheless, it is important to realise that leisure and recreation are not synonymous.

Edginton and Chen (2008:9) explain that to understand leisure as a *state of mind* scholars must consider the state of mind of the participant during participation. To experience leisure, certain states of mind must be present (Barcelona *et al*., 2015:10; Edginton & Chen, 2008:9). Four states of mind frequently referred to are perceived freedom, perceived competence, positive affect and intrinsic motivation (Edginton & Chen, 2008:9; Edginton *et al*., 2004:7; Henderson, 2010:7). In the context of leisure, perceived freedom is a well-known psychological conceptualisation and refers to freely choosing activities relative to other activities in which one engages (Henderson, 2010:7). Perceived competency is the self-perception of possessing the

required skills to engage in a leisure activity, while positive affect refers to the extent to which a person can influence their leisure experience (Edginton *et al*., 2004:1). Intrinsic motivation is defined as self-determined behaviour (Ryan & Deci, 2000:65). The importance of intrinsic motivation and true leisure experience has been the subject of several studies (Alexandris *et al*., 2002:246; Kleiber *et al*., 2014:467; Mahoney & Stattin, 2000:122). Subsequently, intrinsic motivation will be discussed in depth in section 2.4.1.

Although the definition of leisure as a state of mind is the most preferred among scholars, Henderson (2010:7) suggests that there are downsides to this concept. If leisure as a state of mind implies that participation was not forced (meaning it was freely chosen) and was for personal reasons (intrinsically motivated), it does not mean that a person will forget all other responsibilities, such as assignments, during participation (Henderson, 2010:7). This raises the question of whether specific time set aside (leisure time) and proposed activities (e.g., jogging for relaxation) would result in the experience of leisure. Edginton *et al*. (2004:7) refer to the theory of Joffre Dumazedier (1974), which proposes that leisure as a behaviour can transpire from any activity, at any place or time. This theory implies that a person's attitude or mindset during participation is more important than the time or chosen activity. Ultimately, this interpretation plays an important role in how recreational sport is scheduled for the leisure experience.

2.2.2 Recreation

Although early researchers defined the term *recreation* differently, common elements are visible. Recreation can be described as different kinds of activities in which participation takes place during leisure time (Henderson, 2010:7; Mull *et al*., 1997:6; Rossman & Schlatter, 2008:10). The nature of these activities is broad (physical and mental) and may include other people or individual participation (Edginton *et al*., 2004:8; Rossman & Schlatter, 2008:40). The delivery of such activities is an important contributor to an understanding of how recreation relates to recreational sport (Barcelona *et al*., 2015:6). *Format*, *structure* and *style* refer to ways in which recreational sports delivery can be organised for specific leisure experiences (Barcelona *et al*., 2015:6; Edginton *et al*., 2004:274). Researchers agree that there is a direct link between the selection of format and the structure of activities and participant satisfaction (Barcelona *et al*., 2015:7; Edginton *et al*., 2004:275). Recreation formats include competitions or leagues, drop-ins, clubs, and instructional or class formats (Barcelona *et al*., 2015:8; Edginton *et al*., 2004:274). Intensity levels, frequency and participation styles are diverse and differ according to the age, race, gender, ability and competitiveness of participants (Barcelona *et al*., 2015:7). Thus, key to participants experiencing leisure is the matching of participation form correctly with the participants' needs. A problem lies with determining the format in which people prefer to participate in specific recreational sports. Edginton *et al*. (2004:304) and McLean and Hurd (2011:6) agree that there is no consistent way to determine which format will be best suited for all participants. Thus, strict formats or styles should not be seen as a constraint to participation in recreational sports.

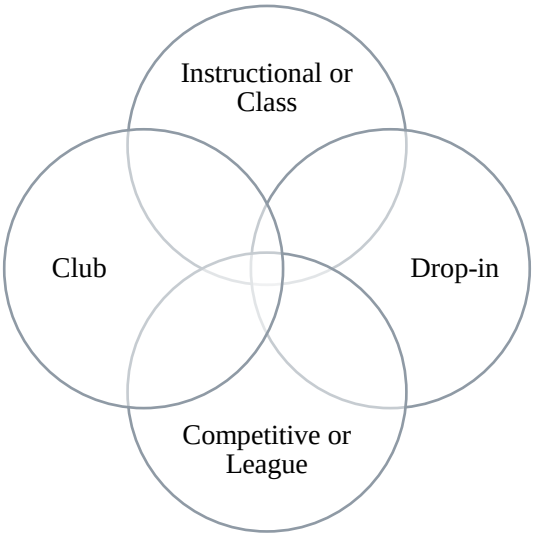

Figure 2.1: Spheres of recreational participation. (Adapted from Barcelona et al., 2015:8.)

In an attempt to illustrate how the formats or styles of recreational sport participation can be altered to accommodate more participants, Barcelona *et al*. (2015:8) proposed the overlapping sphere approach shown in Figure 2.1. The formats or styles of recreational sport that are commonly referred to are represented by individual spheres. Barcelona *et al*. (2015:8) suggest that these spheres should be thought of as overlapping rather than individual or separate from each other. This supports the idea that people may participate in the same recreational sport but in two or more formats (Barcelona *et al*., 2015:8). An example is that students may participate in sport for both the official university team but also enjoy participating as part of an informal club during off seasons. The challenge recreation professionals face is to understand participants' decisions on the formats in which they choose to participate and to identify new trends, such as online participation, that previously did not exist. Each format has its own features, for example drop-in, which accommodates spontaneous participation catering for the person who wants to participate without preplanning. Other formats, for example, competition, include different ways in which a person's performance is judged, either against established standards or against the performance of others (Edginton *et al*., 2005:276). Different modes of competitive behaviour are available, such as contests, tournaments and leagues. An individual may choose a specific format because of personal participation preference, as in the case of competition. Some people choose not to include the element of competition in their leisure experience; thus, personality affects recreation format selection (Barnett, 2006:449). In addition to personal preference, Rossman (1984:39) determined that there is a relationship between the choice of format and the participant's satisfaction. Although the reason for participation may be socialisation, participating in a volleyball tournament with friends may also increase satisfaction (Rossman 1984:39). Thus, the selected format may affect participant satisfaction, either positively or negatively. As mentioned earlier in this section, trends in how people participate in recreational activities are forcing creative thinking in how traditional formats or styles can be altered to accommodate new demands in the market (Schneider & Kivel, 2016:3), such as virtual or online participation formats. Therefore, to continue supplying new ways in which

to participate, it is necessary to understand the participants' backgrounds and needs (Edginton *et al*., 2004:305; Barcelona *et al*., 2015:8).

2.2.3 Sport

A significant focus of this literature review is to distinguish between *sport* and *recreational sport*. In defining sport, Woods (2011:7) stipulates it as established, competitive and physical in nature, with specialised equipment and facilities required and rules that are stipulated beforehand. However, Henderson (2010:9) reasons that not all leisure activities are physical, but their competitive nature labels them as sport activities (e.g., chess). Recreational sport is a leisure activity and thus motivation for participation is intrinsic; however, the motivation to participate in sport is both intrinsic and extrinsic (Barcelona *et al*., 2015:13). It is stated that when a person becomes performance-focused in sport, motivation transforms primarily to extrinsic, which in turn contradicts the fundamentals of leisure (Barcelona *et al*., 2015:12). For that reason, the leisure sport management model (as described by Mull *et al*., 1997:6) can be used to explain the role sport plays as part of the fundamentals of leisure.

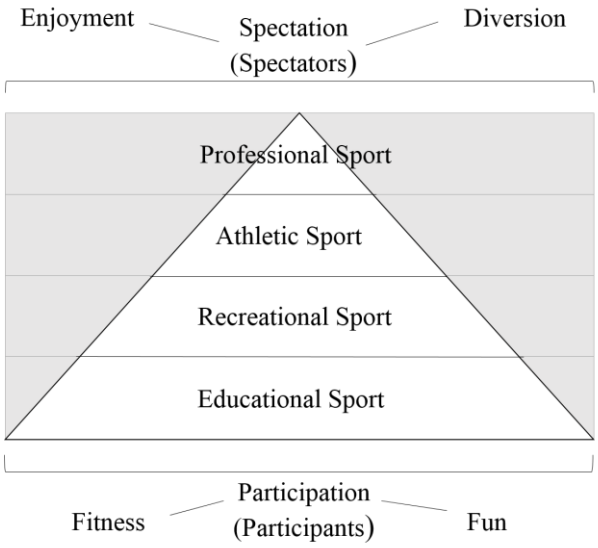

Figure 2.2: Leisure sport management model. (Adapted from Mull et al., 2011:6.)

In the leisure sport management model (Figure 2.2), the hierarchy of sport is represented as a pyramid, starting at the base with sport introduction or education and ending with professional or elite sport at the top. The model uses participants and spectators to indicate types of participation, with participants as direct participation and spectators as indirect participation. The white section indicates direct participation, which decreases when moving from the bottom of the pyramid to the top. Consequently, participation is at its highest with educational and recreational sport and is minimal with professional sport. This is in line with literature that states that only a few people progress from being an amateur to professional athlete (Leonard, 1996:295; Stebbins, 1992:1; Woods, 2011:30). Although few people have the opportunity to participate in

professional sport, the model brings another form of participation in, *spectation* (indicated in grey). In educational sport or when sport is learned (bottom of pyramid), people are participants rather than spectators. An important suggestion is that both spectation and participation are viewed as forms of engagement during leisure. Thus, the model brings another insight to sport as leisure.

In conclusion, based on the literature, it has been determined that recreational sport shares characteristics of both leisure and sport. Based on the definition of Maron *et al*. (2004:2808) and incorporating the elements of leisure and sport, it is suggested that recreational sport is defined from the following orientations: a variety of physical activities with direct and indirect participation, freely chosen or intrinsically motivated, that occur on a regular or irregular basis in different settings (indoors and outdoors), for which no regular training is required, and with an exercise level ranging from modest to vigorous.

2.3 CAMPUS AND COMMUNITY

As determined in the previous section, at the core of the experience of recreational sport as leisure is intrinsically motivated participation. It is, therefore, necessary to consider the characteristics of the participants in this study, university students, to fully understand campus recreational sport participation (Woods, 2015:30). To fully understand university students' behaviour and its relationship to recreational sport participation, a comprehensive discussion of their developmental stage is necessary. The developmental stage of most university students predicts that the transition from their previous community to becoming part of the university community will play a key role in their success at university (Arnett *et al*., 2001:75) and is subsequently discussed in this section. In addition to discussing development and sense of community, this section will also clarify the benefits associated with recreational sport participation and how it aids in the transition and success of university students.

According to Erickson's (1959) lifespan developmental theory, the typical university student falls within the early or young adulthood stage, which ranges from the age of 18 to 35 years. Young adulthood is identified as the stage at which a person leaves their childhood home, seeks a partner, starts a family and focuses on establishing a career (Barcelona *et al*., 2015:37; Rabinowitz & West, 2010:325). Although university students fall within the age criteria of the young adulthood stage, this stage is associated with marriage, children and working on a career, which might not be relevant to all university students' circumstances. From a leisure perspective, Rabinowitz and West (2010:326) mention that most young adults from the age of 25 seek opportunities to meet life partners, socialise with work colleagues, develop lifelong interests or hobbies and have quality family time. According to Raymore *et al.* (2001:199), many leisure scholars have been interested in how the addition of a life partner or children influences leisure behaviour. Kalmijn and Bernasco (2001:25) found that as a relationship becomes more serious, the need for individual participation, both with one's natal family and other people such as friends, decreases. With the addition of a child, Claxton and Perry-Jenkins (2008:40) found a decline in both parents' leisure

participation, but the decline was greater for mothers. Becoming parents also reduces participation in negative leisure behaviours such as drinking or drug use (Bachman *et al*., 2014:9).

Few similarities can be found between the definition of young adulthood and the typical university student situation (Barcelona *et al*., 2015:37; Rabinowitz & West, 2010:325). Firstly, due to financial constraints, not all university students move away or out of their parental home after completing high school (Frenette, 2006:23). In addition to cost saving, Frenette (2006:23) found that US students attending universities close to where they grew up were more likely to participate in university life. Secondly, based on a US article, the likelihood of marrying as an undergraduate student is minimal (Ashenden, 2015). Thirdly, planned pregnancies during the age period that students are typically undergraduates, 18 to 22 years, are fewer than in the late twenties and early thirties (Arnett & Tanner, 2006:318). Based on the above, it seems that in terms of defining students as young adults, university students fit the age but not the developmental milestones. University students cannot be viewed as adolescents either; consequently, a separate phase occurring after adolescence and before young adulthood can be described (Tanner & Arnett, 2009:39). The researcher Arnett (2000:479) proposed a stage called *emerging adulthood*, which specifically focuses on the missing middle stage between adolescence and young adulthood, from the age of 18 to 25 years.

2.3.1 Emerging adulthood theory

The theory of emerging adulthood was first proposed by Arnett in 1998, based on societal changes affecting the nature of development of adolescents transitioning to young adults (Arnett, 2000:469). According to Arnett, the theory developed from three factors (Arnett, 1998:313). The first factor refers to the change from industrial to information-based economies; consequently, seeking tertiary education became more popular, as young people pursued long-term careers rather than hurried jobs. As a result, traditional social behaviours such as marrying, parenthood and starting a career soon after high school began to take place later in the twenties than before. The rights of women was the second factor; with increased opportunities to study and work, a decrease in women marrying and becoming mothers in their early twenties was seen. The third and final factor referred to young people becoming sexually active earlier in their lives and thus not feeling obliged to rush into marriage at a young age. In a South African study, 84% of a university second-year student group were reported to be sexually active and 11.6% of the female students had been pregnant (Tladi & Jali, 2014:280). Whether these pregnancies were planned or not was not reported. One report published in 2011 by a South African university indicated that due to unplanned pregnancy and abortions, the stress levels of their students had increased 250% from 2005 (Vermaas, 2010). It is important to note that the emerging adulthood theory is mostly applicable to industrialised or post-industrial societies and that there may be outliers to the theory. It was Arnett's (2000:479) opinion that countries that focus on information-based professions place high priority on tertiary education, resulting in the postponement of marriage and having children. Therefore, this developmental stage seems concurrent with the situation that today's university students find themselves in as they transition from adolescence to adulthood.

Theoretically, five unique features differentiate emerging adulthood from adolescence and young adulthood: the age of possibilities, instability, identity exploration, self-focus and feeling in-between (Arnett, 2014:9). According to Arnett (2006:13), the emerging adulthood stage is viewed as the age of possibilities for two reasons. One reason is the optimism and hope experienced at this stage regarding finding the right life partner or job. The second reason involves the household circumstances from which the adolescent has emerged. Arnett (2006:13) explains that because of the major role played by parents, if the emerging adult exhibits dysfunctional behaviours, he or she now has a chance to change their own life in a more favourable direction. Although young people may come from happy households, the emerging adulthood stage provides an equal opportunity for all young people to transform themselves into who they want to be (Arnett, 2006:14). According to Schulenberg *et al.* (2005:418), well-being and life satisfaction are more likely to improve during the emerging adulthood stage than worsen. For that reason, Arnett (2006:14) indicates that the emerging adulthood stage holds the opportunity for the development of resilience. Although the emerging adulthood stage may seem eventful, Arnett (2006:9) refers to it as exceptionally unstable, especially due to residential changes. The residential changes associated with this stage start when an emerging adult leaves home for the first time, as in the case of moving to university, and subsequently moving after completing university because of a career opportunity. Acquiring a partner might also necessitate a move (Arnett, 2006:9). Arnett (2007:10) states that it is these residential changes that are characteristic of the instability associated with the emerging adulthood stage.

Another of the five features of emerging adulthood refers to an age of identity exploration, connected with exploring possibilities in areas of one's life such as love and work (Arnett, 2006:8; Arnett, 2007:9). Arnett (2006:8) highlights that it is in the emerging adulthood stage that a person has the most opportunity for self-exploration. Although emerging adulthood may be perceived as a period of self-focus, possibly even selfishness, the opposite is true. Arnett (2006:10) indicates that because of changes in social cognition, emerging adults are less self-centred and more considerate of other people's feelings and might even better understand other peoples' points of view. Since emerging adults have less family or work commitment, they have more autonomy in terms of life decisions (Arnett, 2006:10; Arnett, 2007:13). It is this freedom that gives the emerging adult time to contemplate 'who I am' (Arnett, 2006:10).

The feeling of being 'in-between' is that associated with not being an adult but no longer being a child (Arnett, 2006:11). What makes a person an adult is debatable, but through research the following three recurring criteria for adulthood have been observed: accepting responsibility for oneself, making independent decisions and becoming financially independent (Arnett, 2007:xiv; Facio & Micocci, 2003:30; Mayseless & Scharf, 2003:17; Nelson *et al*., 2004:33). Arnett (2006:12) mentions that although some people may feel like an adult by 18 years of age, most will only feel completely adult when they feel confident that they meet the three criteria. Therefore, becoming an adult happens gradually, and for that reason the feeling of being in-between adolescence and full adulthood is experienced (Arnett, 2006:12; Arnett, 2007:15). It is for this reason that Arnett (2007:21) clearly states that if scientists classify a person

as an adult based on marriage, parenthood and careers, traditional university students will not meet these criteria. Hence the need for a new term to better understand the late teens and early twenties.

2.3.1.1 The university student as an emerging adult

Boyer (1990:11) emphasised that students are not children and should be perceived as adults who value independence but still need guidance. The university's role as *in loco parentis*, meaning 'in the place of the parent', has long been fading, according to Boyer (1990:11). Zarrett and Eccles (2006:17) highlight that universities, rather than being seen as parents, should play a role in supporting the developmental changes that students, as emerging adults, undergo. The responsibilities of universities are not limited to academic support structures, and it is necessary to include well-organised social platforms from which students can learn new activities and participate with, or get to know, new friends (Boyer, 1990:3; Zarrett & Eccles, 2006:18). There should not be a gap between students' academic and social lives and it is the responsibility of universities to ensure that academic and social opportunities are not separated (Boyer, 1990:3). In essence, a university can assist emerging adults, or students, to discover themselves in a safe environment. Even though students may utilise their environment to successfully progress through the emerging adulthood stage, the transition from school to university on its own can be very stressful.

To understand the transition many students experience, society as a whole has had to come to grips with the choices and behaviour of emerging adults (Arnett *et al*., 2001:78; Konstram, 2014:47). There is some confusion as to how these emerging adults behave and efforts have been made by scholars to explain and to educate society (Arnett, 2000:469). Many emerging adults will start their journey to adulthood at university (Arnett, 2014:142; Nelson *et al*., 2008:2207). For many people who did not attend university, the perception of student life may be based entirely on media reports and other second-hand communication (Arnett & Tanner, 2006:322; Boyer, 1990:2). Thus, increased media attention to campus issues has opened traditions and student behaviour to critique, with negative associations of student life (Boyer, 1990:2). Researchers have stated their concerns about the transitional stage being linked with increased substance abuse and other unhealthy behaviours (Arnett, 2005:239; Boyer, 1990:11; King & Chassin, 2004:239; White & Jackson, 2004:188). Boyer (1990:11) explained that these unhealthy behaviours of students, especially on campuses, ultimately affects the larger community. As lifelong habits may develop during this transitional phase, unhealthy emerging adults could become unhealthy adults for life. As the university's responsibility of *in loco parentis* started to fade, Boyer feared that universities had not prioritised developing new plans or ways in which to govern student behaviour (Boyer, 1990:11). Although Boyer's research dates back to 1990, universities are still faced with issues around student behaviour. Combined with the characteristics associated with emerging adulthood, such as exploration, finding one's self and trying to fit into a new community, student life may become synonymous with unhealthy lifestyle choices, such as increased alcohol and narcotic use (Arnett, 2005:239; Sell & Robson, 1998:242; Shinew & Parry, 2005:383; Wechsler & Nelson, 2001:290). Furthermore, students may suffer from other health issues such as obesity, depression and burnout, which may contribute to suicidal tendencies (Bantjes *et al*.,

2016:17). In the South African context, 2015 saw the start of a student-led protest named '#FeesMustFall', which sparked countrywide campus violence (Ndelu, 2016:6). The economic pressures of increasing university fees, the hope of becoming financially independent from one's parents and the fear of unemployment have placed the South African student 'between a rock and a hard place' (eNCA, 2016). To add to the existing stress of the university student, South African statistics indicate that nearly half of all students drop out of university during their first year of study and that only 25% of undergraduates graduate from university (Department of Higher Education and Training, 2015:20).

A considerable amount of international research in the field of student dropout and retention has been conducted over the last 50 years (Astin, 1984:522; Bean & Metzner, 1985:485; Fike & Fike, 2008:72; Gerdes & Mallinckrodt, 1994:282; Tinto, 1975:94). Tinto and Astin are prominent for their contribution to the field, having both developed theories to assist institutions such as universities in reducing student dropouts and increasing retention rates. Certain similarities in the reasons for students dropping out of university emerged from the theories of Tinto (1975) and Astin (1984), including factors such as changes in social support, an unfamiliar university culture and new social norms (Astin, 1984:518; Tinto, 1975:107). A university consists of academic and social structures or systems (Astin, 1984:522; Gray, 2010:255; Tinto, 1975:94) and Tinto (1975:94) explained that dropout can be connected to malintegration with either the academic or social systems of universities. More important is to understand that both systems, academic and social, are equally important to student success at university. Social integration at university primarily takes place through informal extracurricular activities (Tinto, 1975:107) and as students involve themselves in the social structures of universities, positive experiences may result in an increase in social communication skills, making friends, feelings of belonging, and faculty and peer support, which are all indicators of a decreased risk of dropout (Tinto, 1975:107). Additionally, Tinto (1975:107) mentioned that through social involvement, students' social anxiety decreases (Tinto, 1975:107). Urani *et al*. (2003:395) determined that there is a positive relationship between social anxiety and homesickness in first-year students at the beginning of academic semesters, which is especially related to the change in support networks. The sooner students find themselves a new social support system at university the better they adapt to being away from their families (Lowe & Cook, 2003:74). Social anxiety may affect students to the extent that going to class with unfamiliar people becomes stressful, which in turns reduces social skill development such as making friends or public speaking (Gilles *et al*., 2006:395; Mak, 2011:210). These are crucial skills for students, not only to enable their healthy adjustment as adults in society, but also to perform in most professions, where people or communication skills are of great importance (Mak, 2011:211). Ultimately, the transition should be accompanied by an opportunity for student involvement (Nelson *et al*., 2005:232). Astin's theory of involvement (1984:518) emphasised the necessity of student involvement for university success. The longitudinal research conducted by Astin found that students who joined student social organisations or societies (such as student clubs or campus housing) or who participated in any extracurricular activities, were less likely to drop out of university (1975:523). According to Gray (2010:256), participation in student societies or student activities provides examples of feeling accepted within the new university environment and a sense of belonging or community.

2.3.2 Sense of community

Essentially, a university is a miniature world with its own set of rules, identity and values, which Gray (2010:254) referred to as a *microcosm*. As discussed in section 2.3.1.1, a large facet of being at university is being part of a new community, which can be stressful to students. To undergo the developmental stages expected in the emerging adulthood phase, the student must be part of the university experience, in essence, be part of the campus community (Gray, 2010:255). In 1989, Boyer surveyed more than a hundred North American universities and found that, when asked, students referred to campus as a *community* and even *family* (Boyer, 1990:56). According to this research, students strongly felt that community was important and that efforts should be made by universities to strengthen campus community bonds. Although Boyer's research brought new insights for scholars of campus community, there has been concern over the decline in community in higher education institutions (McDonald, 2002:xvii). Some of Boyer's concerns included inappropriate student behaviour and competing interests, expressed as a lack of academic interest while at university (McDonald, 2002:xvii).

Based on Boyer's ideology, Cheng (2004:224) developed a sense of community scale and tested it on 1 457 first-year students from two universities. Cheng's results proved Boyer's concerns, finding that only 31% of students strongly agreed that there was a strong sense of community at their university. Although Cheng's results also indicated that participation in extracurricular activities by students made little contribution to their sense of community, they did bring some relief to the perception that being part of fraternities or sororities (members-only student societies) decreases sense of community (Cheng, 2004:225). A reasonable explanation to Cheng's findings can be found in Gray's microcosm, and in that these social societies become smaller communities and that only the members of the society feel a sense of belonging within their microcosm (Gray, 2010:225). This agrees with the explanation that a person may be part of many different communities at any given time; for example, a student can be part of the university community, and the student society, and a sport team and even the academic class groups (Gray, 2010:225). Tinto's theory stated that a student will move as a member of one community (his/her family) to a member of the university community (Tinto, 1975:107). To fully understand what a sense of community is, it is important to first grasp the terminology.

McMillan (1976) described sense of community as 'a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together' (as quoted by McMillan & Chavis, 1986:9). The term *membership* refers to a personal investment that enables a person to feel part of a group and, therefore, have a sense of belonging (Blachard & Markus, 2002:3573; McMillan, 1986:9). When a person feels that they fit into a group and feels accepted, a sense of belonging is experienced (McMillan, 1996:317). If a sense of belonging is felt, a person may be willing to sacrifice for his or her group and will refer to the group as theirs (McMillan, 1996:318). Locks *et al*. (2008:272) found that students who lived with their families during their first year of university had a lower sense of belonging to the university community than those that

lived out of the family home. Gray (2010:255) supports this finding, suggesting that all students should become involved in campus socialising opportunities during their studies in order to become part of the campus community or microcosm. Elkins *et al*. (2011:32) present a similar finding, stating that students who frequently participate in recreational sport are significantly less lonely than nonparticipants. The social opportunities presented by recreational sport participation, as mentioned by Gray (2010), reduce loneliness and contribute to a sense of community. These facts agree with Boyer's (1990:4) statement that although students live together and attend classes together, they may still feel isolated from their fellow students. Scholars have always been fascinated with how communities are created and agree that it is not enough to simply put people together and expect that they will form a community (Cohen-Katz *et al*., 2003:293, Flanagan *et al*., 2007:424).

There is the assumption that people who share common interests and a common environment automatically feel a sense of community. Holt (1995:10) suggested that this is not necessarily the case, and that certain underlying situations influence a sense of community; these situations include the intentions of the participants and the environmental conditions. Holt (1995:15) used the example of sports fans who support the same sport team to demonstrate the assumption that because they support the same side and attend games together they will automatically feel a sense of community. Holt's subsequent findings contradicted this assumption and showed that fans only feel a sense of community if their relationships were intentional and had developed from specific environmental conditions. Another underlying situation is that in which roles are equally distributed; for example, Costa *et al.* (2006:177) found a relationship between sense of community and the ratio of people to responsibilities. This finding is consistent with the staffing theory, previously referred to as Wicker's manning theory (1979), which states that if there are more people relative to the number of responsibilities, the sense of community will be weak, as people will feel unneeded or unimportant. In contrast, if there are more responsibilities than people, the sense of community will be stronger because of the effects of support and mutual obligation. Hence, subtle differences in a community structure may affect the strength of its members' sense of community. In terms of campus sport, the 'community' structure can refer to formal and informal sport and their corresponding administration. Warner *et al*. (2012:986) explain that the structure of informal campus sport with, for example, participation in recreational sport, is very different to the structure of formal or professional university sport. As discussed in section 2.2.3, campus recreational sports structures depend on voluntary participation, which creates more freedom to commit. Thus, these characteristics of campus recreational sports structure may have an important effect on students' sense of community (Warner *et al*., 2012:986). Warner *et al*. (2013:349) state that due to changes in community structures, students may not obtain the social benefits associated with being part of their local communities, and will look for interest-related communities on campus from which to obtain these benefits. Researchers have found that participation in interest-related communities or social clubs is becoming less common, especially among young people (McPherson *et al*., 2006:372). Rodrik (1999:410) pointed out that the decrease in social community structures results in fewer benefits being obtained, which may contribute to societal problems and divisions.

Although a sense of community may not be the answer to all societal problems, Warner *et al*. (2013:349) propose that overall community well-being is based on the way people associate with each other. To appropriately explain sense of community, it is crucial to understand how students associate with one another on campus. Locks *et al*. (2008:277) found that sense of belonging increases when there is positive interaction within a diverse student population. Using Cheng's (2004) sense of community scale, Elkins *et al*. (2011:32) found *diversity* and *acceptance* the only factors that had a significant impact on sense of community on campus. The findings of Elkins *et al*. (2011:32) are important, since university campuses can be perceived by some as racially hostile environments (Locks *et al*., 2008:259). Thus, regular participation in recreational sport activities on campus can assist students in familiarising themselves with the values, background and cultures of other students (Elkins *et al*., 2011:32). Students bring their own background into the university and still there is an expectation for positive integration, academically and socially (Tinto, 1975:93). Importantly, Zarrett and Eccles (2006:19) state that demographic characteristics such as gender, minority status, high school performance and family income influence how students integrate into the university system. Aries (2005:439) agreed that students from lower income families may feel uncomfortable integrating into a campus community. However, remarkably, Cheng's (2004:224) research indicated that that demographic or financial backgrounds of students does not affect their sense of community.

In terms of community, Boyer (1990:7) suggested six characteristics defining universities. Universities as communities should be purposeful, open, just, disciplined, caring and celebrative (Boyer, 1990:7). Building on Boyer's research, McDonald (2002: xvii) proposed five ways in which universities could improve the feeling of community on campus. The first method involves focusing on teaching and learning throughout the institutions. The second and third methods relate to personal responsibility being placed on students to make the effort to become part of the campus community through membership, with a high priority also placed on diversity. Diversity on campus does not only refer to social diversity, such as a mix of students from different social backgrounds, but also economic and educational diversity. Historically, elite schools in North America have not enrolled many students from low income families and, therefore, the lack in economic diversity may influence student involvement and sense of community (Hillman, 2013:829). Universities should also be willing to review traditional teaching strategies and curriculums to focus on educational diversity (Bonal & Rambla, 1999:195). Boyer's (1990:7) final two methods referred to the importance of recreational activities to the student experience and their use in celebrating the heritage of the university. Boyer (1990:13) explained that universities should celebrate community by remembering their past histories through rituals and traditions. Keeping a university together as one starts with educating first-year students about buildings, landmarks and other special characteristics of the university that form part of the university's heritage (Boyer, 1990:13). It is the method that referred specifically to recreational activities that is of high interest to this study. According to Elkins *et al.* (2011:26), limited research has been conducted to determine the extent to which recreational sport participation contributes to a sense of campus community. However, Elkins *et al*. (2011:32) found that frequent participation in recreational sport increases the likelihood of socialisation, which in turn fosters the sense of being part of a group or

community. Although becoming part of the campus community increases mental well-being, being actively involved also increases students' overall health (Berkman *et al.*, 2000:853). Therefore, it is this combination of better social support and overall health that increases student's quality of life while on campus, which is crucial to university success (DeBerard *et al*., 2004:74).

2.3.3 Benefits of campus recreational sport

Leisure scholars have determined that many benefits can be derived from participation in well-planned and intentionally designed activities (Artinger *et al*., 2006:79; Barcelona *et al*., 2015:8; Dalgarn, 2001:68; Edginton *et al*., 2004:14; Haines, 2001:30; Kanters, 2000:19). Edginton *et al*. (2004:20) explain that the *leisure activity* in itself is only the pathway or vehicle through which these benefits are delivered, either to an individual or a community. A person's preference or choice of leisure activity will indicate the experience they seek. Essentially, it is through the experience of participation that the benefits are obtained (Edginton *et al*., 2004:14). Thus, to understand the benefits students will obtain from recreational sport participation, a closer look should be taken at their choice of leisure activity and preferences. Likewise, to determine which *recreational sport activities* students prefer, one must know which experiences students seek and the intensity with which they pursue these specific activities, in other words, the frequency of participation. Furthermore, leisure pursuits include behaviour patterns such as motivation, which will be discussed in depth in section 2.4.1.

Throughout the literature on leisure benefits, researchers have pointed out a number of different benefits associated with participation. Such benefits range from physical and cognitive to emotional, social and spiritual (Barcelona *et al*., 2015:8). Although many of these benefits overlap, Driver and Burns (1999:350) suggested three categories of leisure benefits: *improving conditions, maintenance of a desired condition or prevention* and *realisation of satisfying recreation experience*. If an individual, community or physical environment is not functioning fully, or is functioning in a damaging manner, the benefit would be an improvement to the condition. Another view of this benefit is that the current state will change to a more desirable state. One example is the improvement to students' health through participation in recreational sport. Although health has physical, social, emotional and psychological aspects (Bocarro & Kanters, 2010:71), increasing physical activity is vital to improving overall health. Due to the physical nature of recreational sport, regular participation can lead to an increase in physical fitness and subsequent weight loss. Obesity has become a global concern affecting children and adults alike. Reducing obesity has become a major health priority and, because physical activity declines with age, it is crucial that universities encourage physical activity among students (Bocarro & Kanters, 2010:81). Brunt *et al*. (2008:631) collected data on body mass index (BMI) from 557 university students at a North American university in 2008. Of these students, 27% were overweight and 8% were obese. Brunt *et al*. (2008:631) also found that the demographic factors of male gender, living off campus and being older were associated with being overweight or obese. In 2005, Racette *et al*. (2005:249) surveyed 764 students at a North American university and found that a significant proportion of students (70%) gained weight from their first to second

year. In addition to weight gain, the researchers found that 18% of the students who entered university in their first year were already overweight, according to their BMI. In 2005, South African researchers collected BMI data from 509 first-year female students at a South African university and found that 10% were overweight and 0.8% were obese (Cilliers *et al*., 2006:239). A 2014 study on student obesity that included 22 countries indicated that female student obesity surpassed male obesity in sub-Saharan Africa, whereas the opposite was true for North Africa (Peltzer *et al*., 2014:7435). The survey also indicated that the proportion of South African female students who were obese exceeded 10%, the highest on the African continent and second-highest of all 22 countries included in the study (Peltzer *et al.*, 2014:7435). One common element to the international and local research was that most students showed high levels of inactivity (70%). Lack of physical activity has a direct influence on being overweight or obese. Researchers also found that male students were more physically active than female students (Peltzer *et al.*, 2014:7437). Thus, re-engineering physical activities to be *fun* and not only competitive makes recreational sport a valuable instrument in reintroducing sport and physical activity to students (Bocarro & Kanters, 2010:82).

Recreational sport on campus provides the opportunity for students to become more physically active and, ultimately, healthier (Bocarro & Kanters, 2010:81), and it is important to establish a pattern or habit of recreational sport participation during a students' time at university. This developmental age is associated with exploration (Arnett, 2006:9), and, as students may want to explore new sport types, the university is well-placed to introduce multiple sport codes (Bocarro & Kanters, 2010:82; Gray, 2010:259). As suggested by the leisure repertoire theory, the earlier a person is introduced to different leisure activities, the higher the chance of lifelong participation (Bocarro & Kanters, 2010:75). Haines (2001:231) found that 90% of students indicated, when asked, that being physically active would be important after they complete university. Because physical activity declines with age, it is crucial that students make a habit of physical activity during their time at university. Participation in recreational sport can also reduce stress levels (Kanters, 2000:20). Kanters (2000:16) found that the more frequently students participated in recreational sport activities, the less exam-related anxiety they experienced. Additional benefits include increased academic performance among first-year students (Belch *et al*., 2001:265). A survey by Belch *et al*. (2001:265) of 11,076 first-year students indicated a significant difference between the academic performance of ethnic minority first-years who frequently participated in recreational sport and those who did not participate.

A second benefit of recreational sport participation, according to Driver and Burns (1999:350), is the maintenance of an individual, community or physical environment's good condition, if improvement is not required. This kind of benefit does not require a physical change to occur, but only for the current condition to keep from becoming problematic. In addition to maintenance, Caldwell (2005:15) suggests that leisure participation can act as a protective factor against negative events. More importantly is the role leisure plays as a coping mechanism. Educating students in ways they can relax or break away from their daily responsibilities can increase their resilience to the stressful aspects of studying. Increasing student

persistence will not only benefit the students' overall health but will increase success rates, profiting the university as well (Astin, 1975:523).

Caldwell (2005:17) also mentions additional protective factors associated with leisure participation. One such protective factor is the benefit of students finding an activity that they find personally meaningful, for example, an activity where they feel free to express themselves. As previously mentioned, recreational sport participation on campus provides students with the opportunity to appreciate the heritage or culture of other students (Elkins *et al*., 2011:32). The benefit of feeling socially accepted and having the support of a group is evident in participation in recreational activities, especially as part of a team. Although frequent recreational sport participation reduces exam-related anxiety, the social support gained through participation also reduces anxiety among students (Kanters, 2000:16). Through increased social support, students feel cared for and that they have someone to assist when they need help (Wright *et al*., 2013:52).

Feeling competent and self-sufficient is also a beneficial effect of participation among students. For students dealing with multiple stressful situations that may cause them to drop out of university, experiencing self-efficacy and having the personal competence to deal with stressors are of great importance (Morton *et al.*, 2014:104). Self-efficacy not only promotes better management of stress; there is a link between self-efficacy and students' academic achievement, attitudes and overall behaviour, according to Salami (2010:251). Another benefit, mentioned by Caldwell (2005:17), is the feeling of self-determination and being in total control. Self-determination may refer to students' persistence in completing their university course (Vallerand *et al*., 1997:1169). Belch *et al*. (2001:265) reported a large difference in persistence between students with a high rate of participation in recreational sport participation and nonparticipants.

Another reasonable assumption is that the social interaction opportunities that recreational sport provides promote friendships and support. When transitioning to university, students often leave their support structures behind and it is important that students find new support structures on campus (Rodriguez & Gamble, 2010:59). According to Langford *et al.* (1997:97), social support helps increases personal competence during stressful life events, and provides a sense of stability, recognition of self-worth and life stratification. Social support also decreases depression, which affects a number of university students and is related to significant academic problems (Rodriguez & Gamble, 2010:60; Villatte *et al*., 2017:127).

Leung and Lee (2005:164) described the functional components of social support as emotional support, instrumental support, information support, affectionate support and social companionship. Emotional support refers to care and sympathy, such as demonstrated by students supporting each other after writing difficult exam papers or encouraging one another through their studies (Rodriguez & Gamble, 2010:59). Students may lean on each other for informational and instrumental support, by sharing class information when studying for exams, or advising one another on problems related to their studies or personal lives (Leung & Lee, 2005:164). Arnett and Tanner (2006:317) mentioned that because emerging adults are learning about themselves, they may look to forming relationships only with people with whom they feel

they share characteristics. Thus, emerging adults may change relationships less frequently than adolescents, as relationships are formed on a deeper level (Arnett & Tanner, 2006:319).

Rodriguez and Gamble (2010:59) state that affectionate support, feeling loved or cared for, and social companionship can improve an individual's physical and mental health. Positive social interaction is important to students and it is through leisure activities such as recreational sport that students have the opportunity to develop companionship and friendships (Coleman & Iso-Ahola, 1993:126). Diener and Seligman (2002:83) determined that students who are highly social and form stronger social relationships were much happier. Many recreational sport activities require some form of rules, which in turn encourages group unity (Rodriguez & Gamble, 2010:60). Making friends can increase students' overall satisfaction and reduce decisions to drop out of university.

Through participation, students may feel totally absorbed by the challenges an activity presents. Some leisure researchers refer to this absorbing experience as *flow* (Edginton *et al*., 2004:14; Perkins & Nakamura, 2013:412; Rabinowitz & James, 2010:32). The theory of flow postulates that an experience is positive when there is a balance between a person's skill and the level of challenge of an activity (Peterson, 2004:5). In experiencing flow, a student will feel happy and no longer aware of distractions, and their actions or decisions will become spontaneous (Csikszentmihalyi, 1975:xiii). Activities that provide *flow* should be carried out for personal reasons; this is described as *autotelic* (Csikszentmihalyi, 1975:xiii). According to Jackson and Kimiecik (2008:378), flow is more frequently experienced during recreational sport than elite sport, possibly because recreational sport is based on voluntary participation; not feeling forced to compete may increase the possibility of experiencing flow. Additionally, participation may provide the protective benefit of a break from daily responsibilities and offer relaxation.

Providing students with an escape from the responsibilities of being at university, such as through recreational sport outdoors or with friends, assists in restoring their mental and physical health (Rodriguez & Gamble, 2010:60). Students may feel refreshed after participating in recreational sport activities that consumed their attention and felt challenging (Hood & Carruthers, 2010:96). Caldwell (2005:17) suggested that leisure participation contributes to stability in the life of a person who has experienced some form of disability. Irrespective of disability, students may experience other significant negative life events, such as unwanted pregnancy, abortion, sexual abuse, rape, loss of a parent, loss of a parent's job, loss of financial income or divorce, any of which may cause severe stress. No matter the source of stress, leisure can assist students in coping (Kleiber *et al*., 2002:231). Kleiber *et al*. (2002:225) proposed two mechanisms through which leisure can provide self-protection. The first mechanism suggests that leisure activities act as a buffer against the impact of negative events through distraction. Edginton *et al*. (2004:19) explained that a person may experience sensory overload in many ways and that leisure can reduce overwhelming feelings such as tension, confusion and complexity. The second proposition of Kleiber *et al*. (2002:226) was that leisure activities act as a buffer against the impact of negative events by promoting optimism about the future in an individual. Leisure activities not only provide a sense of enjoyment (Henderson 2010:6); they provide

escape or relief from the stressor (Kleiber *et al*., 2002:226). This escape provides an opportunity for introspection and for students to view their lives from different perspectives. Edginton *et al*. (2004:19) suggested that examining behaviour and thoughts from different perspectives enables a person to find new ways of approaching and dealing with negative life situations. Arnett and Tanner (2006:312) recommend that emerging adults are taught resilience through thoughtful programmes and interventions. Jessup *et al*. (2010:420) explain that leisure activities provide the opportunity for students to develop skills in a stable environment and meet like-minded people who can become a support system. Therefore, to cope with the daily stressors of university life and maintain their health, students can use leisure activities to develop resilience and proactively counteract stress (Jessup *et al*., 2010:420).

The final benefit discussed is the intrinsic value gained through a selected leisure pursuit. It is difficult to truly describe all the benefits gained from participation in leisure activities. People are different, and will therefore experience leisure differently; thus, two people participating in the same activity may benefit differently (Floyd & Stodolska, 2014:10; Woods, 2011:30). As recreational sport is physical in nature, improved health is the one common benefit; however, individuals may also derive enjoyment from participation or gains to their sense of self-worth. Some benefits may be more scientifically controllable, through purposeful planning, than others. In this regard Edginton *et al*. (2004:20) proposed that leisure opportunities are created by organising physical, social and natural elements so that optimal benefits are obtained. Because leisure is seen as a service and not a product, the expectation of benefits is largely what motivates participation. Therefore, when expectations are not met, a person may feel disappointment that no benefit was obtained, and frequency of participation may subsequently decline or end.

2.3.3.1 The *other* side of participation

In addition to the positive benefits associated with leisure, especially in the context of campus recreational sport, there is a less desirable side to leisure participation. Although this study does not focus on the risk behaviour of students, it is worth mentioning the negative side of leisure and its relationship to the emerging adulthood characteristics.

The previously mentioned increase in media attention to university life (Boyer, 1990:2) has created a need to understand the student behaviour associated with problems on campus (Lo, 2000:278). Although student behaviours such as substance abuse have been researched in the psychology and sociology fields, this has not been from a leisure perspective (Iso-Ahola & Crowley, 1991:261; Shinew & Parry, 2005:367). Iso-Ahola and Crowley (1991:261) mentioned that if leisure is not optimally arousing for a student, boredom is experienced, and it is during high levels of leisure boredom that most deviant behaviour takes place. Although participation in some leisure activities may be desirable and pleasurable for students, it may be against societal norms, harmful to campus society, or harmful to society as a whole (O'Sullivan, 2012:14; Russel, 2002:163). Based on the impact participation has on the individual and society, Nash (1953) proposed a pyramid model of recreation participation (Figure 2.3).

The top three levels of Nash's ideal recreation participation model pyramid (Figure 2.3) begin at emotional participation, and move to active participation and, ultimately, creative engagement. Nash proposed that for leisure activities to be life-enriching and not harmful, participation at the higher levels of the pyramid is necessary (Archibald, 2008:2). Below the top three levels are activities that are carried out as an antidote to boredom (Archibald, 2008:3). These activities would include students watching television to pass time before attending classes. Although the activity is performed during students' free time, no personal benefits are obtained. Although free time and leisure are used interchangeably, they are not synonymous. In the context of this study, students' free time is described as time not engaged in classes, homework, hostel duties or work. As leisure is nested within students' free time, it is purposeful and self-selected (Wegner, 2011:18). It is when students experience a shortfall between the meaningfulness of a leisure activity and the ability to engage in it that the opportunity for risk behaviour arises (Wegner, 2011:18).

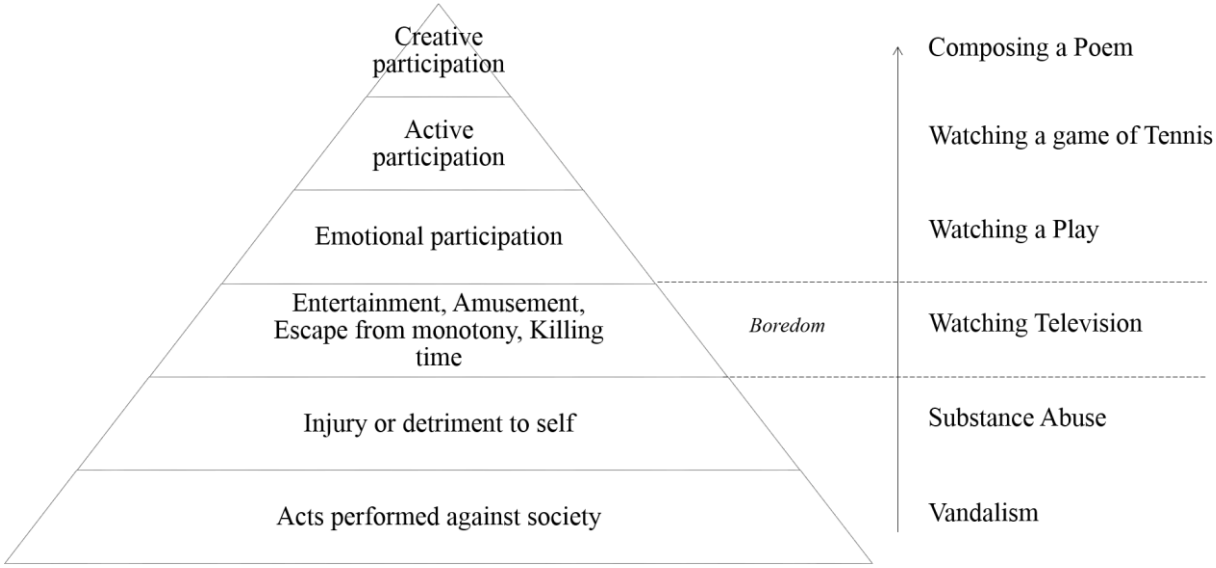

Figure 2.3: Nash's pyramid model of recreation. (Adapted from Archibald, 2008:3.)

For the purpose of this discussion, attention is given to the two lowest levels of Nash's pyramid: *acts performed against society* and *acts against self.* Acts performed against society are vandalism and delinquency (O'Sullivan, 2012:14). O'Sullivan (2012:14) explains that although a person may think their actions are leisure-related, they may cause direct damage to the community. Examples include graffiti (O'Sullivan, 2012:14) of campus buildings or the theft of building or road signs. Despite a perception that acts against oneself are only harmful to the individual, there may still be an impact on the community from harmful self-directed acts (Archibald, 2008:2). Examples of acts against self include overeating, sedentary lifestyles, addictive gaming, substance misuse or any other leisure activity that has a negative impact on a person's mind, body and spirit (Archibald, 2008:3). Throughout literature, researchers refer to this *negative recreation* by different names. Curtis (1988) coined the term *purple recreation* for activities that seem to have an *off-colour*. Others have used terms like *taboo recreation* (Russell, 2002:115), *marginal recreation* (Kraus, 1990:331) and *deviant recreation* (Rojek, 2005:184). The common notion in these concepts is that

these types of activities challenge societal norms, laws, customs or beliefs (Russell, 2002:115). Yet, the researchers Kelly and Freysinger (2000:225) stated that the terms mentioned above seemed morally confusing and questioned the norm from which leisure participation deviates. Kelly and Freysinger (2000:225) proposed that the term used to describe this form of leisure is less important and that attention should rather be given to the *cost* of participation than the *benefits*. Thus, more researchers use the terms 'the other side of leisure' or 'leisure's darks side' (Critcher, 2000:159; Glover, 2003:320; Kelly & Freysinger, 2000:224: Rojek, 2005:184; Shaw, 1999:203).

During the transitional period between high school and university, students experience a number of stressors (Arnett, 2000:471). These may include peer pressure (Haddad & Malak, 2002:799) and the initiation of negative health behaviours such as alcohol abuse and illicit drug use (Arria *et al.*, 2008:35). Emerging adulthood is a time of exploration and students may seek feedback from their peers to foster their self-identity (Arnett, 2000:471). Additionally, students may want to try new experiences such as substance use before adulthood (Arnett, 2005:238). Students may also use substances as a way of relieving stress during this transitional period (Arnett, 2005:238). Shinew and Parry (2005:379) found that most students' first-time use of alcohol or first drug experimentation was with friends. Furthermore, students indicated that their reason for drinking or using drugs was to have fun with their friends, and engaged in such behaviour as frequently as two or three times a week (Shinew & Parry, 2005:379). According to Bridges and Desmond (2000:667), students think these negative activities are acceptable because they have learned this from the people closest to them. In a comparative study of university students from South Africa and the United States of America, there were no reported differences in the use of tobacco between students of the two countries. However, the South African students were less likely to report alcohol or marijuana use than the American students (Heeren *et al*., 2007:7).

Heeren *et al*. (2007:9) also found that 75% of all students were sexually active; however, the South African students reported having more sexual partners than the American students. Arnett and Tanner (2006:317) explain that nearly all the romantic relationships of emerging adults involve sexual intercourse and sexual activity outside of marriage is normative. Students may want to explore their sexuality to determine their sexual preferences before entering a long-term relationship or marriage (Arnett & Tanner, 2006:317). The university setting may expose students to more liberal perspectives on gender roles and sexuality than they have previously experienced (Rogers *et al*., 2009:222). Through dating, students become more open-minded about different sexual views as well as more aware of gender roles, double standards and stereotyping (Zimmer-Gembeck & Petherick, 2006:197). Maas *et al*. (2015:620) explains that it is through sexual and gender exploration that students gain a better understanding of how sexual behaviour is linked to gender socialisation and stereotyping. Since contraception contributes to the tolerance of premarital intercourse, the impression is that emerging adults are responsible when being sexual active (Arnett & Tanner, 2006:316). Unfortunately, irresponsible sexual behaviour, which has been reported by South African students, puts them at risk of unwanted pregnancy, human immunodeficiency virus (HIV) and sexual transmitted infections (STIs) (Heeren *et al*., 2007:9).

Although Arnett (2004:75) indicated that *sensation seeking* is the motivation behind emerging adults' risk behaviour, the long-term effect of their choices seems questionable. Thus, there is still much to learn about the emerging adult and their leisure choices (Arnett, 2005:248), especially as university students have been largely neglected from leisure research (Shinew & Parry, 2005:366). Moreover, the combination of emerging adulthood characteristics and the unique setting of university life makes further investigation into university students' leisure choices valuable to the body of knowledge on leisure.

2.4 CAMPUS RECREATIONAL SPORT BEHAVIOUR

Woods (2011:30) suggests that to fully understand sport participation it is necessary to comprehend certain characteristics of behaviour, such as motivation and constraints. Edginton *et al*. (2004:100) agreed that knowledge of human behaviour provides valuable insight into what encourages or hinders participation. Research associated with motivation and constraints in relation to recreational sport participation in South African universities has been limited. Therefore, the literature in this section is presented in two parts. Firstly, the recreational sport participation patterns and motivation of university students will be discussed. The second part focuses on the constraints students experience associated with recreational sport participation on campus.

2.4.1 Participation patterns and motivation

Understanding the *why* of leisure behaviour has been the objective of many researchers in the field (Caldwell *et al*., 2010:208; Iso-Ahola, 1980:4; Manfredo *et al*., 1996:204). Although understanding the *why* seems complex, it will clarify the cause of leisure behaviour and offer theoretical and practical knowledge. Although research into *motivation* is popular and applicable to many different fields, it is the common psychological processes that help researchers understand what initiates and sustains leisure behaviour. Most of the research on this topic, however, has focused exclusively on early childhood (Calver, 2017:8; Tammelin *et al*., 2014:2), adolescence (Caldwell *et al*., 2010:206; Chen *et al*., 2013:1191) and older life stages (Petrou & Bakker, 2016:10; Szabo & Schnabel, 2014:9). Most motivation research is based on the assumption that university students represent a stable group of the adult population; this assumption is, in fact, incorrect (Felder & Brent, 2005:57). The combination of being at university and the emerging adulthood phase's characteristics of exploration and personal change makes university students a unique population (Haimovitz *et al*., 2011:598). Because this transitional period is so important, it is of great importance to understand university students' motivational processes, especially in recreational sport participation.

Motivation is described by Recours *et al*. (2004:2) as 'an interaction of internal factors (unconscious and conscious psychological compulsions) and external factors (social and familial gratification and recognition), which are combined in a variety of drives (basic drives, self-image, experience) that can evolve and change over time'. Motivation consists of hidden forces or reasons that influence a person's

behaviour (Teasure & Roberts, 2001:171), consequently making accurate measurement of motivation difficult at times (Lavallee *et al*., 2012:56). In determining recreational sport motivation, the student who participates early in the morning before classes is viewed as highly motivated to the observer, although no formal measurements were taken to determine the level of motivation. Even with these difficulties, leisure researchers have continuously tried to understand motivation and its links to leisure behaviour. According to Clancy *et al*. (2016:233) there are three reasons why these links may be misunderstood by researchers. Firstly, motivation is the result of the interaction between internal and external factors; for example, prize money (external reward) and a need for socialisation (internal reward) might motivate a student to participate in a competitive recreational sport activity. Secondly, motivation can be an originator or an outcome; for instance, Gillet *et al*. (2013:1207) state that high performance levels can be predicted if a person has self-determined motivation whereas Deci *et al*. (1999:628) suggested that rewards decrease a person's intrinsic motivation. The last reason draws on a century of different theories of understanding or determining motivation, such as Hull's drive theory (1943), Maslow's hierarchy of needs (1943), Bandura's self-efficacy theory (1977), Harter's perceived competence theory (1978), Apter's reversal theory (1982) and Deci and Ryan's self-determination theory (SDT) (1985), as well as achievement theory. For this study, the SDT will be used to conceptualise what motivates students to participate in recreational sport, as well as their participation patterns.

The SDT explains human motivation and personality on the basis that all people have three instinctive psychological needs: *autonomy*, *competence* and *relatedness* (Ryan & Deci, 2000b:68). According to Ryan and Deci (2000b:68), these needs are essential for enabling ideal functioning of the human's natural tendencies for growth and integration. They further help assist constructive social development and personal well-being (Ryan & Deci, 2000b:68). Thus, the need for autonomy is a person's need to initiate and regulate their own actions. The need for competence is the need to control behavioural outcomes and to comprehend what assisted these outcomes. The last of the three needs is the need for relatedness, which is a person's need to experience social interactions and build satisfactory relationships.

Because autonomy, competence and relatedness are all innate needs and cannot be learned, they are seen as intrinsically motivating. Therefore, intrinsic motivation refers to behaviour that is driven by internal rewards and is self-determined (Iso-Ahola, 1980:248). Ryan and Deci (2000b:70) continuously highlighted the importance of intrinsic motivation to personal growth and the importance of developing environments to facilitate, rather than weaken, intrinsic motivation. This is of great importance, since the university student, or emerging adult, is forced into adjustment from a position of receiving guidance and control from parental figures to a position of greater autonomy (Arnett & Tanner, 2006:214). Deci and Ryan (1985:130) suggested that to enhance intrinsic motivation, the environment should be adapted to increase the feeling of autonomy. They suggested that modifying an environment in such a way that persons feel they have more choices, opportunities for self direction and acknowledgement of feelings would increase their feelings of autonomy (Deci & Ryan, 1985:131). Additionally, Ryan and Deci (2000b:71) found that people will be more intrinsically motivated in a safe and caring environment, referring to the need for *relatedness*.

As previously discussed, the creation of a sense of community on campus is connected to a student's perception of a safe and caring environment. Granting that some intrinsically motivated behaviour takes place in private, the necessity of a secure social structure or support network is central for intrinsic motivational behaviour to transpire. In contrast, tangible rewards, deadlines, pressured evaluations and imposed goals weaken intrinsic motivation (Burges, 2016:54). Although the literature suggests that throughout the life stages, intrinsic motivation increases due to new found freedom and exploration, negative influences such as peer pressure may weaken the growth potential of intrinsic motivation in the student or emerging adult.

In an effort to comprehend nonintrinsically motivated behaviour, Deci and Ryan (1985:131) mentioned two additional types of motivation, extrinsic motivation and amotivation. Extrinsic motivation is the direct contrast of intrinsic motivation, because the driving force behind a behaviour is the need for external rewards or to avoid punishment (Ryan & Deci, 2000a:55). Although some perspectives view extrinsically motivated behaviour to always be non-self-determined, SDT proposes that extrinsic motivation may vary in the degree of relative autonomy. To understand why the tenets of SDT do not support that statement, the following two examples of extrinsic motivation are considered. The first example is that of a first-year student who participates in recreational sport activities because, due to traditions, all first-years are expected to participate; the student thus avoids punishments or fear of what the seniors may say. The second example is of a student who participates in recreational sport activities only because of the associated health benefits, thus only for their instrumental value. Although both students' participation is extrinsically motivated, the second example displays some form of personal choice and personal agreement, and less compliance with an external control than the first example. This view is important to understanding leisure motivation, especially in university students' recreational sport participation.

Consequently, for optimal benefit and growth to transpire, most behaviour should, ideally, be intrinsically motivated (Ryan & Deci, 2000a:58). As the hallmarks of leisure agree with the statement and the key to benefiting from recreational sport participation is to experience leisure, which can only transpire through intrinsically motivated participation, the question then is whether students who participate because they are extrinsically motivated obtain any form of benefit from their experience. Although directed towards adolescents, Caldwell *et al*. (2010:206) suggest that it may be unlikely that all motivation is intrinsically regulated within leisure. Abuhamdeh and Csikszentmihalyi (2012:326) agree and mention that some participation in leisure activities is not intrinsically motivated. Such behaviours are worrisome and lead to questioning of the persistence and quality of behaviour, as well as the participant's well-being and growth. But then again, without any extrinsic reward some people participate in difficult and even dangerous activities, such a rock climbing or abseiling (Martínková & Parry, 2017:83). Consequently, students' reasons for participation may provide valuable insight into the type of motivation for recreational sport participation (Reed & Cox, 2007:309).

It seems that in general, men and women's motives or reasons for participation may be similar, but the literature is divided on this. Kolt *et al*. (2004:194) reported little difference in motives to participate in physical activities between men and women. Conversely, Reed and Cox (2007:323) found that women were more intrinsically motivated to participate in fitness activities than men. Pano and Markola's (2012:64) findings support those of Reed and Cox and suggest that women are more motivated to participate in fitness activities as a means to control their weight than men. Heuser (2005:58) established that the social aspect motivated women to participate in recreational sport, whereas Reed and Cox (2007:323) found that men were more intrinsically motivated to participate because of social reasons than women. With regard to social reasons, Bronikowska *et al*. (2011:29) state that it is the game-like atmosphere of sport that promotes social networking among participants. Butt *et al*. (2011:1081) also found that performance and exertion motivate men more than women in recreational sport.

This leads to the question of how, without external influences, to motivate students to value and self-regulate recreational sport activities and as a result, participate on their own. Deci and Ryan (1985:132) answer this question by suggesting a closer examination of how students internalise and integrate values and behavioural regulations. Internalisation and integration describe how a person *takes in* a value or behavioural regulation and how that value or behavioural regulation is transformed into a person's own. Based on the earlier work of Deci and Ryan (1985:132), a useful way to conceptualise internalisation is as a continuum. The degree of motivation is represented along a continuum and, according to the degree of intensity that a person's behaviour is influenced by internal or external factors, motivation can range from nonparticipation or amotivation, to passive compliance and active participation.

To take into account the different forms of extrinsic motivation and to indicate the contextual factors promoting or hindering internalisation and integration, Ryan and Deci (2000a:61) introduced a second subtheory within the SDT, called the *organismic integration theory* (OIT) (Figure 2.4). Figure 2.4 demonstrates how motivation can range according to the degree to which the behaviour of a person is self-originated. When behaviour is not self-originated, there is amotivation, indicated on the left side of the diagram. According to Deci and Ryan (2000a:61), a lack of personal connection or low internalisation causes a person to be amotivated. Factors such as not feeling competent to perform an activity (Ryan & Deci, 2000a:59) and not believing in or valuing the activity may cause a person to feel amotivated (Ryan, 1995:421). Importantly, Legault *et al*. (2006:568) indicated that a person who is amotivated cannot understand, predict, or control their behaviour. For this reason, it is rational that researchers such as Ntoumanis *et al*. (2004:211), Pelletier *et al*. (2001:302) and Sarrazin *et al*. (2002:34) found a relationship between amotivated swimmers, handball players and physical education students and boredom, nonattendance and low or decreasing participation. Amotivation has also been connected to student problems in the academic system, such as poor concentration in classes or boredom; the university student may feel high levels of stress and poor adjustment, and ultimately have a higher risk of dropping out (Alexandris, 2013:190; Standage *et al*., 2005:23; Walker *et al.*, 2006:9).

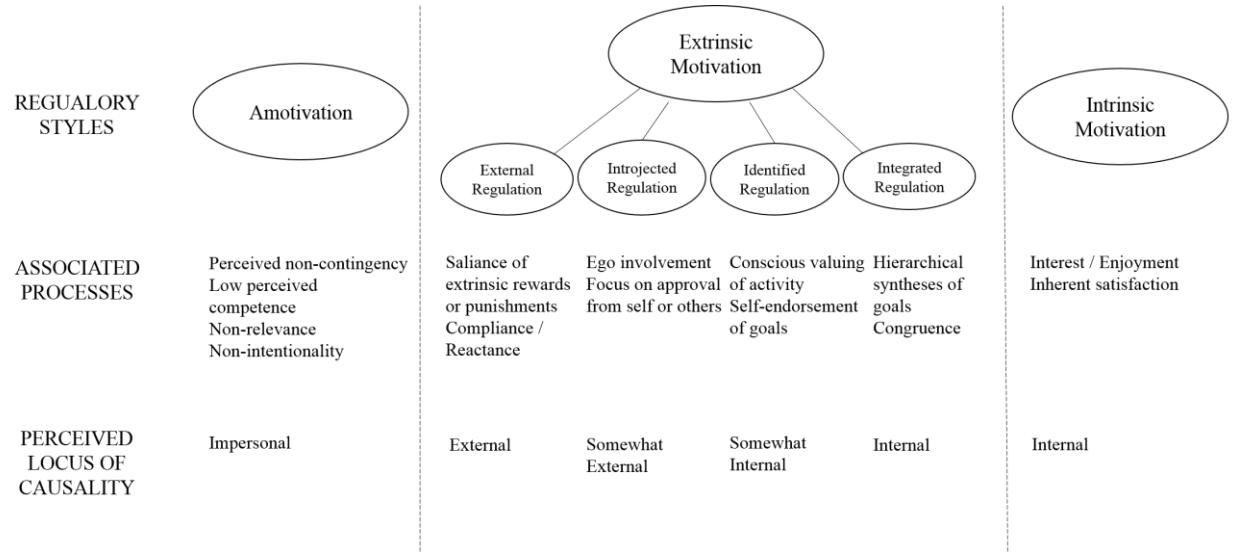

Figure 2.4: A taxonomy of human motivation (Ryan & Deci, 2000:61).

As discussed beforehand, extrinsic motivation can vary depending on the degree to which a behavioural regulation is internalised and integrated. Figure 2.4 indicates how extrinsic motivation begins with the least self-directed type of motivation, which Ryan and Deci (2000a:61) categorised as *external regulation*. A person who shows externally regulated behaviour will act only because of external demands; these individuals mostly feel alienated by others or feel that their actions are controlled by other people. Legault *et al*. (2006:568) linked externally regulated behaviour to physical symptoms and negative characteristics such as depression and narcissism. Moving from external regulation is *introjected regulation* (Figure 2.4). Closely related to external regulation, the behaviour associated with *introjected regulation* remains controlled by another person; however, the task is done out of guilt or pride. Thus, this behaviour develops from a person's need to feel valued and to maintain or enhance their self-esteem through pleasing others by their actions. Although this behaviour is more internal than external regulation; introjected regulation is still perceived as somewhat external. Next is the somewhat internal *identification regulation*, which develops from a person acknowledging the importance or value of a behaviour. This may apply to students participating in recreational sport for health benefits. The last and most self-directed extrinsic motivation is *integrated regulation*, which transpires when a person has fully embraced the action. To fully embrace the action means that a person has internalised certain external values and connected them with their own. Thus, the more internalisation that takes place, the more that extrinsically motivated actions become self-determined; however, it does not transform into intrinsic motivation. The behaviour driven by integrated regulation is voluntary due to its alleged instrumental value. Although this last category of extrinsic motivation shares some characteristics with intrinsic motivation, it is important to recognise that they are not the same.

On the far end of the continuum (Figure 2.4) is intrinsic motivation, the best example of a self-determined action. Although the different types of motivation are placed on a continuum, this does not suggest that a

progression should take place. A person does not have to start with the lowest form of extrinsic motivation and through intensive internalisation progress to intrinsic motivation. Ryan (1995:419) suggested that based on previous experience or situational factors a person can adopt a behavioural regulation anywhere on the continuum. Students might start participating in recreational sport to win prize money (an external regulation) but they might experience so much fun with friends or peers that they forget it is competitive (the external regulation becomes less controlling). As a result, the students experience the intrinsically interesting properties of the activity and a forward shift has taken place on the continuum. Unfortunately, a backwards shift can also take place, for example, when a controlling figure such as a senior student demands participation in recreational sport from a junior student. Although the junior may have identified with the value of participating in recreational sport, such as for health or social reasons, their actions will now move backwards into being motivated by external regulation.

Although motivational factors may differ depending on demographic factors such as gender or age, determining the reasons for student participation in recreational sport may provide valuable insight into their leisure behaviour. This information will help provide a foundation from which ways to encourage recreational sport participation among students can be determined. Barcelona *et al*. (2015:22) suggest that although encouragement may lead to participation, the sustainability of the participation is what matters. Although people may participate in physical activities such as recreational sport, nearly half abandon the activity within six months of starting (White *et al.*, 2005:144). Thus, to obtain a holistic view of student behaviour both the *why* and *why not* must be comprehended.

2.4.2 Participation constraints

To understand university students' leisure behaviour completely, it is necessary to investigate both the positive factors (such as the benefits and motivations) and negative factors (such as constraints) that influence their choice to participate in recreational sport (Jackson, 2005:3). Although many international research studies have explored the issue of leisure constraints on university campuses (Adam, 2014:188; Cho & Price, 2016:27; Guo & Scheider, 2015:132; Park *et al*., 2016:65; Spivey & Hritz, 2013:16; Walker *et al*., 2007:575), very little South African research has been carried out (Halforty & Radder, 2015:101; Weilbach, 2013:123). Although determining leisure constraints has been the aim of some campus-based research in South Africa, Weilbach (2013:123) only focused on first-year students and Halforty and Radder (2015:101) included only second-, third- and fourth-year students. Because each academic year comes with its own challenges (Kiser & Price, 2008:421), the identification of specific barriers may help all students to overcome a lack of participation in recreational sport on campus.

According to researchers, leisure constraints can be defined as factors that prevent a person from participating in any kind of leisure activity (Crawford & Godbey, 1987:120; Godbey *et al*., 2010:112; Jackson, 2000:63). Although leisure constraints have been the focus of research since the 1960s (Jackson, 2005:3), social scientists only started conducting systematic research in the 1980s, focusing on constraints as a separate subfield within leisure studies (Jackson, 2000:63). Jackson (2005:3) explained that the

research done in the 1980s within this subfield was based more on assumptions than actual findings. Nevertheless, one assumption proved significant to the leisure constraints subfield, that participation or nonparticipation is the result of a constraint being present or absent, thus blocking or allowing leisure participation. This was later referred to as *structural constraint*. Consequently, structural constraints were seen as the only important type of constraint because of their capacity to intervene in a person's preferences and their participation. Researchers have presumed that all people have leisure preferences but when encountering a constraint, such as not having transport, the only outcome will be nonparticipation. As demonstrated by Figure 2.5, it was presumed that only a person who does not participate, thus the nonparticipant, was constrained, but the person who was able to participate did not encounter any constraints (Jackson, 2005:4).

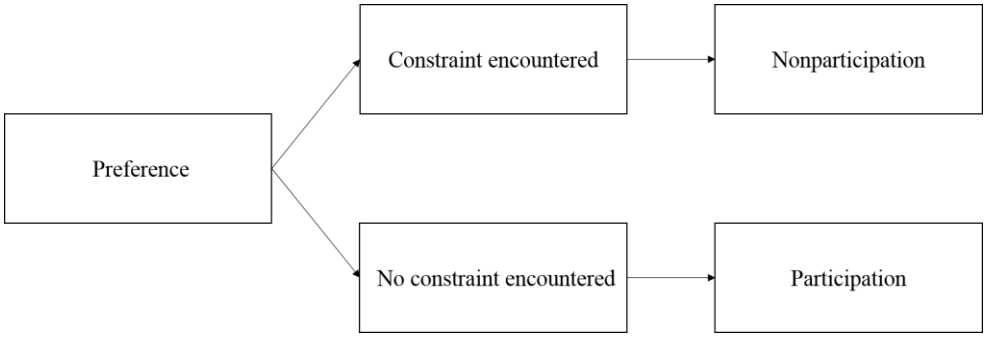

Figure 2.5: Early constraints model (Jackson, 2005:4).

In the late 1980s and 1990s, leisure constraint research underwent four major changes. Firstly, based on previous false assumptions about leisure constraints, the researchers progressively developed sophisticated theories. Secondly, the term *leisure constraints* was implemented, replacing earlier terminology which spoke about *barriers to recreation participation*. The incorporation of qualitative research as a method to determine leisure constraints, decreasing the dependence on survey research as a primary method, was the third change. Fourthly, because of the diversity of perspectives scholars questioned the different conclusions made from leisure constraints research. As a result of these changes, several different models were introduced to the leisure research field, mostly constructed from each other. It was only in 1987 that two major contributions, made by Crawford and Godbey (1987), altered the perception of leisure constraints research. They indicated that constraints affect both participants and nonparticipants alike, and also affect a person's leisure preference (Crawford and Godbey, 1987:120). Furthermore, when referring to the model shown in Figure 5, Crawford and Godbey (1987:122) mentioned that leisure participation is influenced by more than just structural constraints and put forward two additional types of constraint, *intrapersonal* and *interpersonal*. Intrapersonal constraints refer to personal characteristics that affect leisure preferences, such as a person's abilities (Crawford & Godbey, 1987:122; Crawford *et al*., 1991:313; Mannell & Kleiber, 1997:60), whereas interpersonal constraints arise from interactions with family or peers, such as being told that some leisure activities are inappropriate (Crawford & Godbey, 1987:122; Mannell & Kleiber, 1997:62).

For these reasons, Crawford and Godbey (1987:122) proposed that intrapersonal and interpersonal constraints may affect leisure participation much more than structural constraints.

Building on the suggestions of Crawford and Godbey (1987), the negotiation model (Figure 2.6) was introduced by Crawford *et al*. (1991) and Jackson *et al*. (1993). In this model, the three types of constraints are arranged in a sequential manner. For a person to participate in a leisure activity, he or she must successfully negotiate each type of constraint in sequence (Crawford *et al*., 1991:314). To develop a leisure preference, the first constraint, intrapersonal, needs to be negotiated. Because intrapersonal constraints include personality factors (Godbey *et al*., 2010:112), it is evident that the leisure preferences of a person who lacks self-confidence would not include participating in activities on their own. Thus Jackson *et al*. (1993:9) propose that it is only by negotiating the constraint to modify the behaviour that participation can take place; for example, a person may participate in activities with friends rather than not participate, because the person preferred not to participate on their own. Therefore, the objective is to modify the behaviour rather than for the behaviour to lead to nonparticipation. Figure 2.6 illustrates that the process continues by sequentially negotiating interpersonal and then structural constraints.

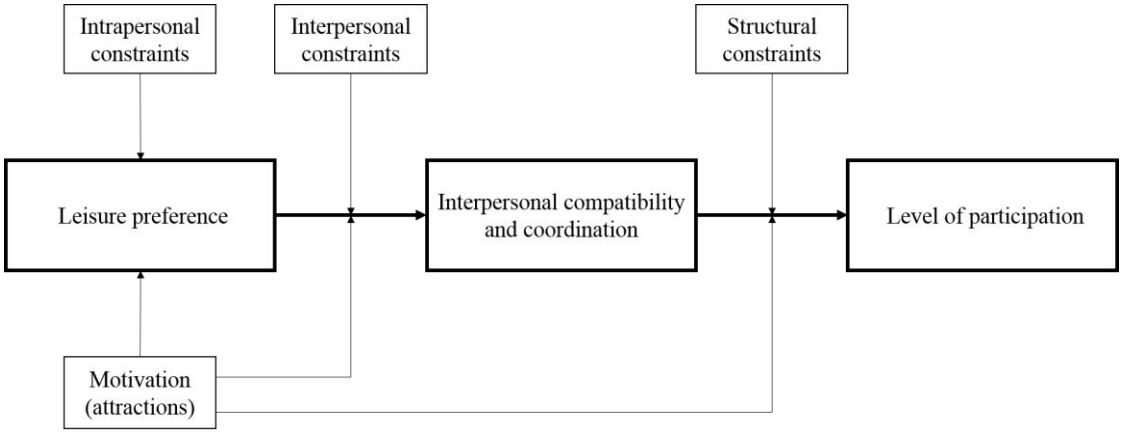

Figure 2.6: The negotiation model (Jackson, 2005:6).

Motivation is also included in the negotiation model (Figure 2.6). As proposed in the model, motivation can influence participation in two ways. A lack of interest may stop a person from initially wanting to participate or might inhibit a person from more frequent participation. Thus, motivation influences a person's capability of successfully negotiating both intra- and interpersonal constraints (Jackson *et al*., 1993:10). A person's willingness to negotiate will depend on the strength of their motivation and the various constraints. Although important, the validity and generalizability of the model has been a concern to leisure scholars as it does not consider individual characteristics (Crawford *et al*., 1991:313). Since individual characteristics such as demographic background influence the choice of leisure activities, they should be considered when determining leisure constraints (Alexandris & Carroll, 1997:117). Additionally, the distinct and unique cultures, values or attitudes of populations will influence them to interpret leisure constraints differently (Alexandris & Carroll, 1997:118). Thus, it is only through specific leisure constraints

research (Guo & Ross, 2014:65; Park *et al*., 2015:67) that is specially adapted to consider the unique characteristics of university students that the leisure constraints model can be generalised to the campus setting.

The combination of developmental stage and the university setting makes students a unique population (Kim *et al*., 2010:404). It is questionable whether these unique characteristics also function as a constraint to leisure participation or, more specifically, recreational sport participation. Additional to the developmental aspects and campus setting, different demographic variables also influence leisure constraints. In the context of campus-based leisure constraints research, an individual between the age of 18 and 22 years who is unmarried, childless and attending a university in their home country is referred to as a traditional student (Crews & Butterfield, 2014:40). Although traditional students make up most of the university population, nontraditional students are also found (Bean & Metzner, 1985:488). Students who are older than 22 years of age or who are studying abroad are sometimes referred to in the literature as nontraditional or international students. Unfortunately, nontraditional students have been observed to experience greater struggles at university such as unhealthy lifestyles, stress, anxiety, homesickness and frustration (Gebhard, 2012:184).

Although Cho and Price (2016:32) indicate that students of different genders and ages perceive certain leisure constraints to participation in intramural sport programmes on campus, the main limiting factor for international students is cultural differences. Research by Walker *et al*. (2007:584) found similar results, and Walker proposes that culture may keep international students from trying new kinds of leisure activities. Differences were found when comparing North American (United States and Canada) and Chinese university students' leisure constraints. Guo and Schneider (2015:148) propose three possible reasons for different leisure constraints between the universities. Firstly, the frequency at which the Chinese students participated in outdoor recreation activities was significantly less, which suggests that the North American students may have had more experience in successfully negotiating leisure constraints. The second reason may be in the terminology of leisure. Leisure in Chinese is referred to as *rest from work* (Walker & Wang, 2008a:4), and so the Chinese students' leisure constraints might seem more passive than those of the North American students. A third reason may be that cultures experience leisure constraints differently. Walker and Wang (2008b:193) found the Chinese to be more intra- and interpersonally constrained. The findings of Dong and Chick (2012:430) correlate with those of Walker and Wang (2008b:193), with personal factors, such as not feeling in the mood or lacking interest and initiative, the main constraints of the Chinese.

Despite the growing number of international students, research into the leisure constraints of different cultures remains limited. International students have a high risk of dropout due to problems adjusting to a new culture, so universities need to rely on recreational sport participation to foster a sense of belonging. Consideration of the variety of leisure constraints may provide valuable information that can be used to increase international students' participation. For example, the information can be used in educational

sessions on the rules of activities, during introductions through orientation programmes or even for adjusting rules or formats to decrease perceived constraints (Cho & Price, 2016:38).

Although nontraditional and older students may be in the minority on campus, their age may also influence their leisure behaviour. A study by Cho and Price (2016:34) on international students found no difference in leisure constraints between students of different ages except that intrapersonal constraints negatively affect participation for older (30 years and above) international students. The South African-based results of Halforty and Radder (2015:107) support the findings of Cho and Price (2016:34), as they found that senior undergraduate participation was not hindered by intrapersonal constraints. Although older students' participation may have been hindered by being unable to find people of similar age with whom to participate (Cho & Price, 2016:34), this was not necessarily an intrapersonal constraint experienced by traditional students. Additionally, Cho and Price found that older students with families indicated that social responsibility limited their participation in campus-based activities (Cho & Price, 2016:36). Because emerging adults will tend to continue with leisure activities from adolescence, their lack of availability on campus may also hinder their participation (Anderson *et al*., 2016:142). Anderson *et al*. (2016:143) state that either the emerging adult will pursue new or continue with previous leisure activities, or will stop participation altogether during this life stage.

Gender is the most studied demographic variable in leisure constraints research (Taymoori *et al*., 2010:93; Yan & Cardinal, 2013:40), yet men and women have been mostly found to experience the same constraints (Jackson & Henderson, 1995:47). Cho and Price (2016:33) found no difference between male and female students in the three leisure constraints. Jackson and Henderson (1995:47) found that the difference in leisure constraints between genders was the intensity of the constraint, with women experiencing leisure constraints more intensely than men. In the context of the university setting, gender-role perceptions, such as perceiving recreational sport as masculine in nature, may hinder female students' participation (Taymoori *et al*., 2010:93). Gender bias towards sport-like activities, such as recreational sport, in different cultures may also prevent female students from participating (Park *et al*., 2015:76). Throughout the literature on leisure constraints, women's lack of participation due to structural constraints generally refers to lack of time (Jackson, 2005:24). The perception is that household and family responsibilities leave women with little time for leisure participation (Jackson, 2005:24). Mothers may feel guilty spending their time away from their families or putting their own needs first (Harrington & Dawson, 1995:6). However, the majority of traditional female students might be exempted from such constraints. There are some general findings that lack of self-esteem, embarrassment and fear of violence may be the intrapersonal constraints that women mostly experience (Jackson, 2005:24). For example, having to walk on campus alone at night to participate in activities at the student centre may contribute to female students' fear of violence. Likewise, because of social pressures female students may experience concerns about their appearance as an intrapersonal constraint (Shaw, 1999:275; Shaw & Henderson, 2005:26). Thus, the assumption that female university students experience the same leisure constraints as male students, reported in the numerous

studies on gender and constraints, is problematic. These general findings should be considered and their applicability to the university setting and to traditional students must be determined.

With reference to the leisure constraints experienced by students in South Africa, time and scheduling were indicated as the most intense structural constraints (Halforty & Raddar, 2015:109). South African students also experienced intrapersonal constraints such as difficulty finding partners with whom to participate, particularly female students (Halforty & Raddar, 2015:109). The results of Weilbach (2013:135) indicate that black African students experience greater intrapersonal constraints, referring to the need for skills to participate, and that white students perceive greater structural constraints than the other races. Other than race, Weilbach (2013:137) reported a relationship between language, accommodation and where students grew up and their leisure constraints. With regards to language, intrapersonal constraints were perceived between the Afrikaans and English-speaking students. Students who lived off campus perceived more structural constraints than the students who lived on campus in hostels. It is evident from the available literature that there is a lack of South African-based research on the topic of leisure constraints, especially on university students. Clearly, demographic variables influence leisure constraints, but generalising the findings may not be possible because of the diverse and unique population of this study. While international research is valuable, determining the leisure constraints of students in the South African context is of great importance not only to the body of knowledge, but to the transferability of leisure constraints theory and methodology.

2.5 CONCLUSION

Through the review of literature in this chapter, it is certainly evident that recreational sport participation may hold numerous benefits for both student and university. Although recreational sport is classified as a leisure activity, it was only by reviewing the literature on the foundation of leisure that it becomes evident that recreational sport has a unique combination of both sport and leisure characteristics.

In terms of life stage development, university students are no longer adolescents; however, they are not young adults either, and the emerging adulthood theory has provided insight into the developmental characteristics and needs of students. It is only by understanding these developmental characteristics and their relationship to leisure choices that students' behaviour can be understood. From the abundant research on the beneficial aspects of leisure participation, it is apparent that the benefits for students are supportive to their transition, persistence and, ultimately, their success at university. However, the only way to obtain these benefits is by active participation. Understanding why students choose to participate or not is important. Besides determining the motivational factors and constraints of recreational sport participation, a greater understanding of differences in demographic factors and the university setting may prove invaluable to understanding students' leisure behaviour.

The majority of research referenced throughout the literature was conducted outside South Africa. The literature review included foundational theories that are accepted standards on which to base assumptions; however, the generalisation of the research findings is questionable. Although some reference was made to South African research, general leisure research in the South African population is limited, and research on university students with regards to recreational sports even more so. Although controversial, the decolonisation of education is becoming a pressing matter among South African researchers. Consequently, testing leisure theories and models on the diverse South African population has become even more important for the construction of a South African-based body of knowledge.

2.6 REFERENCES

Abuhamdeh, S. & Csikszentmihalyi, M. 2012. The importance of challenge for the enjoyment of intrinsically motivated, goal-directed activities. *Personality and social psychology bulletin*, 38(3):317-330.

Adam, I. 2014. Gendered perspectives of leisure patterns and constraints of university students in Ghana. *Leisure/Loisir*, 38(2):181-198.

Alexandris, K. 2013. Segmenting recreational tennis players according to their involvement level: a psychographic profile based on constraints and motivation. *Managing leisure*, 18(3):179-193.

Alexandris, K. & Carroll, B. 1997. An analysis of leisure constraints based on different recreational sport participation levels: results from a study in Greece. *Leisure sciences*, 19(1):1-15.

Alexandris, K. & Grouios, G. 2002. Perceived constraints on recreational sport participation: Investigating their relationship with intrinsic motivation, extrinsic motivation and amotivation. *Journal of leisure research*, 34(3):233.

Anderson, M. A., Jordan, L. A. & Hartman, C. L. 2016. Emerging adulthood and leisure. (*In* Kleiber, D.A. & McGuire, F.A., *eds*. Leisure and human development. Sagamore Publishing. p.133-160).

Archibald, K. 2008. Leisure time and human happiness. Perspective: Mind & Spirit Lecture, 23 Jul. https://www.byui.edu/Documents/instructional_development/Perspective/V8 n2PDF/v8n2_Archibald.pdf Date of access: 9 Jun. 2017.

Aries, E. & Seider, M. 2005. The interactive relationship between class identity and the college experience: the case of lower income students. *Qualitative sociology*, 28(4):419-443.

Arnett, J.J. 1998. Learning to stand alone: the contemporary American transition to adulthood in cultural and historical context. *Human development*, 41(5-6):295-315.

Arnett, J.J. 2000. Emerging adulthood: a theory of development from the late teens through the twenties. *American psychologist*, 55(5):469-480.

Arnett, J.J. 2005. The developmental context of substance use in emerging adulthood. *Journal of drug issues*, 35(2):235-254.

Arnett, J.J. 2006. Emerging adulthood: Understanding the new way of coming of age. (*In* Arnett, J.J & Tanner, J.T., *eds*. Emerging adults in America: coming of age in the 21st century. Washington, DC: American Psychological Association. p. 3-19).

Arnett, J.J. 2007. Emerging adulthood: what is it, and what is it good for? *Child development perspectives*, 1(2):68-73.

Arnett, J.J. 2014. Adolescence and emerging adulthood. Boston, MA: Pearson.

Arnett, J.J., Ramos, K.D. & Jensen, L.A. 2001. Ideological views in emerging adulthood: balancing autonomy and community. *Journal of adult development*, 8(2):69-79.

Arnett, J.J. & Tanner, J.L. 2006. Emerging adulthood: dawing of a new age. a review of emerging adults in America: coming of age in the 21st century: American Psychological Association.

Arria, A.M., Caldeira, K.M., O'Grady, K.E., Vincent, K.B., Fitzelle, D.B., Johnson, E.P. & Wish, E.D. 2008. Drug exposure opportunities and use patterns among college students: results of a longitudinal prospective cohort study. *Substance abuse*, 29(4):19-38.

Artinger, L., Clapham, L., Hunt, C., Meigs, M., Milord, N., Sampson, B. & Forrester, S.A. 2006. The social benefits of intramural sports. *Journal of student affairs research and practice*, 43(1):69-86.

Ashenden, A. 2015. Love in the first degree: campus couples who have tied the knot. https://www.theguardian.com/education/2015/feb/13/love-in-the-first-degree-campus-couples-who-have-tied-the-knot Date of access: 24 Mar. 2017.

Astin, A.W. 1975. Preventing students from dropping out: a longitudinal, multi institutional study of college dropouts. Higher Education Series, San Francisco, CA: Jossey-Bass.

Astin, A.W. 1984. Student involvement: a developmental theory for higher education. *Journal of college student personnel*, 25(4):297-308.

Bachman, J.G., O'Malley, P.M., Schulenberg, J.E., Johnston, L.D., Bryant, A.L. & Merline, A.C. 2014. The decline of substance use in young adulthood: changes in social activities, roles, and beliefs: Psychology Press Ltd.

Bantjes, J.R., Kagee, A., McGowan, T. & Steel, H. 2016. Symptoms of posttraumatic stress, depression, and anxiety as predictors of suicidal ideation among South African university students. *Journal of American college health*, 64(6):429-437.

Barcelona, R., Wells, M. & Arthur-Banning, S. 2015. Recreational sport: program design, delivery, and management. Champaign, IL: Human Kinetics.

Barnett, L.A. 2006. Accounting for leisure preferences from within: the relative contributions of gender, race or ethnicity, personality, affective style, and motivational orientation. *Journal of leisure research*, 38(4):445-474.

Bean, J.P. & Metzner, B.S. 1985. A conceptual model of nontraditional undergraduate student attrition. *Review of educational research*, 55(4):485-540.

Belch, H.A., Gebel, M. & Maas, G.M. 2001. Relationship between student recreation complex use, academic performance, and persistence of first-time freshmen. *NASPA journal*, 38(2):254-268.

Berkman, L.F., Glass, T., Brissette, I. & Seeman, T.E. 2000. From social integration to health: Durkheim in the new millennium. *Social science & medicine*, 51(6):843-857.

Blanchard, A.L. & Markus, M.L. 2002. Sense of virtual community-maintaining the experience of belonging. (*In*. System Sciences, 2002. HICSS. Proceedings of the 35th Annual Hawaii International Conference on organised by: IEEE. p. 3566-3575).

Bocarro, J.N. & Kanters, M.A. 2010. Leisure, health, and physical activity. (*In* Human Kinetics., *eds*. Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 67-87).

Bonal, X. & Rambla, X. 1999. The recontextualisation process of educational diversity: new forms to legitimise pedagogic practice. *International studies in sociology of education*, 9(2):195-214.

Boyer, E. 1990. Campus life: in search of community. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

Bridges, G.S., & Desmond, S.A. 2000. Deviance theories. (*In* Borgatta, E.F. & Montgomery, R.J.V., *eds*. Encyclopedia of sociology. 2nd ed. New York, NY: MacMillan and Gail Group. p. 92-95).

Bronikowska, M., Bronikowski, M. & Schott, N. 2011. " You think you are too old to play?" Playing games and aging. *Human movement*, 12(1):24-30.

Brunt, A., Rhee, Y. & Zhong, L. 2008. Differences in dietary patterns among college students according to body mass index. *Journal of American college health*, 56(6):629-634.

Burgess, B.L. 2016. Understanding the desire to learn: a study of academic intrinsic motivation in students attending a 4-year institution for higher learning. Kent: Kent State University (Dissertation - PhD).

Butt, J., Weinberg, R.S., Breckon, J.D. & Claytor, R.P. 2011. Adolescent physical activity participation and motivational determinants across gender, age, and race. *Journal of physical activity and health*, 8(8):1074-1083.

Caldwell, L.L. 2005. Leisure and health: why is leisure therapeutic? *British journal of guidance & counselling*, 33(1):7-26.

Caldwell, L.L., Patrick, M.E., Smith, E.A., Palen, L.-A. & Wegner, L. 2010. Influencing adolescent leisure motivation: Intervention effects of HealthWise South Africa. *Journal of leisure research*, 42(2):203-220.

Calver, S. 2017. Exploration of the development of countryside leisure attitudes and behaviour from childhood: a photo based analysis. Monograph (Discussion Paper).

Chen, Y.C., Li, R.H. & Chen, S.H. 2013. Relationships among adolescents' leisure motivation, leisure involvement, and leisure satisfaction: a structural equation model. *Social indicators research*, 110(3):1187-1199.

Cheng, D.X. 2004. Students' sense of campus community: what it means, and what to do about it. *Journal of student affairs research and practice*, 41(2):415-433.

Chick, G. 1998. Leisure and culture: issues for an anthropology of leisure. *Leisure sciences*, 20:111-133.

Cho, D. & Price, T. 2016. Examining the leisure constraints affecting international collegiate students' participation in intramural sport programs. *International journal of sport management, recreation and tourism*, 24, 22-41.

Cilliers, J., Senekal, M. & Kunneke, E. 2006. The association between the body mass index of first-year female university students and their weight-related perceptions and practices, psychological health, physical activity and other physical health indicators. *Public health nutrition*, 9(2):234-243.

Clancy, R.B., Herring, M.P., MacIntyre, T.E. & Campbell, M.J. 2016. A review of competitive sport motivation research. *Psychology of sport and exercise*, 27, 232-242.

Clawson, M. & Knetsch, J.L. 2013. Economics of Outdoor Recreation. 2nd ed. Taylor & Francis.

Claxton, A. & Perry-Jenkins, M. 2008. No fun anymore: leisure and marital quality across the transition to parenthood. *Journal of marriage and family*, 70, 28-43.

Cohen-Katz, J.L., Miller, W.L. & Borkan, J.M. 2003. Building a culture of resident well-being: creating self-reflection, community, & positive identity in family practice residency education. *Families, systems, & health*, 21(3):293-304.

Coleman, D. & Iso-Ahola, S.E. 1993. Leisure and health: the role of social support and self-determination. *Journal of leisure research*, 25(2):111-128.

Costa, C.A., Chalip, L., Green, B.C. & Simes, C. 2006. Reconsidering the role of training in event volunteers' satisfaction. *Sport management review*, 9(2):165-182.

Crawford, D.W. & Godbey, G. 1987. Reconceptualizing barriers to family leisure. *Leisure sciences*, 9(2):119-127.

Crawford, D.W., Jackson, E.L. & Godbey, G. 1991. A hierarchical model of leisure constraints. *Leisure sciences*, 13(4):309-320.

Crews, T. & Butterfield, J.B. 2014. Data for flipped classroom design: using student feedback to identify the best components from online and face-to-face classes. *Higher education studies*, 4(3):38-47.

Critcher, C. 2000. 'Still raving': social reaction to ecstasy. *Leisure studies*, 19(3):145-162.

Csikszentmihalyi, M. 1975. Beyond boredom and anxiety. San Francisco, CA: Jossey Bass

Dalgarn, M.K. 2001. The role of the campus recreation center in creating a community. *NIRSA journal*, 25(1):66-72.

DeBerard, M.S., Spielmans, G. & Julka, D. 2004. Predictors of academic achievement and retention among college freshmen: a longitudinal study. *College student journal*, 38(1):66-80.

Deci, E. L., Koestner, R., & Ryan, R. M. 1999. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological bulletin, 125(*6):627-668.

Deci, E.L. & Ryan, R.M. 1985. The general causality orientations scale: self-determination in personality. *Journal of research in personality*, 19(2):109-134.

Department of Higher Education and Training ***see*** South Africa. Department of Higher Education.

Diener, E. & Seligman, M.E. 2002. Very happy people. *Psychological science*, 13(1):81-84.

Dong, E. & Chick, G. 2012. Leisure constraints in six Chinese cities. *Leisure sciences*, 34(5):417-435.

Driver, B.L. & Bruns, D.H. 1999. Concepts and uses of the benefits approach to leisure. (*In* Jackson, E.L. & Burton, T.L., *eds*. Leisure studies: Prospects for the twenty-first century. State College, PA: Venture Publishing. p. 349-369).

Edginton, C.R. & Chen, P. 2008. Leisure as transformation. Champaign, IL: Sagamore Publishing.

Edginton, C.R., Hanson, C.J., Edginton, S. & Hudson, S.D. 2004. Leisure programming: a service-centered and benefits approach. 4th ed. New York: McGraw-Hill.

Elkins, D.J., Forrester, S.A. & Noël-Elkins, A.V. 2011. The contribution of campus recreational sports participation to perceived sense of campus community. *Recreational sports journal*, 35(1):24-34.

eNCA. 2016. Student protests: between a rock and a hard place. *eNCA.com*, 11 Oct. http://www.enca.com/south-africa/student-protests-between-a-rock-and-a-hardplace#comment Date of access: 9 Jun. 2017.

Facio, A. & Micocci, F. 2003. Emerging adulthood in Argentina. *New directions for child and adolescent development*, 2003(100):21-32.

Felder, R.M. & Brent, R. 2005. Understanding student differences. *Journal of engineering education*, 94(1):57-72.

Fike, D.S. & Fike, R. 2008. Predictors of first-year student retention in the community college. *Community college review*, 36(2):68-88.

Flanagan, C.A., Cumsille, P., Gill, S. & Gallay, L.S. 2007. School and community climates and civic commitments: Patterns for ethnic minority and majority students. *Journal of educational psychology*, 99(2):421-431.

Floyd, M. & Stodolska, M. 2014. Theoretical frameworks in leisure research on race and ethnicity. (*In* Stodolska, M., Shinew, K., Floyd, M. & Walker, G., *eds*. Race, ethnicity, and leisure. Champaign, IL: Human Kinetics. p. 9-19).

Floyd, M.F. & Mowatt, R.A. 2014. Leisure among African Americans. (*In* Stodolska, M., Shinew, K., Floyd, M. & Walker, G., *eds*. Race, ethnicity, and leisure. Champaign, IL: Human Kinetics. p. 53-75).

Fox, K., McAvoy, L., Wang, X. & Henhawk, D.A. 2014. Leisure among Alaskan Natives, American Indians, First Nations, Inuit, Métis, Native Hawaiians, and Other Pacific Islanders. (*In* Stodolska, M., Shinew, K., Floyd, M. & Walker, G., *eds*. Race, ethnicity, and leisure. Champaign, IL: Human Kinetics. p. 111-128).

Franklin, D. 2013. Evolution of campus recreational sports: adapting to the age of accountability. (*In* NIRSA., *eds*. Campus Recreational Sports. Champaign IL: Human Kinetics. p. 1-24).

Franklin, D. & Hardin, S. 2008. Philosophical and theoretical foundations of campusrecreation: Crossroads of theory. (*In* NIRSA., *eds*. Campus recreation: Essentials for the professional. Champaign IL: Human Kinetics. p 3-20).

Frenette, M. 2006. Too far to go on? Distance to school and university participation. *Education economics*, 14(1):31-58.

Gebhard, J.G. 2012. International students' adjustment problems and behaviors. *Journal of international students*, 2(2):158-164.

Gerdes, H. & Mallinckrodt, B. 1994. Emotional, social, and academic adjustment of college students: a longitudinal study of retention. *Journal of counseling & development*, 72(3):281-288.

Gilles, D.M., Turk, C.L. & Fresco, D.M. 2006. Social anxiety, alcohol expectancies, and self-efficacy as predictors of heavy drinking in college students. *Addictive behaviors*, 31(3):388-398.

Gillet, N., Vallerand, R.J. & Paty, B. 2013. Situational motivational profiles and performance with elite performers. *Journal of applied social psychology*, 43(6):1200-1210.

Glover, T.D. 2003. Regulating the rave scene: exploring the policy alternatives of government. *Leisure sciences*, 25(4):307-325.

Godbey, G., Crawford, D.W. & Shen, X.S. 2010. Assessing hierarchical leisure constraints theory after two decades. *Journal of leisure research*, 42(1):111-134.

Goodale, T.L. & Witt, P.A. 1991. Recreation and leisure: issues in an era of change. State College, PA: Venture Publishing.

Goodin, R.E., Rice, J.M., Bittman, M. & Saunders, P. 2005. The time-pressure illusion: discretionary time vs. free time. *Social indicators research*, 73(1):43-70.

Gray, H.J. 2010. Campus and Community. (*In* Human Kinetics., *eds*. Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 253-270).

Guo, Q. & Ross, C.M. 2014. An exploratory study of Asian international students' campus recreational sports participation. *Recreational sports journal*, 38(1):55-68.

Guo, T. & Schneider, I. 2015. Measurement properties and cross-cultural equivalence of negotiation with outdoor recreation constraints: an exploratory study. *Journal of leisure research*, 47(1):125-153.

Haddad, L.G. & Malak, M.Z. 2002. Smoking habits and attitudes towards smoking among university students in Jordan. *International journal of nursing studies*, 39(8):793-802.

Haimovitz, K. & Henderlong Corpus, J. 2011. Effects of person versus process praise on student motivation: Stability and change in emerging adulthood. *Educational psychology*, 31(5):595-609.

Haines, D.J. 2001. Undergraduate student benefits from university recreation. *NIRSA journal*, 25(1):25-33.

Halforty, G.A. & Radder, L. 2015. Constraints to participation in organised sport: case of senior undergraduate students at a new generation university. *South African journal for research in sport, physical education and recreation*, 37(3):97-111.

Harrington, M. & Dawson, D. 1995. Who has it best? Women's labor force participation, perceptions of leisure and constraints to enjoyment of leisure. *Journal of leisure research*, 27(1):4-24.

Heeren, G.A., Jemmott III, J.B., Mandeya, A. & Tyler, J.C. 2007. Theory–based predictors of condom use among university students in the United States and South Africa. *AIDS education & prevention*, 19(1):1-12.

Heintzman, P. & Stodolska, M. 2014. Leisure among Religious Minorities. (*In* Stodolska, M., Shinew, K., Floyd, M. & Walker, G., *eds*. Race, ethnicity, and leisure. Champaign, IL: Human Kinetics. p. 129-150).

Henderson, K.A. 2010. Importance of Leisure to individuals and society. (*In* Human Kinetics., *eds*. Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 3-26).

Henderson, K.A., Presley, J. & Bialeschki, M.D. 2004. Theory in recreation and leisure research: reflections from the editors. *Leisure sciences*, 26(4):411-425.

Heuser, L. 2005. We're not too old to play sports: the career of women lawn bowlers. *Leisure studies*, 24(1):45-60.

Hillman, N.W. 2013. Economic diversity in elite higher education: do no-loan programs impact Pell enrollments? *The journal of higher education*, 84(6):806-833.

Holt, D.B. 1995. How consumers consume: a typology of consumption practices. *Journal of consumer research*, 22(1):1-16.

Hood, C. & Carruthers, C. 2010. Leisure & wellbeing: leisure & quality of life. (*In* Human Kinetics., *eds*. Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 47-66).

Iso-Ahola, S.E. 1980. The social psychology of leisure and recreation. Dubuque, IA: William C Brown Company.

Iso-Ahola, S.E. & Crowley, E.D. 1991. Adolescent substance abuse and leisure boredom. *Journal of leisure research*, 23(3):260-271.

Jackson, E.L. 1993. Recognizing patterns of leisure constraints: Results from alternative analyses. *Journal of leisure research*, 25(2):129-129.

Jackson, E.L. 2000. Will research on leisure constraints still be relevant in the twenty-first century? *Journal of leisure research*, 32(1):62-68.

Jackson, E. L. 2005. Constraints to leisure. State College, PA: Venture Publishing.

Jackson, E.L. & Henderson, K.A. 1995. Gender-based analysis of leisure constraints. *Leisure sciences*, 17(1):31-51.

Jackson, S. & Kimiecik, J. 2008. The flow perspective for optimal experience in sport and physical activity. (*In* Horn, T., *ed.* Advances in sport psychology. 3rd ed. Champaign, IL: Human Kinetics. p. 377-399).

Jessup, G.M., Cornell, E. & Bundy, A.C. 2010. The treasure in leisure activities: fostering resilience in young people who are blind. *Journal of visual impairment & blindness*, 104(7):419-430.

Kalmijn, M. & Bernasco, W. 2001. Joint and separated lifestyles in couple relationships. *Journal of marriage and family*, 63(3):639-654.

Kanters, M.A. 2000. Recreational sport participation as a moderator of college stress. *Recreational sports journal*, 24(2):11-24.

Kelly, J.R. 2012. Leisure. Urbana, IL: Sagamore Publishing.

Kelly, J.R. & Freysinger, V.J. 2000. 21st century leisure: current issues. Bosten, MA: Allyn and Bacon.

King, K.M. & Chassin, L. 2004. Mediating and moderated effects of adolescent behavioral undercontrol and parenting in the prediction of drug use disorders in emerging adulthood. *Psychology of addictive behaviors*, 18(3):239-249.

Kim, K.A., Sax, L.J., Lee, J.J. & Hagedorn, L.S. 2010. Redefining nontraditional students: exploring the self-perceptions of community college students. *Community college journal of research and practice*, 34(5):402-422.

Kiser, A.I. & Price, L. 2008. The persistence of college students from their freshman to sophomore year. *Journal of college student retention: research, theory & practice*, 9(4):421-436.

Kleiber, D., Larson, R. & Csikszentmihalyi, M. 2014. The experience of leisure in adolescence. (*In* Csikszentmihalyi, M., *ed.* Applications of flow in human development and education. Netherlands, Springer Press. p. 467-474).

Kleiber, D.A., Hutchinson, S.L. & Williams, R. 2002. Leisure as a resource in transcending negative life events: Self-protection, self-restoration, and personal transformation. *Leisure sciences*, 24(2):219-235.

Kolt, G.S., Driver, R.P. & Giles, L.C. 2004. Why older Australians participate in exercise and sport. *Journal of aging and physical activity*, 12(2):185-198.

Konstam, V. 2014. Emerging and young adulthood: Multiple perspectives, diverse narratives. New York, NY: Springer Press.

Kraus, R. 1990. Recreation and leisure in modern society. Glenview, Scott, IL: Brown Higher Education.

Langford, C.P.H., Bowsher, J., Maloney, J.P. & Lillis, P.P. 1997. Social support: a conceptual analysis. *Journal of advanced nursing*, 25(1):95-100.

Lavallee, D., Kremer, J., Moran, A. & Williams, M. 2012. Sport psychology: contemporary themes. 2nd ed. London: Palgrave Macmillan.

Legault, L., Green-Demers, I. & Pelletier, L. 2006. Why do high school students lack motivation in the classroom? Toward an understanding of academic amotivation and the role of social support. *Journal of educational psychology*, 98(3):567-582.

Leitner, M.J. & Leitner, S.F. 2012. Leisure enhancement. Urbana, IL: Sagamore Publishing.

Leonard, W.M. 1996. The odds of transiting from one level of sports participation to another. *Sociology of sport journal*, 13(3):288-299.

Leung, L. & Lee, P.S. 2005. Multiple determinants of life quality: the roles of Internet activities, use of new media, social support, and leisure activities. *Telematics and informatics*, 22(3):161-180.

Lewis, S. 2003. The integration of paid work and the rest of life. Is post-industrial work the new leisure? *Leisure studies*, 22(4):343-345.

Lo, C.C. 2000. The impact of first drinking and differential association on collegiate drinking. *Sociological focus*, 33(3):265-280.

Locks, A.M., Hurtado, S., Bowman, N.A. & Oseguera, L. 2008. Extending notions of campus climate and diversity to students' transition to college. *The review of higher education*, 31(3):257-285.

Lowe, H. & Cook, A. 2003. Mind the gap: are students prepared for higher education? *Journal of further and higher education*, 27(1):53-76.

Maas, M.K., Shearer, C.L., Gillen, M.M. & Lefkowitz, E.S. 2015. Sex rules: emerging adults' perceptions of gender's impact on sexuality. *Sexuality & culture*, 19(4):617-636.

Mahoney, J.L. & Stattin, H. 2000. Leisure activities and adolescent antisocial behavior: the role of structure and social context. *Journal of adolescence*, 23(2):113-127.

Mak, B. 2011. An exploration of speaking-in-class anxiety with Chinese ESL learners. *System*, 39(2):202-214.

Manfredo, M.J., Driver, B.L. & Tarrant, M.A. 1996. Measuring leisure motivation: a meta-analysis of the recreation experience preference scales. *Journal of leisure research*, 28(3):188-213.

Mannell, R.C. & Kleiber, D.A. 1997. A social psychology of leisure. State College, PA: Venture Publishing.

Maron, B.J., Chaitman, B.R., Ackerman, M.J., De Luna, A.B., Corrado, D., Crosson, J.E., Deal, B.J., Driscoll, D.J., Estes, N.M. & Araújo, C.G.S. 2004. Recommendations for physical activity and recreational sports participation for young patients with genetic cardiovascular diseases. *Circulation*, 109(22):2807-2816.

Martínková, I. & Parry, J. 2017. Safe danger–on the experience of challenge, adventure and risk in education. *Sport, ethics and philosophy*, 11(1):75-91.

Mattingly, M.J. & Sayer, L.C. 2006. Under pressure: gender differences in the relationship between free time and feeling rushed. *Journal of marriage and family*, 68(1):205-221.

Mayseless, O. & Scharf, M. 2003. What does it mean to be an adult? The Israeli experience. *New directions for child and adolescent development*, 2003(100):5-20.

McDonald, W.M. 2002. Creating campus community: in search of Ernest Boyer's legacy. San Francisco, CA: John Wiley and Sons.

McLean, D. & Hurd, A. 2011. Kraus' recreation and leisure in modern society. USA: Jones and Bartlett Publishers.

McMillan, D.W. 1996. Sense of community. *Journal of community psychology*, 24(4):315-325.

McMillan, D.W. & Chavis, D.M. 1986. Sense of community: a definition and theory. *Journal of community psychology*, 14(1):6-23.

McPherson, M., Smith-Lovin, L. & Brashears, M.E. 2006. Social isolation in America: changes in core discussion networks over two decades. *American sociological review*, 71(3):353-375.

Morton, S., Mergler, A. & Boman, P. 2014. Managing the transition: the role of optimism and self-efficacy for first-year Australian university students. *Journal of psychologists and counsellors in schools*, 24(1):90-108.

Mull, R., Bayless, K., Ross, C. & Jamieson, L. 1997. Recreational sport management. Champaign, IL: Human Kinetics.

Murtaugh, P.A., Burns, L.D. & Schuster, J. 1999. Predicting the retention of university students. *Research in higher education*, 40(3):355-371.

Ndelu, S. 2016. 'Liberation Is a Falsehood': fallism at the University of Cape Town. *An analysis of the# FeesMustFall Movement at South African universities*, 58-82.

Nelson, K.J. & Kift, S.M. 2005. Beyond curriculum reform: embedding the transition experience. (In Brew, A. & Asmar, C. *eds. HERDSA 2005*, 3-6 July, The University of Sydney, Sydney, Australia. p. 225-235).

Nelson, L., Badger, S. & Wu, B. 2004. The influence of culture in emerging adulthood: perspectives of Chinese college students. *International journal of behavioral development*, 28(1):26-36.

Nelson, M.C., Story, M., Larson, N.I., Neumark-Sztainer, D. & Lytle, L.A. 2008. Emerging adulthood and college-aged youth: an overlooked age for weight-related behavior change. *Obesity*, 16(10):2205-2211.

Ntoumanis, N., Pensgaard, A.-M., Martin, C. & Pipe, K. 2004. An idiographic analysis of amotivation in compulsory school physical education. *Journal of sport and exercise psychology*, 26(2):197-214.

O'Sullivan, E. 2012. Power, promise, potential, and possibilities of parks, recreation, and leisure. (*In* Human Kinetics., *eds.* Introduction to Recreation and Leisure. 2nd ed. Champaign, IL: Human Kinetics. p. 3-20).

Pano, G. & Markola, L. 2012. 14-18 Years old children attitudes, perception and motivation towards extra curricular physical activity and sport. (*In* Journal of Human Sport and Exercise., *eds.* 6th INSHS International Christmas Sport Scientific Conference, 11-14 December. Szombathely, Hungary. p. 51-66).

Park, Y., Yoh, T. & Park, M. 2015. Testing a leisure constraints model in the context of Asian international students. *International journal of sport management, recreation and tourism*, 20, 58-83.

Parr, M.G. & Lashua, B.D. 2004. What is leisure? The perceptions of recreation practitioners and others. *Leisure sciences*, 26(1):1-17.

Pelletier, L.G., Fortier, M.S., Vallerand, R.J. & Brière, N.M. 2001. Associations among perceived autonomy support, forms of self-regulation, and persistence: a prospective study. *Motivation and emotion*, 25(4):279-306.

Peltzer, K., Pengpid, S., Samuels, T., Özcan, N.K., Mantilla, C., Rahamefy, O.H., Wong, M.L. & Gasparishvili, A. 2014. Prevalence of overweight/obesity and its associated factors among university students from 22 countries. *International journal of environmental research and public health*, 11(7):7425-7441.

Perkins, K. & Nakamura, J. 2013. Flow and leisure. (*In* Freire, T., *ed.* Positive leisure science. Dordrecht, Netherlands: Springer. p. 141-157).

Peterson, R.J. 2004. Exploring flow among Division I and intramural athletes. Denton, Texas: University of North Texas. (Dissertation - PhD).

Petrou, P. & Bakker, A.B. 2016. Crafting one's leisure time in response to high job strain. *Human relations*, 69(2):507-529.

Rabinowitz, E. & West, S. 2010. Leisure through the life span. (*In* Human Kinetics., *eds.* Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 315-333).

Racette, S.B., Deusinger, S.S., Strube, M.J., Highstein, G.R. & Deusinger, R.H. 2005. Weight changes, exercise, and dietary patterns during freshman and sophomore years of college. *Journal of american college health*, 53(6):245-251.

Rabinowitz, E. & James, J. 2010. Leisure trhough a social science lens. (*In* Human Kinetics., *eds.* Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 27-44).

Raymore, L.A., Barber, B.L. & Eccles, J.S. 2001. Leaving home, attending college, partnership and parenthood: the role of life transition events in leisure pattern stability from adolescence to young adulthood. *Journal of youth and adolescence*, 30(2):197-223.

Recours, R.A., Souville, M. & Griffet, J. 2004. Expressed motives for informal and club/association-based sports participation. *Journal of leisure research*, 36(1):1-22.

Reed, C.E. & Cox, R.H. 2007. Motives and regulatory style underlying senior athletes' participation in sport. *Journal of sport behavior*, 30(3):307-329.

Roberts, G.C., Treasure, D.C. & Conroy, D.E. 2007. Understanding the dynamics of motivation in sport and physical activity: an achievement goal interpretation. (*In* Tenenbaum, G. & Eklund, R.C., *eds*. Handbook of sport psychology. 3rd ed. Hoboken, NJ: Wiley. p. 1-30).

Rodriguez, A. & Gamble, D. J. 2010. Leisure & quality of life. (*In* Human Kinetics., *eds.* Dimensions of leisure for life. Champaign, IL: Human Kinetics. p. 47-66).

Rodrik, D. 1999. Where did all the growth go? External shocks, social conflict, and growth collapses. *Journal of economic growth*, 4(4):385-412.

Rogers, A., McRee, N. & Arntz, D.L. 2009. Using a college human sexuality course to combat homophobia. *Sex education*, 9(3):211-225.

Rojek, C. 2005. Leisure theory: principles and practice. Basingstoke, Palgrave Macmillan.

Rossman, J.R. 1984. The influence of program format choice on participant satisfaction. *Journal of park and recreation administration*, 3, 39-51.

Rossman, J.R. & Schlatter, B.E. 2008. Recreation programming: designing leisure experiences. 5th ed. Champaign, IL: Sagamore Publishing.

Russell, R.V. 2002. Pastimes: the context of contemporary leisure. 2nd ed. Champaign, IL: Sagamore Publishing.

Ryan, R.M. 1995. Psychological needs and the facilitation of integrative processes. *Journal of personality*, 63(3):397-427.

Ryan, R.M. & Deci, E.L. 2000a. Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary educational psychology*, 25(1):54-67.

Ryan, R.M. & Deci, E.L. 2000b. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1):68-78.

Salami, S.O. 2010. Emotional intelligence, self-efficacy, psychological well-being and students attitudes: Implications for quality education. *European journal of educational studies*, 2(3):247-257.

Sarrazin, P., Vallerand, R., Guillet, E., Pelletier, L. & Cury, F. 2002. Motivation and dropout in female handballers: a 21-month prospective study. *European journal of social psychology*, 32(3):395-418.

Schneider, I.E. & Kivel, B.D. 2016. Diversity and inclusion in the recreation profession: organizational perspectives. 3rd ed. Champaign, IL: Sagamore Publishing.

Schulenberg, J., O'Malley, P.M., Bachman, J.G. & Johnston, L.D. 2005. Early adult transitions and their relation to well-being and substance use. University of Chicago Press.

Sell, L. & Robson, P. 1998. Perceptions of college life, emotional well-being and patterns of drug and alcohol use among Oxford undergraduates. *Oxford review of education*, 24(2):235-243.

Shaw, S.M. 1999. Men's leisure and women's lives: the impact of pornography on women. *Leisure studies*, 18(3):197-212.

Shaw, S.M. & Henderson, K.A. 2005. Gender analysis and leisure constraints: an uneasy alliance. (*In* Jackson, E.L., *ed.* Constraints to leisure. State College, PA: Venture Publishing. p. 23-34.)

Shinew, K.J. & Parry, D.C. 2005. Examining college students' participation in the leisure pursuits of drinking and illegal drug use. *Journal of leisure research*, 37(3):364-386.

South Africa. Department of Higher Education and Training. 2015. Annual Report: 2015/16 Financial Year, Pretoria.

Spivey, L.M. & Hritz, N.M. 2013. A longitudinal study of recreational sport participation and constraints. *Recreational sports journal*, 37(1):14-28.

Standage, M., Duda, J.L. & Ntoumanis, N. 2005. A test of self-determination theory in school physical education. *British journal of educational psychology*, 75(3):411-433.

Stebbins, R.A. 1992. Amateurs, professionals, and serious leisure. McGill-Queen's University Press.

Stodolska, M. & Shinew, K.J. 2014. Leisure among Latino Americans. (*In* Stodolska, M., Shinew, K., Floyd, M. & Walker, G., *eds*. Race, ethnicity, and leisure. Champaign, IL: Human Kinetics. p. 75-96).

Szabo, B. & Schnabel, F. 2014. Healthy and meaningful leisure behaviour of young adults as a multisectoral challenge. Paper presented at the International conference on eduation, Szombathely, 18th-20th September. http://hdl.handle.net/20.500.11790/114 Date of access: 6 Jun. 2017.

Tanner, J.L. & Arnett, J.J. 2009. The emergence of 'emerging adulthood': the new life stage between adolescence and young adulthood. (*In* Furlong, A., ed. Handbook of youth and young adulthood: new perspectives and agendas. New York, NY: Routledge/Taylor and Fracis Group. p. 39-45).

Tammelin, R., Yang, X., Leskinen, E., Kankaanpaa, A., Hirvensalo, M. & Tammelin, T. 2014. Tracking of physical activity from early childhood through youth into adulthood. *Medicine & science in sports & exercise*, 46, 955-962.

Taymoori, P., Lubans, D. & Berry, T.R. 2010. Evaluation of the health promotion model to predict physical activity in Iranian adolescent boys. *Health education & behavior*, 37(1):84-96.

Tinto, V. 1975. Dropout from higher education: a theoretical synthesis of recent research. *Review of educational research*, 45(1):89-125.

Tladi, F. & Jali, N. 2014. Factors contributing to pregnancy amongst female students at the University of Limpopo, Turfloop campus, South Africa. *African journal for physical, health education, recreation and dance*, 1_2, 275-283.

Treasure, D.C. & Robert, G.C. 2001. Students' perceptions of the motivational climate, achievement beliefs, and satisfaction in physical education. *Research Quarterly for Exercise and Sport*, 72(2):165-175.

Urani, M.A., Miller, S.A., Johnson, J.E. & Petzel, T.P. 2003. Homesickness in socially-anxious first year college students. *College student journal*, 37(3):392-399.

Vallerand, R.J., Fortier, M.S. & Guay, F. 1997. Self-determination and persistence in a real-life setting: toward a motivational model of high school dropout. *Journal of personality and social psychology*, 72(5):1161-1176.

Veal, A. J. 1992. Definitions of leisure and recreation. Australian Journal of Leisure and Recreation, 2(4), 44-48, 52, Republished by School of Leisure, Sport and Tourism, University of Technology, Sydney, as Working Paper No. 4, http://www.business.uts.edu.au/lst/research Date of access: 5 Jan. 2017.

Vermaas, L., 2010. 'Dealing with unplanned pregnancies and abortions amongst tertiary students', paper presented at the 6th African Conference on Psychotherapy in Uganda, Kampala, Uganda, 14–16 December, http://www.tut.ac.za/News/Pages/pregnancies.aspx Date of access: 6 Jun. 2017.

Villatte, A., Marcotte, D. & Potvin, A. 2017. Correlates of depression in first-year college students. *Canadian journal of higher education*, 47(1):114-136.

Walker, C.O., Greene, B.A. & Mansell, R.A. 2006. Identification with academics, intrinsic/extrinsic motivation, and self-efficacy as predictors of cognitive engagement. *Learning and individual differences*, 16(1):1-12.

Walker, G., L & Deng, J. 2014. Leisure among Asian North Americans. (*In* Stodolska, M., Shinew, K., Floyd, M. & Walker, G., *eds*. Race, ethnicity, and leisure. Champaign, IL: Human Kinetics. p. 97-109).

Walker, G.J., Jackson, E.L. & Deng, J. 2007. Culture and leisure constraints: a comparison of Canadian and Mainland Chinese university students. *Journal of leisure research*, 39(4):567-590.

Walker, G.J. & Wang, X. 2008a. A cross-cultural comparison of Canadian and Mainland Chinese university students' leisure motivations. *Leisure sciences*, 30(3):179-197.

Walker, G.J. & Wang, X. 2008b. The meaning of leisure for Chinese/Canadians. *Leisure sciences*, 31(1):1-18.

Warner, S., Dixon, M.A. & Chalip, L. 2012. The impact of formal versus informal sport: mapping the differences in sense of community. *Journal of community psychology*, 40(8):983-1003.

Warner, S., Kerwin, S. & Walker, M. 2013. Examining sense of community in sport: developing the multidimensional 'SCS'Scale. *Journal of sport management*, 27(5):349-362.

Wechsler, H. & Nelson, T.F. 2001. Binge drinking and the American college students: what's five drinks? *Psychology of addictive behaviors*, 15(4):287-291.

Wegner, L. 2011. Through the lens of a peer: understanding leisure boredom and risk behaviour in adolescence. *South African journal of occupational therapy*, 41(1):19-23.

Weilbach, J.T. 2013. The relationship between demographic variables and leisure perceptions of selected South African first year university students. Potchefstroom, NWU. (Thesis – PhD).

White, H.R. & Jackson, K. 2004. Social and psychological influences on emerging adult drinking behavior. *Alcohol research & health*, 28(4):182-191.

White, J.L., Randsdell, L.B., Vener, J. & Flohr, J.A. 2005. Factors related to physical activity adherence in women: review and suggestions for future research. *Women & health*, 41(4):123-148.

Wicker, A.W. 1979. Ecological psychology: some recent and prospective developments. *American psychologist*, 34(9):755-765.

Woods, R.B. 2011. Social issues in sport. 2nd ed. Champaigh, IL: Human Kinetics.

Wright, K.B. 2005. Researching internet-based populations: advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of computer-mediated communication*, 10(3):00-00.

Wright, K.B., Rosenberg, J., Egbert, N., Ploeger, N.A., Bernard, D.R. & King, S. 2013. Communication competence, social support, and depression among college students: a model of facebook and face-to-face support network influence. *Journal of health communication*, 18(1):41-57.

Yan, Z. & Cardinal, B.J. 2013. Increasing Asian international college students' physical activity behavior: a review of the youth physical activity promotion model. *Health educator*, 45(1):35-45.

Zarrett, N. & Eccles, J. 2006. The passage to adulthood: challenges of late adolescence. *New directions for student leadership*, 2006(111):13-28.

Zimmer-Gembeck, M.J. & Petherick, J. 2006. Intimacy dating goals and relationship satisfaction during adolescence and emerging adulthood: identity formation, age and sex as moderators. *International journal of behavioral development*, 30(2):167-177.

Chapter 3

Article 1

Recreational sport participation patterns of university students at a South African university

Recreational Sports Journal

"The *Recreational Sports Journal* is the scholarly, peer-reviewed publication of the NIRSA Foundation, a nonprofit organization established to support the goals of the National Intramural-Recreational Sports Association (NIRSA)."

Recreational Sport Participation Patterns of University Students at a South African University

Natasha Janse van Rensburg, Theron J. Weilbach, and Linda L. Caldwell

Abstract

Numerous benefits are associated with participation in recreational sports on university campuses. Despite the growing body of knowledge on collegiate recreation, there is a lack of South African-based research on the topic. The purpose of this study was to understand the recreational sport participation patterns of students at a South African university. Moreover, this study sought to understand how gender and other variables influence students' recreational participation choices. An online questionnaire was distributed to a census sample (*N*=17,279) of all students registered for the 2017 academic year at a selected South African university in the North West Province. A total of 614 respondents completed the survey, an overall response rate of 4%. The statistical analysis comprised descriptive statistics of participation, frequencies and relationships. Male students were more likely to participate in recreational sport than female students, and there were significant differences between other demographic factors and participation in and choice of recreational sport activity. Further insight into the distinct reasons students participate or not is needed, to gain a deeper understanding of students' recreational sport participation behaviour.

Keywords: campus recreation, recreational sport, college recreation, South Africa university, physical activity

The retention rate and overall health of university students can be increased by participation in recreational sports on campus (Forrester, 2014). Although physical activity decreases with age (Martinez-Gomez, Bandinelli, Del-Panta, Patel, Guralnik, & Ferrucci, 2017), participation in physical activity during the time spent at university influences students to pursue an active and healthy lifestyle long after completing university (DeLong, 2006; Kilpatrick, Hebert & Bartholomew, 2005). Over the past ten years, a significant amount of literature has addressed different aspects of campus recreational activities and programmes, predominantly in association with the National Intramural and Recreational Sports Association (NIRSA) institutions across North America. While countries like the United States of America (USA) and Canada experience a growing body of knowledge on the value and benefits of collegiate recreation, South Africa has little to no documented evidence on the recreational sport participation patterns of university students.

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Although this information may seem repetitive on an international scale, effort should be made to broaden the body of knowledge in the African context.

Background

The transition period from high school to university life presents unique challenges for university students (Perkins, 2015). In addition to developmental changes, this transition is associated with numerous academic and social stressors (Pluut, Curşeu, & Ilies, 2015). Through the provision of campus recreational sports, most universities provide students with the opportunity to cope with these stressors (Young, Ross, & Barcelona, 2003), opportunities that also assist in the academic and social success of students (Antón, Rodriguez, & Martinez, 2011; Fields & Young, 2010). At an institutional level, a strong argument for the value of campus recreational activities and programmes is based on the higher retention rates and increased persistence to complete their studies among students who participate in such activities (Banta, Brandley, & Bryant, 1991). Tinto (1975) found that participation in extracurricular activities such as recreational sport increased university students' persistence and decreased their chances of dropping out of university. South African universities are faced with an alarmingly high dropout rate of 54% during the first year of study and only 10% of registered students eventually obtain an undergraduate qualification (Department of Higher Education and Training [DHET], 2015). Although numerous reasons for student dropout of university exist, it has been associated with a combination of stress and loneliness (Zawadzki, Graham, & Gerin, 2013). According to Henninger, William, Eshbaugh, Osbeck, and Madigan (2016), the largest predictor of loneliness in university students is a lack of social support from friends. Through participation in recreational sport, students can engage socially and build the new support networks necessary to combat feelings of loneliness and homesickness experienced at university (Gray, 2010).

Additional to social support, the personal benefits of participation include increased health, wellness and overall life satisfaction, which all contribute to a positive university experience (Kovac & Beck, 1998). Physical inactivity and poor overall health among university students is fast becoming a crucial health problem (Plotnikof, Costigan, Williams, Hutchesson, Kennedy, Robards, Allen, Collins, Callisster, & Germov, 2015). Similarly, a 2014 survey indicated that the South African female student obesity rate exceeded 10%, the highest on the African continent, and that 70% of South African university students were physically inactive (Peltzer, Pengpid, Samuels, Özcan, Mantilla, Rahamefy, Wong & Gasparishvili, 2014). The physical nature of recreational sport provides the opportunity for increased overall health derived from physical exercise (Hills, Dengel, & Lubans, 2015). Benefits from physical activity such as recreational sport include better mental health and reduced stress, anxiety and depression (VanKim & Nelson, 2013). Although academic pressures play a significant role in student stress and anxiety (Kumaraswamy, 2013), research has found that overall health, self-esteem and body image are additional sources of stress for university students (Beiter, Nash, McCrady, Rhoades, Linscomb, Clarahan, & Sammut, 2015). Haines (2001) found that participation in recreational activities on campus reduced stress

and, in addition, contributed to physical strength and fitness. However, it appears that the benefits obtained from recreational sport participation are different, depending on factors such as gender.

Previous international research has found differences in participation patterns among university students of different genders (Shifrer, Pearson, Muller, & Wilkinson, 2015; El Ansari, Khalil, Crone, & Stock, 2014; Beville, Umstattd Meyer, Usdan, Turner, Jackson, & Lian, 2014; Flood & Parker, 2014; Guo & Ross, 2014; Liu, Chung, & Chen, 2014; Haines, 2001), races or ethnicities (Shifrer et al., 2015: Danbert, Pivarnik, McNeil, & Washington, 2014), academic levels (Reynolds, 2016; Brock, Carr, & Todd, 2015), residential types (Alfano & Eduljee, 2013), and nationalities (Glass, 2014; Guo & Ross, 2014). However, no information specifically on the recreational sport participation of South African university students is available. For South African universities to use recreational sport activities and programmes as a method to increase students' overall health and retention rates, South African-based information on current participation patterns is needed. Additionally, to justify the investment in campus recreation, management must find ways to increase the use of campus recreation facilities (Miller, Noland, Rayens, & Staten, 2008) and learning more about the characteristics of users and nonusers of these facilities will help universities maximise their investment. This information will serve as a first step in growing the body of knowledge in the field of campus recreational sport in South Africa. The purpose of this study was to provide an overview of the recreational sport participation patterns of undergraduate students at a South African university.

Research questions

1. What are the recreational sport participation patterns of undergraduate students attending a South African university?
    a. What are the kinds of recreational sport activities undergraduate students engage in on campus and are there differences between gender, race, residential type and nationality and the choice of recreational sport activities?
    b. What are the recreational sport participation rates of undergraduate students and are there differences between gender, race, residential type and nationality and participation rates?

Methods

Participants

The participants of this study were registered undergraduate students from one campus of a South African university based in North West Province. The sample included South African male and female students, aged 18 years and older, who were participants and nonparticipants of various types of recreational sport during the first 6 months of the 2017 academic year. International students were also included. The campus demographic figures estimate that, of the 17,279 students registered for contact and distance learning on

campus, 56% are female and 44% are male. The majority of students are white (71%), while 22% are black African and the rest comprise 6% Coloured[2] and 1% Indian/Asian.

Procedure

A cross-sectional quantitative survey research method was used to collect data. A link to an online questionnaire (SurveyMonkey®) was placed on the university's learning management system (online learning platform) and distributed to all 17,279 undergraduate students registered for the 2017 academic year. Respondents who consented to complete the online questionnaire and were willing to provide their student number were entered in a lucky draw for an Apple iPad as an incentive to participate. Of the 1105 respondents who started the survey, 614 respondents completed every question in the survey, representing a completed survey response rate of 56% and an overall response rate of 4% of the total student population.

Instrument

The online questionnaire took approximately 10–15 minutes to complete and consisted of a demographic section and a section measuring students' current recreational sport participation. Questions were previously evaluated in a pilot survey of 327 undergraduate contact students during the 2013 second academic semester, when responses were analysed and modifications made to improve the questionnaire for the final survey. Students were asked to indicate if they were currently participating in any of the 60 recreational sport activities identified through the pilot study, as well as detailing any activities not listed on the questionnaire. After students selected one or all activities in which they participated, a screen following listed the selected activities with a space in which students had to indicate the frequency of participation. The frequency section included the instruction 'On average during the past six months, please indicate how many times a month you have participated in the chosen activity(ies)', to which students responded by typing in a number, for example, '3' for three times a month. All parts of the study were approved by the Departmental Scientific and Health Research Ethics Committee (NWU-00034-16-A1) of the university before the study was conducted.

Data analysis

The study aimed to describe participation patterns and no hypotheses were tested. Therefore, data were used for descriptive statistics which were analysed to obtain a general profile of the students. Frequency and percentages were used to tabulate responses. The phi coefficient was used to quantify the correlation between demographic variables (gender, race, residential type and nationality) and recreational sport participation. The effect size was given as $w = \sqrt{\frac{x^2}{N}}$, where x^2 was the usual Chi-square statistic for two-way frequency tables and N was the sample size. The effect size (w) was interpreted using Cohen's (1988) guidelines as follows: (a) small effect, w=0.1, (b) medium effect, w=0.3 and (c) large effect, w=0.5.

[2] In the South African context, the term Coloured refers to a specific population group. This population derives from different populations that include Khoisan, Bantus, Europeans, Indians, and Southeast Asians (Quintana-Murci et al., 2010).

Statistical significance was set as *p*-value less than 0.05. As suggested by MacDonald and Gardner (2000), the standardised residual values had to be more than the value 1.96 or less than -1.96 to be considered as predicating the statistical difference. A medium effect of 0.3 might indicate practical significance and ≥0.5 was considered a large effect and of practical significance. Correlations were analysed using Spearman's correlation in SPSS version 24.0 (IBM Corp., Armonk, NY, USA).

Results

Demographics

A total of 614 surveys were collected over a period of 1 month in the second academic semester. Only registered undergraduate students were included for further analysis. Of the 581 respondents who submitted usable responses, 300 were females (52%) and 281 were male (48%). Respondents' age ranged from 18 to 29 years, with an average age of 21. White and black African students respectively made up 57% and 33% of the sample, while 6% were Coloured and 10% reported to belong to other ethnic groups such as Indian/Asian. Six percent of the students indicated that they were not South African and were represented as international students. Twenty-nine percent of the respondents reported being a member of a campus residence, while 9% lived privately but were members of a town residence. 'Campus residences' are based on campus and function as fraternities/sororities, whereas 'town residences' do not offer physical accommodation for students but rather function as a student club. Most of the students reported that they lived in an apartment off campus (62%).

Recreational sport profile of students

A total of 512 (88.1%) of the respondents indicated that they had participated in some form of recreational sport activity during the first 6 months of the 2017 academic year.

Table 1 Participation in recreational sport by gender

Gender	Male, %	Female, %	Total, %
Participate	92.9	83.7	88.1
Do not participate	7.1	16.3	11.9
	100.0	100.0	100.0

Table 1 shows the relationship between gender and recreational sport participation with the percentages indicating the level of participation or nonparticipation by male and female students. There was a statistically significant difference between genders in terms of participation in recreational sport (p=0.001). Based on the standardised residual values, males contributed to the significant relationship between gender and recreational sport participation. Thus, male students were more likely than females to participate in recreational sport (-2.3). According to the phi coefficient, there was only a small effect between gender and recreational sport participation (w=0.14). However, given the percentages in Table 1, it was evident that female students were more likely not to participate than males.

Table 2 Participation in recreational sport by race

Race	White, %	Black African, %	Coloured, %	Other, %	Total, %
Participate	94.3	78.9	81.1	87.5	88.1
Do not participate	5.7	21.1	18.9	12.5	11.9
	100.0	100.0	100.0	100.0	100.0

The relationship between race and recreational sport participation is reported in Table 2. According to the chi-square, there was a statistical difference between race and recreational sport participation ($p \leq 0.001$). Based on the standardised residual values, black African students were less likely to participate in recreational sport (3.7) than white students or students from other races, whereas white students were more likely than black African or students from other races to participate in recreational sport (-3.3). Although the phi coefficient indicated that there was only a small effect between race and recreational sport participation ($w=0.23$), according to the percentages in Table 2, black African students were more likely not to participate than white and Coloured students and students from other races such as Indian or Asian.

Table 3 Participation in recreational sport by residential type

Residential type	Campus, %	Town, %	Private, %	Total, %
Participate	91.1	100.0	84.9	88.1
Do not participate	8.9	*0.0	15.1	11.9
	100.0	100.0	100.0	100.0

*No respondents indicated that they do not participate in recreational sports

Table 3 records the relationship between residential type and recreational sport participation. There was a statistically significant difference between residential type and participation in recreational sport ($p=0.002$). Based on the standardised residual values, students from town residences contributed to the significant relationship between residential type and recreational sport participation. Students who were part of town residences were less likely than students who were affiliated with campus residences or who lived privately to participate in recreational sport (-2.5). In effect, all the students from the sample who were affiliated with town residences participated in recreational sport. When town residence was removed from the chi-square analysis, there was no statistical or practical significant difference between campus and private residences in recreational sport participation ($p>0.05$).

Table 4 Participation in recreational sport by nationality

Nationality	South African, %	Non-South African, %	Total, %
Participate	88.3	85.3	88.1
Do not participate	11.7	14.7	11.9
	100.0	100.0	100.0

The relationship between nationality and recreational sport is illustrated in Table 4. No statistically significant or practical significant differences in participation were found between students who were from South Africa and those from other countries.

Recreational sport participation by students

Of interest in this study was not only whether undergraduate students participated in recreational sport, but also the type of activity in which they took part. Descriptive information about the percentage of students who participated in each of the 60 various activities can be found in Table 5. The recreational sport activities were grouped into six categories: main sport codes, additional sport codes, and group, outdoor, dance and exercise activities. To provide the sampled university with valuable information on the popularity and relativity of their main and additional sport codes, the specific activities were grouped together. Main sport codes included all the official university sports which includes athletics, soccer, hockey, netball, cricket, rugby and tennis. The additional sport codes, which are also administered by the university but not seen as priority sports, included aerobics, badminton, basketball, competitive chess, gala swimming, golf, gymnastics, judo, karate, kayaking, open water swimming, ringball, road triathlon, softball, squash, table tennis, tae kwon do and volleyball.

Although the other activities were not offered and administrated by the university, they were available in the surrounding campus area. These activities were divided into group activities including sevens and touch rugby, action cricket, hockey and netball, indoor hockey and soccer, mixed martial arts (MMA), and off-road running and triathlon. Outdoor activities included adventure, hiking, mountain biking, paintball, rock climbing, warrior racing, water skiing, road cycling and road running, archery, target shooting, chip and putt, putt-putt and swimming for fun. Dance activities included ballet, ballroom, modern and social dancing, as well as tap. The final category comprised exercise-related activities, such as bodybuilding, CrossFit™, general exercise, jogging, Pilates and yoga.

It can be readily seen (Table 6) that a higher percentage of male than female students participated for nearly all the recreational sport activities. The few exceptions for which female students were more likely to participate were, soccer, chess, gymnastics, karate, softball, tae kwon do, action cricket, MMA, rock climbing, road running, swimming, ballet, CrossFit™ and Pilates. In terms of race, white students were more likely to participate in outdoor activities participation than black African and Coloured students, particularly in swimming. Black African and Coloured students showed greater participation in the main sport codes of the university, especially soccer. Students from other races, such as Indian or Asian, participated in distinct activities across five of the six groups, with the exception of dance activities. These distinct activities included soccer, golf, squash, hiking, swimming, general exercise and jogging. Similarly to white students, swimming for fun was the activity with high participation among students in the *Other* race group. Students living in campus residences were more likely to participate in all the major and additional sport codes of the university than students who lived privately or who were part of town residences. All residential types indicated high participation in swimming for fun as well as mountain biking; however, social dancing seemed popular only with students who had affiliation to residences (campus and town residences) and not with students who lived privately.

The last section in Table 6 demonstrates that students from South Africa were more likely to participate in outdoor activities than international students. However, a higher percentage of international students participated in nearly all the major sport code activities, as well as basketball, badminton, gymnastics and ringball. Although the percentages of students who engaged in the main and additional sport codes were not large, there was more universal participation in fitness-related activities such as general exercise and jogging than in the other recreational sport activities.

Table 5 shows the relationship between gender and the six categories of recreational sport activities. The percentage indicates the level of participation by each gender according to various categories of recreational sport participation. There was a statistically significant difference in participation in all recreational sport categories between genders with the exception of outdoor activities (p>0.05). The only significant differences, according to the standardised residual values, were that female students were less likely to participate in group activities than males (-4.2) and that male students were less likely to participate in dance (-2.1) and exercise activities (2.1) than females. According to the phi coefficient, only the difference between gender and group activities indicated practical significance (w=-0.30).

Table 5 The relationship between gender and type of recreational sport activity

	Male, %	Female, %	Total, %		
Recreational sport categories	**92.9**	**83.7**	**88.1**	**Chi-square**	**Phi coefficient**
Main sport codes	51.0	38.6	44.9	0.005*	-0.12
Additional sport codes	55.9	42.2	49.2	0.002*	-0.13
Group activities	40.6	13.5	27.3	0.000*	-0.30**
Outdoor activities	58.2	50.6	54.5	0.083	-0.07
Dance activities	15.7	27.9	21.7	0.001*	0.14
Exercise activities	65.9	79.7	72.7	0.000*	0.15

*Statistical significance was set at p<0.05

**Medium effect of 0.3 might indicate practical significance

Table 6 Percentage of students participating in each activity by groups

		Gender, %		Race, %				Residence Type, %			Nationality, %	
	Total	**Male**	**Female**	**White**	**Black African**	**Coloured**	**Other**	**Campus**	**Town**	**Private**	**National**	**International**
	(*n*=512)	(*n*=261)	(*n*=251)	(*n*=351)	(*n*=153)	(*n*=30)	(*n*=14)	(*n*=154)	(*n*=54)	(*n*=304)	(*n*=483)	(*n*=28)
% who participated in the main sport codes												
Athletics	7.4	7.7	7.2	7.3	8.5	6.7	0.0	9.7	11.1	5.6	7.2	10.7
Hockey	12.3	16.1	8.4	16.2	5.9	3.3	14.3	20.1	25.9	5.9	12.2	14.3
Soccer	15.6	15.3	15.9	7.6	30.1	20.0	28.6	19.5	14.8	13.8	15.3	21.4
Netball	10.0	9.6	10.4	8.3	13.7	13.3	0.0	21.4	5.6	4.9	9.5	17.9
Cricket	4.7	6.5	2.8	5.7	3.9	0.0	0.0	7.1	11.1	2.3	4.8	3.6
Rugby	6.6	8.4	4.8	8.6	3.3	6.7	0.0	14.9	9.3	2.0	6.2	14.3
Tennis	11.3	13.8	8.8	12.7	9.2	6.7	14.3	13.6	9.3	10.5	11.0	17.9
% who participated in the additional sport codes												
Aerobics	5.3	6.1	4.4	4.8	6.5	3.3	7.1	6.5	5.6	4.6	5.6	0.0
Badminton	4.1	5.7	2.4	6.3	0.7	0.0	0.0	8.4	11.1	0.7	3.5	14.3
Basketball	7.2	7.7	6.8	6.3	9.8	3.3	7.1	13.0	14.8	3.0	6.4	21.4
Competitive chess	3.5	2.3	4.8	2.5	5.2	6.7	0.0	5.8	1.9	2.6	3.5	3.6
Gala swimming	1.8	1.9	1.6	2.9	0.0	0.0	0.0	1.9	3.7	1.3	1.9	0.0
Golf	14.1	16.5	11.6	20.3	3.3	0.0	21.4	18.2	18.5	11.2	14.3	10.7
Gymnastics	2.5	1.9	3.2	3.2	2.0	0.0	0.0	1.3	1.9	3.3	2.5	3.6
Judo	0.4	0.8	0.0	0.3	0.0	3.3	0.0	1.3	0.0	0.0	0.4	0.0
Karate	2.0	1.5	2.4	1.6	2.6	0.0	7.1	0.6	1.9	2.6	1.9	3.6
Kayaking	2.7	4.2	1.2	4.4	0.0	0.0	0.0	2.6	5.6	2.3	2.9	0.0
Open water swimming	3.1	3.4	2.8	4.4	0.7	0.0	7.1	1.3	3.7	3.9	3.3	0.0
Ringball	4.7	6.1	3.2	7.0	1.3	0.0	0.0	12.3	5.6	0.7	4.3	10.7
Road triathlon	0.2	0.4	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0	0.2	0.0
Softball	0.2	0.0	0.4	0.0	0.7	0.0	0.0	0.6	0.0	0.0	0.2	0.0
Squash	17.4	18.8	15.9	27.0	0.7	0.0	21.4	23.4	29.6	12.2	17.6	14.3
Table tennis	12.1	13.8	10.4	17.1	2.6	6.7	14.3	20.8	22.2	5.9	12.4	7.1
Tae kwon do	0.8	0.4	1.2	1.0	0.7	0.0	0.0	1.9	0.0	0.3	0.8	0.0
Volleyball	3.7	4.2	3.2	4.8	2.6	0.0	0.0	6.5	3.7	2.3	3.9	0.0
% who participated in the group activities												
Sevens rugby	2.0	3.8	0.0	2.2	1.3	3.3	0.0	2.6	1.9	1.6	1.7	7.1
Action cricket	3.7	3.1	4.4	5.4	0.7	0.0	7.1	4.5	7.4	2.6	3.9	0.0
Action hockey	0.4	0.4	0.4	0.3	0.7	0.0	0.0	0.6	0.0	0.3	0.2	3.6
Action netball	2.1	2.3	2.0	2.5	2.0	0.0	0.0	3.9	1.9	1.3	2.3	0.0
Indoor hockey	1.2	1.5	0.8	0.6	1.3	0.0	14.3	2.6	1.9	0.3	1.2	0.0
Indoor soccer	4.1	4.6	3.6	1.0	9.8	3.3	14.3	1.9	7.4	4.6	3.7	10.7

Mixed martial arts	1.2	1.1	1.2	1.0	0.7	3.3	7.1	0.0	3.7	1.3	1.0	3.6
Off-road running	8.2	8.4	8.0	9.5	6.5	3.3	7.1	7.8	7.4	8.6	8.5	3.6
Off-road triathlon	0.2	0.4	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0	0.2	0.0
Touch rugby	11.5	12.6	10.4	14.6	7.2	6.7	0.0	19.5	14.8	6.9	11.6	10.7
% who participated in the outdoor activities												
Adventure	9.2	10.3	8.0	13.7	2.0	3.3	0.0	7.1	16.7	8.9	9.5	3.6
Hiking	16.2	18.4	13.9	23.5	1.3	13.3	21.4	15.6	18.5	16.1	17.0	3.6
Mountain biking	7.4	8.4	6.4	11.1	0.7	0.0	14.3	9.1	13.0	5.6	7.9	0.0
Paintball	5.9	6.1	5.6	6.7	3.9	3.3	14.3	7.1	3.7	5.6	6.2	0.0
Rock climbing	4.1	3.8	4.4	5.4	2.0	0.0	7.1	3.2	3.7	4.6	4.1	3.6
Warrior race	1.8	1.9	1.6	2.9	0.0	0.0	0.0	2.6	1.9	1.3	1.7	3.6
Water ski	2.0	2.7	1.2	3.2	0.0	0.0	0.0	3.2	3.7	1.0	2.1	0.0
Road cycling	9.6	10.3	8.8	12.7	4.6	0.0	14.3	7.1	20.4	8.9	10.1	0.0
Road running	11.7	10.7	12.7	13.0	9.2	10.0	14.3	6.5	14.8	13.8	11.8	10.7
Archery	2.7	3.1	2.4	4.1	0.7	0.0	0.0	3.2	3.7	2.3	2.9	0.0
Target shooting	5.9	6.9	4.8	9.2	0.7	0.0	0.0	8.4	9.3	3.9	6.2	0.0
Chip and putt	4.1	4.6	3.6	6.7	0.0	0.0	0.0	5.8	11.1	2.0	4.3	0.0
Putt-putt	12.1	12.6	11.6	18.7	0.0	6.7	7.1	15.6	22.2	8.6	12.6	3.6
Swimming for fun	26.0	23.0	29.1	33.0	13.1	13.3	35.7	24.0	33.3	25.7	26.9	10.7
% who participated in the dance activities												
Ballet	1.4	0.8	2.0	1.9	0.7	0.0	0.0	0.0	3.7	1.6	1.4	0.0
Ballroom	2.0	2.3	1.6	1.6	3.3	0.0	0.0	0.6	3.7	2.3	2.1	0.0
Modern dancing	2.0	3.4	0.4	1.9	2.6	0.0	0.0	2.6	5.6	1.0	2.1	0.0
Social dancing	19.3	21.8	16.7	26.3	8.5	10.0	0.0	24.7	31.5	14.5	20.3	3.6
Tap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% who participated in the exercise activities												
Body building	6.4	6.5	6.4	6.0	7.8	3.3	7.1	3.9	11.1	6.9	6.2	10.7
CrossFit™	5.5	5.0	6.0	8.6	0.7	0.0	0.0	6.5	3.7	5.3	5.2	10.7
General exercise	51.4	52.1	50.6	58.4	41.2	36.7	35.7	50.6	53.7	51.3	51.6	50.0
Just jogging	38.3	41.4	35.1	40.0	35.3	40.0	28.6	46.1	35.2	34.9	39.3	21.4
Pilates	6.3	6.1	6.4	8.9	2.0	0.0	7.1	7.1	7.4	5.6	6.6	0.0
Yoga	9.2	9.6	8.8	9.8	8.5	10.0	0.0	5.2	5.6	11.8	9.7	0.0

Table 7 illustrates the number of recreational sport activities in which male and female undergraduate students participated. There was no statistically significant (p>0.05) or practical significant difference between genders in the amount of activities in which students took part.

Table 7 Number of recreational sport activities by gender

	Male, %	Female, %	Total, %
1 or 2 activities	30.7	35.9	33.2
3 or 4 activities	26.1	29.9	27.9
More than 4 activities	43.3	34.3	38.9
	100.0	100.0	100.0

Table 8 shows the relationship between race and type of recreational sports activities in which students participated. There was a statistically significant difference (p>0.05) between the race groups for all categories except group activities. According to the standardised residual value, black African students were less likely than white and Coloured students and students from the Other race group to participate in the additional sport codes (-3.1). White students were more likely than black African and Coloured students and students from the Other race group to participate in the additional sport codes (2.8). Black African students were also less likely to participate in outdoor activities than students from the Other race group, and white and Coloured students (4.4). However, white students were more likely than students from the Other race group to participate in outdoor activities (-3.4), which might suggest a practical significant difference (w=0.35) additional to a statistically significant difference (p≤0.05). With regards to dance activities, black African students were less likely to participate than white and Coloured students and students from the Other race group (-2.5). White students were more likely to participate in dance activities than black African or Coloured students and students from the Other race group (2.5).

Table 8 The relationship between race and type of recreational sport activity

	White, %	Black African, %	Coloured, %	Other, %	Total, %		
Recreational sport categories	**94.3**	**78.9**	**81.1**	**87.5**	**88.1**	**Chi-square**	**Phi coefficient**
Main sport codes	40.3	54.2	46.7	42.9	44.9	0.043*	0.12
Additional sport codes	60.3	31.4	20.0	57.1	49.2	0.000*	0.29
Group activities	29.5	25.5	16.7	21.4	27.3	0.394	0.07
Outdoor activities	67.3	30.7	33.3	71.4	54.5	0.000*	0.35**
Dance activities	28.3	12.4	10.0	0.0	21.7	0.000*	0.20
Exercise activities	77.8	64.7	66.7	57.1	72.7	0.010*	0.14

*Statistical significance was set at p<0.05

**Medium effect of 0.3 might indicate practical significance

Table 9 illustrates the number of recreational sport activities students from different races participated in. Comparison between the number of activities and race provided a statistically significant difference (p≤0.001) as well as a medium effect that might indicate a practical significant difference (w=0.38). According to the standardised residual values, white students were less likely to participate in only one or two recreational activities (-3.9), but more likely to participate in more than four activities than the other

students (3.6). Black African students were more likely to participate in only one or two recreational activities (3.8) and less likely to participate in more recreational sport activities (4.0).

Table 9 Number of recreational sport activities by race group

	White, %	Black African, %	Coloured, %	Other, %	Total, %
1 or 2 activities	20.6	51.0	66.7	50.0	33.2
3 or 4 activities	27.9	30.1	20.0	21.4	27.9
More than 4 activities	51.4	19.0	13.3	29.6	38.9
	100.0	100.0	100.0	100.0	100.0

Shown in Table 10, there was a statistically significant difference (p>0.05) between the type of residence that students use for four of the six recreational sport categories. Outdoor and exercise activities showed no statistically significant difference (p>0.05). According to the standardised residual values, students living in campus residences were more likely than students who were part of town residences and those who live privately to participate in the major (2.7) and additional (3.0) sport codes of the university. Students who lived privately and had no affiliation to town residences were less likely to participate in the major (-2.4) and additional (-2.7) sport codes of the university. Students who were affiliated with town residences were more likely than students who lived in campus residences and who lived privately to participate in dance activities (2.4).

Table 10 The relationship between residential type and type of recreational sport activity

	Campus, %	Town, %	Private, %	Total, %		
Recreational sport categories	**91.1**	**100**	**84.9**	**88.1**	**Chi-square**	**Phi coefficient**
Main sport codes	59.7	55.6	35.5	44.9	0.000*	0.23
Additional sport codes	66.2	63.0	38.2	49.2	0.000*	0.26
Group activities	33.8	33.3	23.0	27.3	0.030*	0.11
Outdoor activities	51.9	64.8	53.9	54.5	0.252	0.07
Dance activities	26.0	37.0	16.8	21.7	0.001*	0.16
Exercise activities	74.7	70.4	72.0	72.7	0.773	0.03

*Statistical significance was set at p<0.05

Table 11 illustrates the number of recreational sport activities in which students from different types of residences participated. Comparison between the number of activities and residential type provided a statistically significant difference (p≤0.001) and a small practical significant difference (w =0.25). According to the standardised residual values, students who live in campus residences were less likely to participate in one or two types of recreational sport activities than the other students (-2.4), and more likely to participate in more than four activities (2.7). Students who lived privately were more likely than students from campus and town residences to participate in only one or two recreational sport activities (2.5), and less likely to participate in more than four activities (-2.6).

Table 11 Number of recreational sport activities per residential type

	Campus, %	Town, %	Private, %	Total, %
1 or 2 activities	22.1	18.5	41.4	33.2
3 or 4 activities	25.3	29.6	28.9	27.9
More than 4 activities	52.6	51.9	29.6	38.9
	100.0	100.0	100.0	100.0

Detailed in Table 12 is the relationship between nationality and type of sport activity. There was a statistically significant difference between the nationality of students for three of the six categories. The main and additional sport codes of the university, as well as group activities, showed no statistically significant difference (p>0.05). According to the standardised residual values, non-South African students were less likely than South African students to participate in dance activities.

Table 12 The relationship between nationality and type of recreational sport activity

	South African	Non-South African	Total		
Recreational sport categories	**88.3**	**85.3**	**88.1**	**Chi-square**	**Phi coefficient**
Main sport codes	43.9	62.1	44.9	0.056	0.08
Additional sport codes	49.1	51.7	49.2	0.781	0.01
Group activities	27.3	27.6	27.3	0.976	0.00
Outdoor activities	55.9	31.0	54.5	0.009*	-0.11
Dance activities	22.8	3.4	21.7	0.014*	-0.10
Exercise activities	73.7	55.2	72.7	0.030*	-0.09

*Statistical significance was set at p<0.05

Table 13 illustrates the number of recreational sport activities in which South African students and students not from South Africa participated. With regards to differences in the number of activities and nationality, no statistically significant (p>0.05) or practical significant differences were found.

Table 13 Number of recreational sport activities by nationality

	South African, %	Non-South African, %	Total, %
1 or 2 activities	33.1	34.5	33.2
3 or 4 activities	27.1	41.4	27.9
More than 4 activities	39.8	24.1	38.9
	100.0	100.0	100.0

Spearman's correlation was used to determine the relationship between the 512 undergraduate students who had been at the university for various lengths of time and the number of categories of recreational sport activities in which they participated. There was only moderate correlation between the number of years students had spent at university and the number of recreational sport activities in which they participated (ρ=0.403, n=512, p=0.037). Thus, the number of years spent at university did not influence the number of recreational sport activities in which students participated.

Discussion

This study is one of the first to look at the recreational sport participation patterns of university students at a South African university. The study results revealed differences in the recreational sport participation rates, as well as the kinds of activities in which students participated, between gender, race and residential type.

In terms of gender, the results revealed a statistically significant difference between male and female students in recreational sport participation. Although the effect size was small, there was a practical significant difference, with female students twice as likely to not participate in recreational sport than male students, and this has major implications in an applied setting such as campus recreational facilities. Unfortunately, without other South African studies with which to compare the results, it is difficult to indicate if gender is a predictor of undergraduate students' recreational sport participation. According to Keating, Guan, Piiñero and Bridges (2005), the majority of international studies focusing on physical activity and gender differences report conflicting findings. The researchers Behrens and Dinger (2003), Stock, Wille and Krämer (2001), Pinto and Marcus (1995) and Calfas, Sallis, Lovato and Campbell (1994) noted no difference between male and female students' recreational sport participation. However, studies in the USA by Peltzer et al. (2014), and Huang, Harris, Lee, Nazir, Born and Kaur (2003) found that male students were more likely to participate in physical activity than females. The researchers Leslie, Fotheringham, Owen and Veitch (2000) and Leslie, Owen, Salmon, Bauman, Sallis and Lo (1999) made similar findings among Australian university students. The physical nature of some of the activities mentioned in the study might explain why male students were more likely to participate in recreational sport than female students.

The study results also revealed significant differences between gender and certain recreational sport activity choices. Male students preferred group activities, while female students participated in dance and exercise activities. However, the difference in gender and choice of activities has also been reported in other studies (Saelens, Sallis, & Frank, 2003; Leslie et al., 1999; Pinto & Marcus, 1995). The popularity of fitness activities among the female students is a good indicator of fitness trends in society as well as suggestive of a reaction to societal problems such as high obesity rates, especially among South African female students, who have the highest obesity rates on the African continent (Cilliers, Senekall, & Kunneke, 2006). These findings are also in line with research that indicated that women prefer fitness activities to other forms of exercise, due to experiencing pressures such as the need to sustain weight loss and a certain body image (Shaw & Henderson, 2005: Shaw, 1999). Taymoori, Lubans and Berry (2010) suggested that, because of the physical components of recreational sport, female students may prefer not to participate in contact sports or activities they perceive as masculine in nature, which might explain the popularity of fitness and dance activities above traditional sporting activities such as field soccer. Although the difference was small, our study results showed a higher percentage of female students participating in highly physical activities such as karate, MMA and tae kwon do than males, which was opposite to the suggestions of Taymoori et al. (2010). We found that female students were less likely to participate in a wide variety of recreational sport activities than male students. On the contrary, Eccles and Barber (1999) described females as having more diverse participation patterns than males.

In terms of ethnicity, our research supports the findings of Lu and Pas (1999), who suggested that a variety of sociodemographic variables such as race will determine recreational sport preference. According to our results, race had a profound impact on the recreational sport participation of the

undergraduate students. Although there was only a small practical significant difference, taking into context the variance in percentage between the participation of white students compared with students from all other races may be useful in an applied context, especially when seeking ways to increase student participation. Black African students were significantly less likely to participate in recreational sport, whereas white students were more likely to participate than any other race. Through research on South African students, Weilbach (2013) found that black African students experienced greater interpersonal constraints to participation than white students. Interpersonal constraints refer to factors that influence a person's participation due to interactions with other students, friends or family members affecting perceptions about activities (Mannell & Kleiber, 1997; Crawford & Godbey, 1987). Black African students may have experienced some form of external influence hindering their recreational sport participation. Access to and information about activities could also be factors contributing to nonparticipation among all race groups. Although these factors are structural constraints and seem easily fixable, Crawford and Godbey (1987) proposed that interpersonal constraints may affect participation much more than structural constraints.

We expected significant differences among racial groups between certain activity choices, as suggested by Shinew, Floyd and Parry (2004). This was confirmed by our results, which showed that black African students were less likely to participate in the additional sport codes and outdoor and dance activities than any of the other races. Although black African students were more likely to participate in more than one category of recreational sport, there was a greater demand for exercise and main sport code activities. This could be because some recreational activities are stereotypically labelled as being 'black' or 'white' preference activities (Philipp, 1998), as in the case of swimming and field soccer. Additionally, Weilbach (2013) found that white students had a higher awareness of the benefits associated with leisure participation than black African and Coloured students. Consequently, education and exposure to different kinds of recreational sport activities have the potential to increase black African students' participation. Universities need to hold some administrative responsibilities for specific sport codes and, thus, regular investigation to determine if the activities chosen as major and additional sport codes are inclusive of a diverse student population is required. Without re-examining the inclusiveness of university-endorsed activities, unintentional institutional discrimination might be perceived as a lack of transformation.

In terms of the participation patterns of students according to residential type, we found that students living in campus residences, thus on the campus premises, were less likely to participate in recreational sport than students who lived privately in town. The findings contradict the international literature, which suggests that campus residence students have more access to university resources and would therefore be more likely to participate in recreational sport (Barcelona, Wells, & Arthur-Banning, 2015). A study conducted by Miller et al. (2008) on undergraduate students in the USA and their use of campus recreational facilities reported than male students who live on campus were more likely to use these facilities. The findings of Miller et al. (2008) are consistent with those of Keating et al. (2005), who reviewed several studies focusing on students' physical activity and factors predicting participation. In the

review of Keating et al. (2005), another US study by Dinger (1999) indicated that undergraduate students living on campus (in fraternity or sorority housing) participated significantly more in physical activities such as recreational sports than those who lived off campus. Dinger (1999) suggested that fraternities and sororities tended to organise participation in recreational sports on campus, increasing participation opportunities for their student members. These contradicting results highlight the problem with generalising international findings to the South African context and further emphasise the need for South African-based research.

We found that campus-resident students were more likely to participate in the recreational sport categories governed by the university, possibly due to traditions and opportunities to participate in sport tournaments exclusive to campus residences. First-year athletics and other sport competitions between residences are a large part of campus culture and participation in these has even been used as a selection criterion for securing students' space in the residence for the following year. This may explain why students who have no affiliation to town residences are less likely to participate in sport activities governed by the university. Students with no affiliation to student residences are more likely to participate in only one kind of recreational sport activity, which suggests that living away from campus results in a lack of access to different kinds of activities (Lata, 2010) or is associated with a lack of support from parents or roommates (Barcelona et al., 2015). Similarly, Weilbach (2013) found that students who lived privately experienced higher levels of structural constraint. Universities need to be aware of how specific programme formats and structures can exclude students who prefer to live privately from participation in university team sports and student tournaments, and address these issues accordingly.

The number of years students had spent at university was not related to the number of recreational sport categories in which they participated. With university students having settled into new routines and becoming familiar with the environment and available activities, one would expect that recreational sport participation increases in the senior years at university (Halforty & Radder, 2015). Having familiarised themselves with the benefits associated with recreational sport participation, as well as being exposed to the different activities available and fellow participants, basic factors that might hinder newcomers have been negotiated by senior students (Cho & Price, 2016).

Conclusion

In conclusion, we found significant differences in recreational sport participation between undergraduate students from different races. Black African students were less likely to participate in recreational sport compared with white and Coloured students. Black African students were more likely to participate in the university's major sport codes whereas white and Coloured students preferred exercise-related activities. In addition, black African students were more likely to participate in only one category of recreational sport activities. The significance of promoting different kinds of recreational sport to undergraduate students from different races needs to be considered by university administrators and their sport departments. For example, establishing a leisure education programme during first-year orientation could help students build

their interest in participating in novel recreational sport activities and increase the likelihood of continued participation throughout their time at university. Universities could formally include the health benefits obtained through active participation in recreational sport, such as weight loss and stress reduction, in university health and wellness campaigns. Student from historically disadvantaged groups in South Africa may have had limited exposure to different types of recreational sport, thus the university could establish a sport day that promotes the recreational sport activities available on campus as well as providing the student sport clubs with the opportunity to recruit new members. This study provided a basis for further research into the recreational sport patterns of South African students. Recreational sport, or leisure, provides numerous potential benefits to university students and more research is needed to further understand and promote recreational sport in the South African student population.

Limitations

It is important to acknowledge the limitations to this study. Firstly, the sample was selected from only one campus of one university in South Africa, thus limiting the representativeness and generalisability of the data. Although these findings cannot be generalised to the larger university population, they do provide valuable insight into the recreational sport patterns of university students in the South African context. A second limitation is the small sample size (n=581), which requires caution in extrapolation of the data to all undergraduate students at the university where the data were collected, as well as to the general student population of South Africa. It is suggested that greater measures should be taken to increase response rate for future studies for example modified Dillman approach with follow-up messages. Thirdly, terminology and language barriers in the South African context may contribute to misinterpretation of the term *recreational sport* with *prestige level* or *athletics*. The sampled university caters for students who speak three different languages (Afrikaans, English and Setswana); the word *leisure* in Afrikaans is referred to as *relaxing* and in Setswana as *entertainment*, and hence students might be unaware that the activities in which they participate are classified as recreational in nature. Although this study focused on recreational sport participation, there are many other campus recreation activities in which students participate. Since sport or physical activity may not be the preference of everyone, other campus recreation activities could be included in future studies, to gain a clearer picture of leisure behaviour.

Recommendations for future research

Understanding recreational sport participation patterns is necessary, not only to grow the body of knowledge but also to ensure the continued participation of university students in physical activities such as recreational sport. This study provided a basic picture of recreational sport participation and nonparticipation across various student demographic groups, and the results could only be explained by making certain assumptions from the available literature. Unfortunately, the majority of the literature is based on international findings, leading to questioning whether comparability between Western universities and African universities is acceptable. As this study sets the basis for future research, the body of knowledge within the African context will potentially grow. Despite these limitations, in-depth analysis is needed to

gain a deeper understanding into the reasons for the study results. It is, therefore, suggested that future research explores the factors that influence students' choice to participate in recreational sport or not.

References

Alfano, H., & Eduljee, N. (2013). Differences in work, levels of involvement, and academic performance between residential and commuter students. *College Student Journal, 47*(2), 334-342.

Antón, A. J. M., Rodríguez, G. S., & Martínez, C. C. (2011). How construction trends of Universities sport facilities will be affected by financial crisis: A survey. *Scientific Research and Essays, 6*(9), 1998-2002.

Banta, T., Bradley, J., & Bryant, J. (1991). Quality and importance of recreational services: Technical manual and survey. *Corvallis, OR: NIRSA.*

Barcelona, R., Wells, M., & Arthur-Banning, S. (2015). *Recreational Sport: Program Design, Delivery, and Management*: Human Kinetics.

Behrens, T. K., & Dinger, M. K. (2003). A preliminary investigation of college students' physical activity patterns. *American Journal for Health Studies,* 18, 169–172.

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders, 173,* 90-96.

Beville, J. M., Umstattd Meyer, M. R., Usdan, S. L., Turner, L. W., Jackson, J. C., & Lian, B. E. (2014). Gender differences in college leisure time physical activity: Application of the theory of planned behavior and integrated behavioral model. *Journal of American College Health, 62*(3), 173-184.

Brock, M., Carr, J. W., & Todd, M. K. (2015). An examination of campus recreation usage, academic performance, and selected health indices of college freshmen. *Recreational Sports Journal, 39*(1), 27-36.

Brockman, R., Jago, R., & Fox, K. R. (2011). Children's active play: Self-reported motivators, barriers and facilitators. *BMC Public Health, 11*(1), 461.

Calfas, K., Sallis, J., Lovato, C., & Campbell, J. (1994). Physical activity and its determinants before and after college graduation. *Medicine, Exercise, Nutrition, and Health, 3,* 323-334.

Casper, J. M., Bocarro, J. N., Kanters, M. A., & Floyd, M. F. (2011). "Just let me play!" Understanding constraints that limit adolescent sport participation. *Journal of Physical Activity and Health, 8*(s1), 32-39.

Castelli, D. M., & Erwin, H. E. (2007). Chapter 4: A comparison of personal attributes and experiences among physically active and inactive children. *Journal of Teaching in Physical Education, 26*(4), 375-389.

Cho, D., & Price, T. (2016). Examining the leisure constraints affecting international collegiate students' participation in intramural sport programs. *International Journal of Sport Management, Recreation and Tourism, 24*, 22-41.

Cilliers, J., Senekal, M., & Kunneke, E. (2006). The association between the body mass index of first-year female university students and their weight-related perceptions and practices, psychological health, physical activity and other physical health indicators. *Public Health Nutrition, 9*(2), 234-243.

Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences, 9*(2), 119-127.

Danbert, S. J., Pivarnik, J. M., McNeil, R. N., & Washington, I. J. (2014). Academic success and retention: The role of recreational sports fitness facilities. *Recreational Sports Journal, 38*(1), 14-22.

DeLong, L. L. (2006). *College students' motivation for physical activity.* University of Louisiana.

Department of Higher Education and Training (DHET). (2015). Annual Report: 2015/16 Financial Year, Pretoria: Department of Higher Education and Training.

Dinger, M. K. (1999). Physical activity and dietary intake among college students. *American Journal of Health Studies, 15*(3), 139-148.

Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research, 14*(1), 10-43.

El Ansari, W., Khalil, K., Crone, D., & Stock, C. (2014). Physical activity and gender differences: Correlates of compliance with recommended levels of five forms of physical activity among students at nine universities in Libya. *Central European journal of public health, 22*(2), 98-105.

Fairclough, S. J., Ridgers, N. D., & Welk, G. (2012). Correlates of children's moderate and vigorous physical activity during weekdays and weekends. *Journal of Physical Activity and Health, 9*(1), 129-137.

Fields, S. K., & Young, S. J. (2010). Learning from the past: An analysis of case law impacting campus recreational sport programs. *Journal of Legal Aspects of Sport, 20*(1), 75-98.

Flood, J. P., & Parker, C. (2014). Student awareness of university adventure programs: Understanding motivations and constraints. *Recreational Sports Journal, 38*(2), 104-117.

Forrester, S. (2014). *The benefits of campus recreation.* Corvallis, OR: NIRSA.

Glass, C. R. (2014). International student adjustment to college: Social networks, acculturation, and leisure. *Journal of Park and Recreation Administration, 32*(1), 7-25.

Gray, H. J. (2010). Campus and Community. In *Dimensions of Leisure for Life* (pp. 372). Champaign, IL: Human Kinetics.

Guo, Q., & Ross, C. M. (2014). An exploratory study of Asian international students' campus recreational sports participation. *Recreational Sports Journal, 38*(1), 55-68.

Haines, D. J. (2001). Undergraduate student benefits from university recreation. *NIRSA Journal, 25*(1), 25-33.

Halforty, G. A., & Radder, L. (2015). Constraints to participation in organised sport: case of senior undergraduate students at a new generation university. *South African Journal for Research in Sport, Physical Education and Recreation, 37*(3), 97-111.

Henninger, I., William, R., Eshbaugh, E. M., Osbeck, A., & Madigan, C. (2016). Perceived Social Support and Roommate Status as Predictors of College Student Loneliness. *Journal Of College & University Student Housing, 42*(2), 46-59.

Hills, A. P., Dengel, D. R., & Lubans, D. R. (2015). Supporting public health priorities: recommendations for physical education and physical activity promotion in schools. *Progress in Cardiovascular Diseases, 57*(4), 368-374.

Huang, T. T. K., Harris, K. J., Lee, R. E., Nazir, N., Born, W., & Kaur, H. (2003). Assessing overweight, obesity, diet, and physical activity in college students. *Journal of American College Health, 52*(2), 83-86.

Keating, X. D., Guan, J., Piñero, J. C., & Bridges, D. M. (2005). A meta-analysis of college students' physical activity behaviors. *Journal of American College Health, 54*(2), 116-126.

Kilpatrick, M., Hebert, E., & Bartholomew, J. (2005). College students' motivation for physical activity: differentiating men's and women's motives for sport participation and exercise. *Journal of American College Health, 54*(2), 87-94.

Kovac, D. C., & Beck, J. E. (1998). A comparison of student perceptions, satisfaction and patterns of participation in recreational sports. *NIRSA Journal, 22*(1), 10-12.

Kumaraswamy, N. (2013). Academic stress, anxiety and depression among college students: A brief review. *International review of social sciences and humanities, 5*(1), 135-143.

Lata, P. (2010). Physical inactivity as a global risk factor for chronic diseases in women. *British Journal of Sports Medicine, 44*(Suppl 1), 64-64.

Leslie, E., Fotheringham, M., Owen, N., & Veitch, J. (2000). A university campus physical activity promotion program. *Health Promotion Journal of Australia: Official Journal of Australian Association of Health Promotion Professionals, 10*(1), 51-54.

Leslie, E., Owen, N., Salmon, J., Bauman, A., Sallis, J. F., & Lo, S. K. (1999). Insufficiently active Australian college students: perceived personal, social, and environmental influences. *Preventive Medicine, 28*(1), 20-27.

Liu, J. D., Chung, P. K., & Chen, W. P. (2014). Constraints of recreational sport participation: measurement invariance and latent mean differences across sex and physical activity status. *Perceptual and Motor Skills, 119*(2), 363-376.

Lu, X., & Pas, E. I. (1999). Socio-demographics, activity participation and travel behavior. *Transportation Research Part A: Policy and Practice, 33*(1), 1-18.

MacDonald, P. L., & Gardner, R. C. (2000). Type I error rate comparisons of post hoc procedures for I j Chi-Square tables. *Educational and Psychological Measurement, 60*(5), 735-754.

Mannell, R. C., & Kleiber, D. A. (1997). *A social psychology of leisure*: Venture Publishing State College, PA.

Martinez-Gomez, D., Bandinelli, S., Del-Panta, V., Patel, K. V., Guralnik, J. M., & Ferrucci, L. (2017). Three-year changes in physical activity and decline in physical performance over 9 years of follow-up in older adults: The Invecchiare in Chianti study. *Journal of the American Geriatrics Society*.

Miller, K. H., Noland, M., Rayens, M. K., & Staten, R. (2008). Characteristics of users and nonusers of a campus recreation center. *Recreational Sports Journal, 32*(2), 87-96.

Peltzer, K., Pengpid, S., Samuels, T., Özcan, N. K., Mantilla, C., Rahamefy, O. H., . . . Gasparishvili, A. (2014). Prevalence of overweight/obesity and its associated factors among university students from 22 countries. *International Journal of Environmental Research and Public Health, 11*(7), 7425-7441.

Perkins, J. A. (2015). *The university in transition*: Princeton University Press.

Pinto, B. M., & Marcus, B. H. (1995). A stages of change approach to understanding college students' physical activity. *Journal of American College Health, 44*(1), 27-31.

Plotnikoff, R. C., Costigan, S. A., Williams, R. L., Hutchesson, M. J., Kennedy, S. G., Robards, S. L., . . . Germov, J. (2015). Effectiveness of interventions targeting physical activity, nutrition and healthy weight for university and college students: a systematic review and meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity, 12*(1), 45-55.

Pluut, H., Curşeu, P. L., & Ilies, R. (2015). Social and study related stressors and resources among university entrants: Effects on well-being and academic performance. *Learning and Individual Differences, 37*, 262-268.

Quintana-Murci, L., Harmant, C., Quach, H., Balanovsky, O., Zaporozhchenko, V., Bormans, C., ... & Behar, D. M. (2010). Strong maternal Khoisan contribution to the South African coloured population: a case of gender-biased admixture. *The American Journal of Human Genetics*, *86*(4), 611-620.

Reynolds, K. (2016). A Relationship Study Comparing Satisfaction, Participation, and Commitment to Intramural and Club Sports with Students' Intention to Return to Campus. *Graduate Theses*. Paper 22.

Rodriguez, A. & Gamble, D. J. (2010). Leisure & quality of life. In Human Kinetics (Eds.),. *Dimensions of leisure for life*. (pp. 47-66). Champaign, IL: Human Kinetics.

Saelens, B. E., Sallis, J. F., & Frank, L. D. (2003). Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures. *Annals of Behavioral Medicine, 25*(2), 80-91.

Shaw, S. M. (1999). Men's leisure and women's lives: The impact of pornography on women. *Leisure Studies, 18*(3), 197-212.

Shaw, S. M., & Henderson, K. A. (2005). Gender analysis and leisure constraints: An uneasy alliance. *Constraints to Leisure*, 23-34.

Shifrer, D., Pearson, J., Muller, C., & Wilkinson, L. (2015). College-going benefits of high school sports participation: Race and gender differences over three decades. *Youth & Society, 47*(3), 295-318.

Shinew, K. J., Floyd, M. F., & Parry, D. (2004). Understanding the relationship between race and leisure activities and constraints: Exploring an alternative framework. *Leisure Sciences, 26*(2), 181-199.

Stock, C., Wille, L., & Krämer, A. (2001). Gender-specific health behaviors of German university students predict the interest in campus health promotion. *Health Promotion International, 16*(2), 145-154.

Taymoori, P., Lubans, D., & Berry, T. R. (2010). Evaluation of the health promotion model to predict physical activity in iranian adolescent boys. *Health Education & Behavior, 37*(1), 84-96.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research,* 45(1), 89-125.

VanKim, N. A., & Nelson, T. F. (2013). Vigorous physical activity, mental health, perceived stress, and socializing among college students. *American Journal of Health Promotion, 28*(1), 7-15.

Weilbach, J. T. (2013). *The relationship between demographic variables and leisure perceptions of selected South African first year university students.* North-West University.

Young, S. J., Ross, C. M., & Barcelona, R. J. (2003). Perceived constraints by college students to participation in campus recreational sports programs. *Recreational Sports Journal, 27*(2), 47-62.

Zawadzki, M. J., Graham, J. E., & Gerin, W. (2013). Rumination and anxiety mediate the effect of loneliness on depressed mood and sleep quality in college students. *Health Psychology, 32*(2), 212-222.

Chapter 4

Article 2

Factors influencing undergraduate students' recreational sport participation: Results from a South African study

South African Journal for Research in Sport, Physical Education and Recreation

"The *South African Journal for Research in Sport, Physical Education and Recreation* (SAJRSPER) is a peer-reviewed journal that publishes original research articles, systematic reviews, commentaries, and letters on topics related to Sport and Exercise science, Physical education and Recreation. This includes research of topics such as bio-mechanics, motor control, sport injuries and rehabilitation, clinical exercise interventions, physical education, as well as outdoor and recreation related topics."

FACTORS INFLUENCING UNDERGRADUATE STUDENTS' RECREATIONAL SPORT PARTICIPATION: RESULTS FROM A SOUTH AFRICAN STUDY

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ABSTRACT

Although recreational sport programmes are increasingly recognised for their positive influence on students, little is known about the factors that influence South African students' decision to participate. The aim of this study was to determine the reasons university students choose to participate in recreational sport activities, as well as the constraints to participation that they experience. Five hundred and eighty-one contact undergraduate university students completed an online survey. The data were analysed using exploratory factor analysis and independent sample t-test. Descriptive statistics were used to determine mean scores and demographic information. Five reasons for participation were identified: enjoyment, escape, health, recognition and social. Similarly, five constraints to participation were identified: intrapersonal, structural, activity perception, stereotyping and interpersonal. Analysis of variance was applied, and the results indicated that students participate in recreational sport for different reasons and perceive different constraints hindering participation, according to student demographics. The findings may assist universities to differentiate between the needs of different students, and adapt the recreational sport services and facilities accordingly, which may lead to higher and more sustainable recreational sport participation rates.

Key words: Campus recreation, leisure constraints, motivation, recreational sport participation.

INTRODUCTION

Many studies have documented that university student participation in out-of-class activities, such as recreational sport, contributes to a variety of positive influences, not only in terms of health in general, but also on a social and mental level (Barcelona, Wells & Arthur-Banning, 2015; Artinger, Clapham, Hunt, Meigs, Milord, Sampson & Forrester, 2006; Edginton, Hanson, Edginton & Hudson, 2004; Dalgarn, 2001; Haines, 2001; Kanters, 2000). The release of a report by the National Intramural and Recreational Sports Association (NIRSA) emphasises the value of student involvement in out-of-class activities, which provide opportunities for students to interact and become involved within the campus community and facilitate academic persistence (Forrester, 2014). One of the major recommendations of NIRSA is that university administrators focus on making various campus recreation activities available to all students (Barcelona *et al*., 2015). However, researchers have noted that university students have high rates of physical inactivity, including low participation in recreational sports (Clemente, Nikolaidis, Martins, & Mendes, 2016;

Plotnikoff, Costigan, Williams, Hutchesson, Kennedy, Robards, Allen, Collins, Callister & Germov, 2015; Awadalla, Aboelyazed, Hassanein, Khalil, Aftab, Gaballa & Mahfouz, 2014; Pengpid & Peltzer, 2013; Bloemhoff, 2010). A study focusing on South African students found that low rates of participation in physical activity were due to social factors (lack of personal mastery or skill) rather than demographic or health factors such as gender, wealth status, overweight or depression (Pengpid & Peltzer, 2013).

Given the current health epidemic of obesity and overweight, it is becoming increasingly important to better understand how university students can become more physically active through participating in moderate physical activity such as recreational sports (Gray, 2010). The challenges associated with the unique setting of campus living (e.g., language barriers, financial worries, busy schedules, a high-stress environment) contribute to the need that students have for recreational sport programmes (Belch, Gebel & Maas, 2001; Bocarro & Kanters, 2010; Kanters, 2000). These factors, unfortunately, also function as constraints to participation for many university students (Halforty & Radder, 2015; Weilbach, 2013). To fully understand students' recreational sport participation, it is necessary to comprehend certain characteristics of leisure behaviour, such as motivation and constraints (Woods, 2011).

STUDENT PARTICIPATION

There is limited South African research documenting the reasons why university students in general choose to participate or not in recreational sport activities (Halforty & Radder, 2015; Weilbach, 2013). Some researchers have viewed participation in recreational sport through motivation and leisure constraint theories, and have been able to find distinctions between demographic factors, such as language, residential situation, gender and race, and a person's participation. Although not all of these studies directly examine university students' decisions, they are nevertheless informative. Glass, Gómez and Urzúa (2014) found that higher levels of acculturation of international students predicted involvement in recreational sport participation, with fewer constraints to participation perceived. Other factors associated with youth participation in leisure activities include having peers who endorse the activities (Huebner & Mancini, 2003) and demonstration of the activity (Fletcher, Elder & Mekos, 2000). Gender may also influence participation. For example, Pano and Markola (2012) found that the possibility of losing weight motivates women to participate more than men. Other factors associated with participation in terms of gender include social benefits such as networking possibilities (Bronikowska, Bronsikowska & Schott, 2011).

While there are conflicting findings on whether men or women are more intrinsically motivated to participate because of social reasons (Cooper, Schuett & Phillips, 2013; Reed & Cox, 2007; Heuser, 2005), the performance and exertion of recreational sport motivates men more than women (Butt, Weinberg, Breckon & Claytor, 2011). Additionally, Beggs, Elkins and Powers (2005) proposed that men are more likely to participate for competency-mastery satisfaction whereas women would rather participate for intellectual satisfaction. Another gender-related finding concerns constraints to participation: women experience more constraints than men (Weilbach, 2013) and are more likely feel embarrassed, shy and have a fear of violence (Jackson, 2005). Women are also more likely to report constraints such as not finding

partners to participate with (Halforty & Raddar, 2015) and that the recreational sport is too masculine in nature (Taymoori, Lubans & Berry, 2010).

A South African study by Weilbach (2103) that focused on first-year students' constraints to participation, found several differences between black African and white students, as well as between students who speak English as their first language and those who speak Afrikaans. Halforty and Raddar (2015) found that for South African students, the greatest structural constraints were time and scheduling. The studies by Weilbach (2013) and Halforty and Raddar (2015) did not examine reasons for participation in recreational programmes. In a study focusing on the participation of North American college students in recreational activities, Kanters and Forrester (1997) reported that students identified making friends, gaining self-esteem, feeling challenged and mastering the activity as reasons for participation. Using the Leisure Motivation Scale, Beggs and Elkins (2010) found that the opportunity to compete and improve skills were the main reasons college students participated in recreational activities. These researchers concluded that recreational activities that offer the opportunity to master skills and compete were more likely to make students feel satisfied than activities with intellectual and social elements. Many of the studies focused either on the reasons for participation or on constraints, and also examined participation in general campus recreation or moderate physical activity. However, research exploring the reasons for participation and nonparticipation specifically in recreational sport is limited, especially in South Africa.

THEORETICAL FRAMEWORKS

To explain students' reasons for participating in recreational sport, as well as the constraints they experience, we used *self-determination theory (SDT)* and the *theory of leisure constraints* by Raymore, Godbey, Crawford and Von Eye (1993), Crawford, Jackson and Godbey (1991), and Crawford and Godbey (1987).

SDT helps to better understand what motivates undergraduate students to participate in recreational sport activities. SDT is based on the opinion that motivation is encouraged by three psychological needs, *autonomy*, *competency* and *relatedness*. Autonomy is the need to feel self-dependent in an activity; competence is the need to master an activity and relatedness the need for social interaction arising from the activity (Ryan & Deci, 2000). Thus, an individual will be more motivated in an activity when the activity meets one or more of these psychological needs (Lox, Martin-Ginis & Petruzzello, 2006). SDT also explains the variation in the degree to which students will choose to participate, based on internal or external reasons or rewards, and divides motivation into three categories – intrinsic, extrinsic and amotivation. SDT views motivation along a continuum and describes intrinsic motivation, amotivation and four types of extrinsic motivation (Ryan & Deci, 2000). Intrinsic motivation is behaviour driven by internal rewards and is self-determined (Iso-Ahola, 1980), whereas with extrinsic motivation the driving force is the need for external rewards or the avoidance of punishment (Deci & Ryan, 2002). In other words, students who are intrinsically motivated will participate for reasons such as enjoyment and personal satisfaction. The four types of extrinsic motivation range from the least intrinsically motivated behaviour, external motivation, through introjected and identified motivation, to integrated motivation (Deci & Ryan, 2002). External

motivation refers to participation to satisfy external demands. Introjected motivation remains controlled by another person; however, although closely related to extrinsic motivation, participation is out of guilt or pride. Although somewhat internally regulated, identified motivation develops from an individual acknowledging the importance, value or meaning of participation to them. The last and most self-directed extrinsic motivation is integrated motivation, which transpires when an individual has fully embraced the action. Amotivation describes the state of an individual lacking personal connection to an activity or with no intention to participate (Ryan & Deci, 2000).

The theory of leisure constraints described by Raymore *et al*. (1993), Crawford *et al*. (1991) and Crawford and Godbey (1987) proposes the existence of three distinct categories of constraint – intrapersonal, interpersonal and structural. According to Crawford *et al*. (1991), for an individual to participate, each constraint should be successfully negotiated in sequence. Firstly, intrapersonal constraints need to be negotiated, which include personality factors such as a lack of self-confidence (Godbey, Crawford & Shen, 2010). Thereafter, interpersonal constraints possibly occur. These may include interactions with friends and family that influence an individual's participation, such as being told that some activities are inappropriate (Crawford & Godbey, 1987; Mannell & Kleiber, 1997). Additionally, motivation will influence an individual's ability to successfully negotiate both intra- and interpersonal constraints (Jackson *et al*. 1993). The last constraint in Crawford and Godbey's (1987) theory refers to structural factors that block or constrain participation, such as lack of finances or time (Samdahl & Jekubovich, 1997; Kay & Jackson, 1991).

RESEARCH QUESTIONS

Students' participation in recreational sport will hinge on their willingness and ability to negotiate through the various constraints, as well as their motivation to participate. We cannot predict if there are differences in relationships when each demographic variable, such as gender or race, is tested separately, and we aimed to test whether there are statistically significant differences in the relationship between reasons for participation and constraints to participation by gender, race, residential type and nationality, since previous research has found differences between demographic variables and participation (Cho & Price, 2016; Park, Guo & Schneider, 2015; Halforty & Radder, 2015; Yoh & Park, 2015; Weilbach 2013; Yan & Cardinal, 2013; Dong & Chick, 2012; Taymoori *et al*., 2010; Walker & Wang, 2008; Walker, Jackson & Deng, 2007; Jackson, 2005; Shaw & Henderson, 2005; Shaw, 1999; Jackson & Henderson, 1995). The following research questions were posed:

1) What are the reasons why undergraduate students participate in recreational sport?
    a) Do statistically significant differences exist in the motives of selected demographic groups (gender, race, residential type and nationality) of undergraduate students for participating in recreational sport?

2) What factors are hindering undergraduate students from participating in recreational sport**?**
   a) Do statistically significant differences exist in the perceived leisure constraints of selected demographic groups (gender, race, residential type and nationality) of undergraduate students to participating in recreational sport?

RESEARCH DESIGN

The data used for this study were derived from a larger study focusing on recreational sport participation among university students at one campus of a South African university, and a quantitative survey research design was used.

Sample

The sample consisted of contact undergraduate university students registered for an academic course at a campus of a South African university in North West Province. A census sample was taken from the undergraduate students registered in the 2017 academic year who had access to the online learning management system of the university (*N*=17,279). The campus student population demographic statistics estimated that 9,725 students were female and 7,554 were male, while 22% were black African, 71% were white, 6% Coloured[1] and 1% either Indian or Asian.

Data collection

Data were collected using the online survey development cloud-based software, SurveyMonkey®. A link to the online survey was placed on the online learning management system of the university. Students were briefed by the first page of the questionnaire (informed consent) on the purpose of the study, associated risks and anonymity, and had the opportunity to decline or proceed with the questionnaire. Students who consented to participate and provide their student number continued to the full questionnaire, which took 10 to 15 minutes to complete.

Research instrument

The survey questionnaire was divided into questions concerning the participant's' profile (gender, age, race, residential type, nationality), participation motives (reasons for participation) and participation constraints. The questionnaire content was previously evaluated in a pilot survey of 327 undergraduate contact students during the 2013 second academic semester. After the pilot study results were evaluated, the necessary modifications were made for the final survey. Among other profile-related questions, respondents had to indicate if they participate in any recreational sport activities (yes or no). Those who selected 'yes' continued to the section on motives, while the electronic question would move those respondents who selected 'no' directly to the section on constraints to participation. While all respondent were required to complete the constraints section regardless if they selected 'yes' or 'no'. The section on motives for participation consisted of 24 items on a five-point Likert scale: respondents were asked to indicate the

[1] In the South African context, the term *Coloured* refers to a specific population group. This population derives from different populations that include Khoisan, Bantu, European, Indian and Southeast Asian people (Quintana-Murci et al., 2010).

extent to which they agreed or disagreed with each item (5=strongly agree; 4=agree; 3=neutral; 2=disagree; and 1=strongly disagree). Constraints to participation were measured by a section with 24 items on a five-point Likert scale, which also asked respondents to indicate the degree of agreement or disagreement with each item (5=strongly agree; 4=agree; 3=neutral; 2=disagree; and 1=strongly disagree).

Ethical considerations

The study was approved by the Dean of Student Affairs and the Departmental Scientific and Health Research Ethics Committee (NWU-00034-16-A1) of the university before it was conducted.

Statistical analysis

Analysis of the results was performed in three stages using SPSS version 24.0 (IBM Corp., Armonk, NY, USA). In the first stage, descriptive statistics were used to illustrate the demographic composition of the sample group and rank the motives and constraints based on mean values. A principal component factor analysis was performed in the second stage, using an oblimin rotation with Kaiser normalisation for the 24 reason and 24 constraint items, to explain the variance-covariance structure of the set of variables. To determine whether the covariance matrix was suitable for the factor analysis, the Kaiser-Keyer-Olkin (KMO) measure of sampling adequacy was used. Extracted factors with eigen values larger than 1 were used in the study, as prescribed by the KMO criteria. Factor loadings lower than 0.3 were considered as not correlating significantly with a factor and were discarded. In the case of two items cross-loading on two factors with factor loadings above 0.3, the items were paired with the factor that best described the item. To estimate the internal consistency of each factor, the reliability coefficient, or Cronbach's alpha, was calculated and only factors with Cronbach's alpha above 0.6 were accepted as having acceptable internal consistency. In the last stage, effect sizes, independent sample *t*-tests and analyses of variance (ANOVAs) with Tukey's multiple comparisons were used to examine for statistical or practical differences between continuous variables (the factors extracted) and nominal variables (demographic variables). The demographic variables examined included gender, race, residential type and nationality. Statistical significance was set at $p \leq 0.05$. Cohen's interpretation of effect sizes was used to evaluate the practical or clinical importance of the effect (small effect: $d=0.2$; medium effect: $d=0.5$; large effect: $d=0.8$).

RESULTS

This section provides an overview of the undergraduate students who participated in the study and an analysis of the reasons for, as well as the constraints to, participation, and discusses the results of the multivariate statistical analysis.

Sample characteristics

From the census survey, a total of 614 surveys were collected. Only the contact undergraduate students ($n=581$) were included for further analysis. The sample characteristics are presented in Table 1.

TABLE 1: **SAMPLE CHARACTERISTICS**

Category	**Sample characteristics**
Gender	Male (51%); female (49%)
Age	Between 19 and 27 years (*M*=20.8 years; *SD*=2.5 years)
Race	White (57%); black African (33%); Coloured (6%) and Asian/Indian (3%)
Residential type	Private accommodation (62%); campus residence (29%) and town residence (9%)
Nationality	South African (83%) and international (17%)

M, mean; *SD*, standard deviation.

Factor analysis results

Oblimin rotation with Kaiser normalisation was performed for both concepts – reasons for participation and constraints. The pattern matrix of the principal component factor analysis of the reasons for participation identified five factors (Table 2). These were labelled according to similar characteristics and accounted for 57% of the total variance. Each one of the five proved reliable, ranging from 0.65 (escape), 0.73 (recognition), 0.78 (social), 0.82 (enjoyment) to 0.87 (health). Only items loaded on specific factors greater than 0.3 were included. This relatively high value indicates a reasonable correlation between delineated factors and individual items. Through the Kaiser-Meyer-Olkin (KMO) measure, a sampling adequacy of 0.88 was obtained, indicating that the patterns of correlation were relatively compact, thus producing reliable factors. The identified reasons for recreational sport participation are shown in Table 2.

TABLE 2: **PATTERN MATRIX FOR REASONS FOR PARTICIPATION**

Items	**Enjoyment**	**Health**	**Escape**	**Recognition**	**Social**
To have fun	**0.780**				
Because I enjoy the challenges it poses	**0.712**				
To compete for the fun of it	**0.624**				
To learn new things	**0.579**				
To do something that I am good in	**0.547**				
To improve my sporting abilities	**0.510**	-0.421			
To have excitement	**0.482**				
To exercise		**-0.877**			
To become physically fit		**-0.874**			
As part of a healthy lifestyle		**-0.825**			
To be healthy		**-0.771**			
To get out of my room/house			**0.754**		
To get rid of energy			**0.617**		
To keep myself busy			**0.576**		
To release some tension or stress		-0.361	**0.486**		
To be popular				**0.829**	
To win				**0.759**	
To feel important				**0.706**	
To be part of a team or club				**0.473**	
To be with my family					**-0.782**
To be with friends					**-0.741**
To be with my fellow university students					**-0.728**
To be with like-minded people	0.409				**-0.465**
To meet new people					**-0.410**
Cronbach α	**0.82**	**0.87**	**0.65**	**0.73**	**0.78**

Note: Factor loadings <0.3 were suppressed.

TABLE 3: **PATTERN MATRIX FOR CONSTRAINTS TO PARTICIPATION**

Items	Intrapersonal	Structural	Activity perception	Stereotyping	Interpersonal
I feel too shy	**0.806**				
I am scared that I will fail	**0.749**				
I feel uncomfortable	**0.726**				
I don't have the skills	**0.717**				
I feel self-conscious about my body	**0.702**				
I don't enjoy participating	**0.542**		0.375		
It's too competitive	**0.478**				
I don't have money		**0.793**			
I don't have transport		**0.637**		-0.324	
I don't have the time		**0.616**		0.323	
The recreational sport facilities are too crowded		**0.591**			
I don't know what recreational sport activities are available		**0.535**			
I am scared to participate because it is violent			**0.806**		
The recreational sport activities available are inappropriate for my gender			**0.764**		
I am afraid I am going to injure myself			**0.681**		
I am physical unable to participate			**0.484**		
Social/cultural norms prevent me from participating			**0.478**		
I already spend too much time on other recreational activities		**0.327**	0.457	0.339	
It's dominated by a specific gender				**-0.674**	
It's dominated by specific hostels/residences			0.417	**-0.454**	
I don't want to	**0.402**			0.411	
My friends don't like it					**0.837**
I have no-one to participate with					**0.712**
I don't feel that it is appropriate for me to participate					**0.631**
Cronbach α	**0.88**	**0.72**	**0.78**	**0.67**	**0.67**

Note: Factor loadings <0.3 were suppressed.

TABLE 4: **COMPONENT CORRELATIONS FOR REASONS FOR PARTICIPATION**

Factor	Enjoyment	Health	Escape	Recognition	Social	*M*	*SD*
Enjoyment						4.14	0.68
Health	0.450**					4.47	0.65
	0.000						
Escape	0.368**	0.321**				3.77	0.76
	0.000	0.000					
Recognition	0.498**	0.125**	0.218**			2.73	0.90
	0.000	0.000	0.000				
Social	0.607**	0.323**	0.423**	0.464**		3.57	0.84
	0.000	0.000	0.000	0.000			

Notes:
(1) Original scale reverse items were changed for improved comprehension.
(2) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

** Correlation is significant at the 0.01 level (two-tailed).
M, mean; *SD*, standard deviation.

In term of constraints to participation, the pattern matrix also identified five factors (Table 3) that proved reliable for use in further analysis. These factors, categorised according to similarities, were intrapersonal

(Cronbach α=0.88), structural (α=0.72), activity perceptions (α=0.78), stereotyping (α=0.67) and interpersonal (α=0.67). Items loaded on each factor had a loading value close to or greater than 0.3. The KMO measure gave a sample adequacy of 0.9, indicating the suitability of the analysis. The items *I already spend too much time on other recreational activities* and *It's dominated by specific hostels/residences* double loaded on several factors, which may have been due to unclear interpretation of statements, and it appears the items should have been stated more clearly to avoid misinterpretation, or else eliminated. However, for this study, the items were loaded on the factors *structural* and *stereotyping*.

For reasons to participate in recreational sport (Table 4), all the correlation coefficients were positive and significant at the $p \leq 0.01$ level. In addition to statistical significance, a practical significant association was found between all the reasons for participation. Thus, students who participated in recreational sport for enjoyment reasons also participated for health, escape, recognition and social reasons. Obtaining the highest mean value (4.47), *health* was the most important reason for participating in recreational sport, whereas *recognition* obtained the lowest mean value (2.73).

The correlation coefficients for constraints to participation were also positive and significant at the $p \leq 0.01$ level (Table 5). This means that students who specified that they perceive intrapersonal constraints also experienced structural, activity perception, stereotyping and interpersonal constraints during recreational sport participation. *Structural constraint* was the highest perceived constraint to participation in recreational sport (M=2.63), whereas *activity perception* had the lowest mean value (1.73). These mean values are relatively low, suggesting that both students who participate and those who do not participate in recreational sport are not highly constrained by any of the five factors.

TABLE 5: **COMPONENT CORRELATIONS FOR CONSTRAINTS TO PARTICIPATION**

Factor	Intrapersonal constraints	Structural constraints	Stereotyping	Interpersonal constraints	Activity perceptions	*M*	*SD*
Intrapersonal constraints						2.31	0.89
Structural constraints	0.499** 0.000					2.63	0.82
Stereotyping	0.489** 0.000	0.385** 0.000				2.03	0.96
Interpersonal constraints	0.524** 0.000	0.436** 0.000	0.365** 0.000			2.36	0.87
Activity perceptions	0.595** 0.000	0.456** 0.000	0.478** 0.000	0.399** 0.000		1.73	0.66

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

** Correlation significant at the 0.01 level (two-tailed).
M, mean; *SD*, standard deviation.

ANOVA and independent sample *t*-test results

Independent sample *t*-tests and ANOVAs were used to examine for significant differences in specific demographic variables (gender, race, residential type and nationality) for the five factors extracted from the reasons and constraints factor analyses.

Independent *t*-test results demonstrated statistically significant differences between male and female students for the factors of enjoyment ($p<0.001$) and recognition ($p<0.001$) (Table 6), with the implication that male students attach a higher importance to enjoyment (mean [*M*] =4.24; standard deviation [*SD*]=0.58) and recognition (*M*=2.88; *SD*=0.89) as reasons for participation than their female counterparts. The results in Table 7 show that female students accounted for 52% of the respondents and male students accounted for 48%. Female students rated all the constraints to participation higher than male students, with statistically significant differences for the factors of intrapersonal constraint ($p<0.001$) and activity perception ($p\leq0.05$), implying that female students experience greater intrapersonal constraints (*M*=2.46; *SD*=0.93) and their perceptions of the activities are more negative (*M*=1.76; *SD*=0.97) than male students.

TABLE 6: **T-TEST RESULTS SHOWING REASONS FOR RECREATIONAL SPORT PARTICIPATION ACCORDING TO GENDER**

Factor		*N*	*M*	*SD*	*p*-value	*d*
Enjoyment	Male	259	4.24	0.58	0.000*	0.29
	Female	251	4.02	0.75		
Health	Male	259	4.45	0.66	0.469	0.06
	Female	251	4.49	0.65		
Escape	Male	259	3.72	0.77	0.114	0.14
	Female	251	3.82	0.76		
Recognition	Male	259	2.88	0.89	0.000*	0.36
	Female	251	2.56	0.88		
Social	Male	259	3.61	0.80	0.202	0.11
	Female	251	3.52	0.88		

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Small effect size: *d*=0.3; medium effect size: *d*=0.5; large effect size: *d*=0.8.
(3) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

*Statistical significance: $p\leq0.05$
M, mean; *d*, effect size; *SD*, standard deviation.

TABLE 7: **T-TEST RESULTS SHOWING CONSTRAINTS TO RECREATIONAL SPORT PARTICIPATION ACCORDING TO GENDER**

Factor		*N*	*M*	*SD*	*p*-value	*d*
Intrapersonal constraints	Male	281	2.13	0.81	0.000*	0.35
	Female	300	2.46	0.93		
Structural constraints	Male	281	2.56	0.85	0.090	0.14
	Female	300	2.68	0.79		
Activity perceptions	Male	281	1.69	0.95	0.046*	0.16
	Female	300	1.76	0.97		
Stereotyping	Male	281	1.94	0.92	0.552	0.05
	Female	300	2.10	0.82		
Interpersonal constraints	Male	281	2.33	0.65	0.199	0.11
	Female	300	2.37	0.67		

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Small effect size: *d*=0.3; medium effect size: *d*=0.5; large effect size: *d*=0.8.
(3) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

*Statistical significance: $p\leq0.05$
M, mean; *d*, effect size; *SD*, standard deviation.

TABLE 8: **ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISON RESULTS SHOWING REASONS FOR PARTICIPATION ACCORDING TO RACE GROUP**

Factor		*N*	*M*	*SD*	*p*-value	F-ratio
Enjoyment	Other	14	3.98	0.92	0.480	0.826
	Black African	152	4.10	0.72		
	Coloured	29	4.28	0.75		
	White	315	4.14	0.64		
Health	Other	14	4.21	1.10	0.253	1.36
	Black African	152	4.53	0.73		
	Coloured	29	4.55	0.62		
	White	315	4.45	0.59		
Escape	Other	14	3.55	0.79	0.000*	9.455
	Black African	152	3.51	0.85		
	Coloured	29	3.92	0.82		
	White	315	3.89	0.68		
Recognition	Other	14	2.69	0.83	0.031*	2.993
	Black African	152	2.81	0.97		
	Coloured	29	3.12	1.02		
	White	315	2.65	0.85		
Social	Other	14	3.42	0.94	0.039*	2.810
	Black African	152	3.42	0.90		
	Coloured	29	3.79	0.73		
	White	315	3.62	0.81		

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

*Statistical significance: $p \leq 0.05$
M, mean; *SD*, standard deviation.

TABLE 9: **ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISON RESULTS SHOWING CONSTRAINTS TO PARTICIPATION ACCORDING TO RACE GROUP**

Factor		*N*	*M*	*SD*	*p*-value	F-ratio
Intrapersonal constraints	Other	16	2.39	1.12	0.002*	0.29
	Black African	194	2.11	0.87		
	Coloured	37	2.27	0.89		
	White	334	2.41	0.87		
Structural constraints	Other	16	2.38	0.89	0.007*	0.06
	Black African	194	2.48	0.82		
	Coloured	37	2.61	0.86		
	White	334	2.72	0.80		
Activity perceptions	Other	16	1.91	0.91	0.171	0.14
	Black African	194	1.70	0.65		
	Coloured	37	1.92	0.69		
	White	334	1.71	0.64		
Stereotyping	Other	16	1.75	0.93	0.518	0.36
	Black African	194	2.08	1.05		
	Coloured	37	2.06	1.04		
	White	334	2.00	0.90		
Interpersonal constraints	Other	16	2.58	1.32	0.002*	0.11
	Black African	194	2.19	0.87		
	Coloured	37	2.18	0.79		
	White	334	2.46	0.84		

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

*Statistical significance: $p \leq 0.05$
M, mean; *SD*, standard deviation.

Except for enjoyment (p=0.480) and health (p=0.253), there were statistically significant differences ($p \leq 0.05$) in the reasons for participation between the different racial groups (ANOVA results, Table 8). Post hoc analysis found no significant difference between any specific race and enjoyment or health as reasons for recreational sport participation. With regards to constraints (Table 9), statistically significant differences were found for intrapersonal (p=0.002), structural (p=0.007) and interpersonal constraint factors (0.002) among the different racial groups. However, there were no significant differences between any specific race and constraints to recreational sport participation.

TABLE 10: **ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISON RESULTS FOR REASONS FOR PARTICIPATION ACCORDING TO RESIDENTIAL TYPE**

Factor		*N*	*M*	*SD*	*p*-value	F-ratio
Enjoyment	Campus	154	4.18	0.66	0.072	2.650
	Town	54	4.28	0.49		
	Private	302	4.08	0.71		
Health	Campus	154	4.51	0.60	0.624	0.472
	Town	54	4.41	0.63		
	Private	302	4.46	0.68		
Escape	Campus	154	3.83	0.80	0.412	0.889
	Town	54	3.79	0.52		
	Private	302	3.73	0.78		
Recognition	Campus	154	2.83	0.87	0.158	1.851
	Town	54	2.79	0.82		
	Private	302	2.66	0.92		
Social	Campus	154	3.67	0.86	0.029*	3.550
	Town	54	3.72	0.62		
	Private	302	3.48	0.86		

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

*Statistical significance: $p \leq 0.05$
M, mean; *SD*, standard deviation

TABLE 11: **ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISON RESULTS FOR CONSTRAINTS TO PARTICIPATION ACCORDING TO RESIDENTIAL TYPE**

Factor		*N*	*M*	*SD*	*p*-value	F-ratio
Intrapersonal constraints	Campus	169	2.35	0.85	0.626	0.469
	Town	54	2.23	0.96		
	Private	358	2.29	0.89		
Structural constraints	Campus	169	2.66	0.81	0.748	0.290
	Town	54	2.59	0.84		
	Private	358	2.61	0.82		
Activity perceptions	Campus	169	1.63	0.55	0.025*	3.706
	Town	54	1.64	0.67		
	Private	358	1.78	0.70		
Stereotyping	Campus	169	1.96	0.91	0.811	0.513
	Town	54	2.03	0.98		
	Private	358	2.05	0.99		
Interpersonal constraints	Campus	169	2.31	0.76	0.599	0.210
	Town	54	2.38	0.89		
	Private	358	2.36	0.92		

Notes:
(1) Original scale reverse items were changed for better comprehension.
(2) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.

*Statistical significance: $p \leq 0.05$
M, mean; *SD*, standard deviation

Shown in Table 10, 'social'(p=0.029) was the only reason for participation with a significant difference among the three different residential types. Post hoc analysis found no significant difference between specific residential type and social as a reason for recreational sport participation. With regards to constraints (Table 11), the ANOVA results indicated statistically significant differences in activity perception (p=0.025) for the different residential types. However, post hoc analysis found no significant difference between specific residential type and activity perception as a constraint to recreational sport participation.

TABLE 12: **T-TEST RESULTS OF REASONS FOR RECREATIONAL SPORT PARTICIPATION ACCORDING TO NATIONALITY**

Factor		*N*	*M*	*SD*	*p*-value	*d*
Enjoyment	South African	481	4.13	0.68	0.810	0.04
	Non-South African	29	4.10	0.65		
Health	South African	481	4.48	0.63	0.175	0.26
	Non-South African	29	4.24	0.94		
Escape	South African	481	3.78	0.77	0.080	0.32
	Non-South African	29	3.54	0.70		
Recognition	South African	481	2.73	0.90	0.924	0.02
	Non-South African	29	2.71	0.91		
Social	South African	481	3.58	0.84	0.054	0.38
	Non-South African	29	3.25	0.87		

Notes:
(1) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.
(2) Original scale reverse items were changed for better comprehension.
(3) Small effect size: d=0.3; medium effect size: d=0.5; large effect size: d=0.8.

*Statistical significance: $p \leq 0.05$.
M, mean; *d*, effect size; *SD*, standard deviation.

TABLE 13: **T-TEST RESULTS SHOWING CONSTRAINTS TO RECREATIONAL SPORT PARTICIPATION ACCORDING TO NATIONALITY**

Factor		*N*	*M*	*SD*	*p*-value	*d*
Intrapersonal constraints	South African	547	2.32	0.89	0.026*	0.35
	Non-South African	34	2.01	0.75		
Structural constraints	South African	547	2.65	0.81	0.009*	0.48
	Non-South African	34	2.25	0.82		
Activity perceptions	South African	547	1.74	0.66	0.150	0.25
	Non-South African	34	1.57	0.63		
Stereotyping	South African	547	2.05	0.96	0.003*	0.51**
	Non-South African	34	1.55	0.86		
Interpersonal Constraints	South African	547	2.38	0.87	0.008*	0.48
	Non-South African	34	1.96	0.83		

Notes:
(1) Means based on a five-point Likert scale 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree.
(2) Original scale reverse items were changed for better comprehension.
(3) Small effect size: d=0.3; **medium effect size: d=0.5; large effect size: d=0.8.

*Statistical significance: $p \leq 0.05$.
M, mean; *d*, effect size; *SD*, standard deviation.

As reflected by the numbers in Table 12, South African students accounted for 94% of the respondents and non-South Africans accounted for only 6%. Compared with the non-South Africans, the South African students rated all the reasons for participation more important; however, independent t-test gave statistically significant differences only for the social factor (p=0.054). This implies that South African students

attached greater importance to social (*M*=3.58; *SD*=0.84) reasons for recreational sport participation than non-South African students. The other factors were not significantly different between the two groups, although trends towards significance ($p<0.10$) were noted for escape and social reasons for recreational sport participation. Table 13 shows how students rated constraints to participation according to nationality. Compared with non-South Africans, the rating scores for the South African students for constraints to participation were higher and this was statistically significant for the all the constraints, except activity perception ($p>0.05$). This suggests that South African students experience greater intrapersonal (*M*=2.32; *SD*=0.89), structural (*M*=2.65; *SD*=0.81), interpersonal (*M*=2.05; *SD*=0.96), and stereotyping (*M*=2.38; *SD*=0.87) constraints to participation than non-South African students.

FINDINGS AND IMPLICATIONS

The aim of this study was to determine undergraduate students' reasons for participating in recreational sport activities, as well as the constraints they experience. The results revealed five reasons for recreational sport participation: enjoyment, health, escape, recognition and social. These findings correspond with those reported in the literature on motives for participation, with reasons such as having fun, being with friends, the opportunity to exercise, and for the excitement or challenge of competition confirmed by Gavin, Keough, Abravanel, Moudrakovski and Mcbrearty (2014) and Edginton *et al.* (2004). According to the students' responses, health was the most important motive for participating in recreational sport activities. Health was positively related to enjoyment, escape, recognition and social motives, with the relationship greatest between health and enjoyment, which is consistent with previous studies (Homan & Tylka, 2014; Fu, Gao, Hannon, Shultz, Newton & Sibthorp, 2013). The following participation constraint factors were identified: intrapersonal, structural, activity perception, stereotyping and interpersonal, corresponding with three of Crawford and Godbey (1987) constraint classifications. However, it is important to note that the relatively low perception of these constraints might, to a degree, suggest that students are not highly constrained by any of these five factors. The results also indicated that all students, whether they participate in recreational sport or not, perceive that they experience more structural constraints than other types of constraint. This finding corresponds with research by Jackson (1991, 2000), as well as Samdahl and Jekubovich (1997), who found that structural constraints, more specifically time and money-related constraints, were the most frequently experienced. The results also showed all the constraints were positively related to structural constraints. These findings support earlier theorising (Crawford *et al.*, 1991) and empirical evidence (Jackson & Rucks, 1995; Samdahl & Jekubovich, 1997) that multiple constraints can be experienced simultaneously, but by actively negotiating the constraints, participation will still be possible. The direction of causality of these relationships, of course, cannot be inferred from the correlational data.

The reasons for participation and the constraint factors were compared between genders and nationalities, and among race groups and residential types. The results indicated that male and female students did not differ significantly in their reasons for participation in recreational sport in terms of health, escape or social factors. This supports the findings of Reed and Cox (2007) and Kolt, Driver and Giles (2004), who indicated that there is little difference between men and women in motives to participate in physical activities. We

found that male students did consider enjoyment a more important reason for participation in recreational sport than female students. Although not rated as a particularly important reason, the motive of recognition was an additional difference between the genders. Interestingly, Kilpatrick, Hebert and Bartholomew (2005) found that male students were highly motivated by eco-related factors, which included social recognition, regardless of the type of activity. Although this could explain gender differences for recognition, the extent of the importance of recognition to male students in this study does not justify being classified as highly motivated. The findings suggest that although students experienced few constraints to recreational sport participation, female students experienced more intrapersonal constraint than male students. These findings are in line with the research of Frederick and Shaw (1995), who found that intrapersonal constraints, such as body image problems, limit female students' enjoyment of leisure-related activities such as aerobics. Similarly, other researchers suggest that women might experience more intrapersonal constraints, due to their disposition to feeling shy or self-conscious (Shaw, 1999; Liechty, Freeman, & Zabriskie, 2006), and that these intrapersonal constraints will hinder women from participation in recreational sport (Goldsmith, 2003). Based on South African research, Weilbach (2013) also found that female students are more constrained by feeling self-conscious than male students, while South African research by Halforty and Raddar (2015) found that female students experience interpersonal constraints such as being unable to find partners with whom to participate.

No one specific race expressed any of the five reasons as significantly more important for participating in recreational sport. However, this finding was inconsistent with Egli, Bland, Melton & Czech (2011), who suggest that white students are more likely to participate in physical activity for enjoyment and stress management, whereas black African and other races are motivated by health reasons. Additionally, no significant differences in constraints to recreational sports participation were found among white, black African, Indian, Asian and Coloured students. In contrast to Weilbach's (2013) findings, no specific racial groups experienced any of the constraints more than the others. Although other research has provided evidence that suggests a difference according to race in the constraints experienced (Godbey, Crawford, Shen, & Yağcı, 2015; Shinew, Floyed & Parry, 2004; Stodolska & Floyd, 2016), our study's findings did not support this. Considering the fast-changing environment, the influence of technology and trends in leisure activities, it is understandable that society's interpretation of and perception towards leisure constraints will change over time, and Godbey *et al*. (2015) recommend that continuous changes should be made to the questions researchers ask in predicating constraints.

Students who lived in campus, town and private residences did not differ significantly in their reasons for participation in recreational sport, or the constraints they experience with such participation. These findings are inconsistent with South African research by Weilbach (2013), who found that students who do not live on campus experienced more constraints than students living off campus. The relative proximity and availability of numerous partners with whom to participate suggests that students living in campus residences have an advantage when negotiating the constraints over those students who live far away and/or

on their own. A possible explanation for this is that students who live off campus participate in recreational sport activities not presented on campus at private venues or clubs in the community. With the addition of leisure participation through technology, participation in activities can now be anywhere, anytime and with anyone. This concept is emphasised by the recommendation of Godbey *et al*. (2015) that what are considered to be constraints to participation are reassessed.

No significant differences were found between students' nationality and their reasons for participating in recreational sport. South African students experienced more intrapersonal, structural, stereotyping and interpersonal constraints than the international students. This finding is in contrast with the research findings of Cho and Price (2016), as well as Walker *et al*. (2007), who found that international students were more constrained in their leisure participation than local students. Based on the findings of Walker *et al*., (2007) the main restrictive factor for international students is cultural differences. Guo and Schneider (2015) propose several reasons for different leisure constraints between nationalities. One reason is related to the exposure, support and experience that local students might have had to enable them to successfully negotiate leisure constraints, while other reasons relate to the terminology and meaning of leisure for different cultures, as well as them experiencing leisure constraints differently. Walker and Wang (2008) found the Chinese to be more intra- and interpersonally constrained. Limited research is available on how leisure constraints are experienced differently across cultures (Walker *et al.*, 2007). Therefore, research into the leisure constraints of people from different cultures will not only enhance the literature on the subject (Shaw & Henderson, 2005), but will provide valuable information on ways to increase recreational sport participation among all members of the university student population.

While the study findings contribute to an understanding of students' motives to participate in recreational sport on campus, Cooper *et al.* (2012) suggest motivation should be considered within additional conceptual frameworks such as SDT. Overall observation of the main motives for recreational sport participation found that participation for health reasons was rated the highest, illustrating identified regulation in extrinsic motivation. According to Lox *et al*. (2006), recreational sport participation for self-determined goals such as weight loss can be viewed as identified regulation. Although recreational sport might be seen as personally valued and perceived as chosen by the students themselves, participation is merely an instrument to their fitness and not the result of choice. Deci and Ryan (2002) note that identified motivation bears similarity to intrinsic motivation, in the sense that both are accompanied by a sense of choice. Although a form of extrinsic motivation, identified motivation is also associated with positive experiences, performances and health consequences (Deci & Ryan, 2002). It should, however, be noted that although identified motivation is closely related to intrinsic motivation, the two differ – with intrinsic motivation the recreational sport activity itself is enjoyable or interesting. Thus, identified regulation progresses towards intrinsic motivation, in the sense that students might experience a sense of self direction instead of being pressured to participate in recreational sport for an outcome other than enjoyment or interest. When considering students' motivation to participate in recreational sport, it is important to consider the kind of

activities they perceive as recreational sport. Although some sport types, such as cycling, might be considered as a sport and form part of leisure, other students may aim to achieve or maintain fitness by participating. The researchers Kilpatrick *et al*. (2005) found differences in motivation and that health-related motives were more linked to exercise behaviours than to sport participation. Comparing motivational factors to participate in recreational sports between demographic variables, our results indicated that the only significant differences in motivation to participate were between gender and nationality. Male students were more motivated to participate for enjoyment, illustrating intrinsic motivation and encouraging sustained participation. Considering the difference in separating exercise from sport, Kilpatrick *et al.* (2005) found that male students were more likely to view enjoyment as the motive for sport participation than exercise. As students appear to experience relevantly low constraints to recreational participation, attention should be paid to their motives for participation. Taking into consideration that students participate in recreational sport mainly for health reasons, programmes can be modified not only to maximise their motivation but to sustain participation.

LIMITATIONS AND FUTURE STUDIES

Our study had several limitations. Firstly, the study was limited by the relatively small number of participants who consented to participate in the research. The small sample size was even more restricted by the exclusion of students enrolled in postgraduate courses. Thus, it is suggested that greater measures should be taken in the future to increase response rate for example modified Dillman approach with follow-up messages. It is also important to note potential bias, as the students who participated in this study voluntarily might have had more insight or knowledge on the topic than those who chose not to participate. Secondly, the study focused on a specific student population at a particular university, therefore the results might not be generalised to other students or universities in other provinces in South Africa. Every campus setting is unique in its history, traditions, language and student population, and preconceived survey items derived from literature had the potential to miss the aim of the study. Consequently, to determine if results are accurate representations of students' perceptions, a follow-up qualitative study (focus groups or interviews) is necessary.

Despite the limitations, the study contributes to the South African body of knowledge of undergraduate students' recreational participation and may be valuable to university administrators seeking to increase physical activity among students. The study provides insight into the specific and different reasons students participate in recreational sport and the constraints they face. Future research into the reasons for and constraints to participation in specific recreational sport activities is recommended. For example, testing specific activities could provide clarity on the reasons for and constraints to participation between types of activities or programmes. The study needs to be duplicated at other institutions in South Africa, not only to add to the body of knowledge but to set a baseline from which universities can find ways to increase students' physical activity levels. Since the study focused on undergraduate students generally and not specifically

on students who do not participate in recreational sport, it is suggested that future studies focus on understanding the constraints perceived specifically by nonusers of recreational sport.

CONCLUSION

Investigating the reasons for participation in recreation sport activities and the constraints hindering it provides valuable information to university administrators and sport departments, to help them increase student participation through the elimination of institutional constraints. Such information also assists them in providing students with guidance on how to negotiate constraints. Health proved a strong motive for participation in recreational sport activities. Although this might be seen as identified regulation, efforts can be made to assist progress towards intrinsic motivation. Research by Vansteenkiste, Simons, Soenens and Lens (2004) found that the way activities are framed leads to greater autonomy in the motivation to participate more frequently. Consequently, the promotion of recreational sport participation should be framed with intrinsic goals such as improving health, rather than extrinsic goals such as enhancing attractiveness.

We found differences between the genders in the reasons for participation in recreational sport participation and in the constraints to participation. Male students were primarily motivated by enjoyment as the reason for participation. To maximise this motive, more noncompetitive sport competitions could be held on campus. We found that female students experienced a greater degree of intrapersonal constraint to participation than male students. Since intrapersonal constraints can be more difficult to remove than structural constraints, systematic efforts are required to help female students negotiate intrapersonal constraints. This could be achieved by redesigning programme formats to decrease the opportunities for students to feel shy or self-conscious by lowering the competition level, having female-only teams or by closing venues to spectators. Additionally, female students who still choose not to participate could be introduced to types of recreational sports in which participation can be private or through technology, to increase their participation.

We found that South African students perceived more constraints to recreational sport participation than students from other countries. Promoting recreational sport on campus should not be specific to certain demographics, but should aim to increase physical activity through participation among all students on campus. A marketing campaign to educate students on the activities available, as well as to introduce their rules and format, provides an opportunity for students to be educated about recreational sport in the South African context. Universities have a responsibility to assist students in adapting to college life and one major component of this is time management. Since structural constraints were the highest perceived constraint to recreational sport participation, the university could include educational tools and tips on the online student learning platform, to remind and educate students on time management and the importance of planning leisure time. In the United States, some campus recreation departments have buddy programmes with the aim of connecting students with the same interests, thus reducing the constraint of ‘having no-one

to participate with'. The same principle could be administered with students on South African campuses, linking them with partners or teams to familiarise them with an activity and introduce potential team mates. With student populations becoming increasingly diversified, surveys on recreational sport participation are important. Including students in focus group discussions to understand their recreational sport preferences could provide further information to assist universities in developing new programmes for different groups of students. Adapting and including new ways of delivering recreational sport to students from different demographic backgrounds, as well as being sensitive to religious views, will also help universities promote inclusion on campus.

REFERENCES

ARTINGER, L., CLAPHAM, L., HUNT, C., MEIGS, M., MILORD, N., SAMPSON, B. & FORRESTER, S. A. (2006). The social benefits of intramural sports. *Journal of Student Affairs Research and Practice,* 43(1): 69-86.

AWADALLA, N., ABOELYAZED, A., HASSANEIN, M., KHALIL, S., AFTAB, R., GABALLA, I. & MAHFOUZ, A. (2014). Assessment of physical inactivity and perceived barriers to physical activity among health college students, south-western Saudi Arabia, *Eastern Mediterranean Health Journal,* 20(10): 596-604.

BARCELONA, R., WELLS, M. & ARTHUR-BANNING, S. (2015). *Recreational sport: Program design, delivery, and management*. Champaign, IL: Human Kinetics.

BEGGS, B. A. & ELKINS, D. J. (2010). The influence of leisure motivation on leisure satisfaction. *LARNet-The Cyber Journal of Applied Leisure and Recreation Research,* July: unpaginated ref.36.

BEGGS, B. A., ELKINS, D. J. & POWERS, S. (2005). Overcoming barriers to participation in campus recreational sports. *Recreational Sports Journal,* 29(2): 143-155.

BELCH, H. A., GEBEL, M. & MAAS, G. M. (2001). Relationship between student recreation complex use, academic performance, and persistence of first-time freshmen. *NASPA Journal,* 38(2): 254-268.

BLOEMHOFF, H. (2010). Gender-and race-related physical activity levels of South African university students: sports research. *African Journal for Physical Health Education, Recreation and Dance,* 16**,** 25-35.

BOCARRO, J. N. & KANTERS, M. A. (2010). Leisure, health, and physical activity. In Human Kinetics (Eds.), *Dimensions of leisure for life* (pp. 67-87). Champaign, IL: Human Kinetics.

BRONIKOWSKA, M., BRONIKOWSKI, M. & SCHOTT, N. (2011). " You think you are too old to play?" Playing games and aging. *Human Movement,* 12(1): 24-30.

BUTT, J., WEINBERG, R. S., BRECKON, J. D. & CLAYTOR, R. P. (2011). Adolescent physical activity participation and motivational determinants across gender, age, and race. *Journal of Physical Activity and Health,* 8(8): 1074-1083.

CHO, D. & PRICE, T. (2016). Examining the leisure constraints affecting international collegiate students' participation in intramural sport programs. *International Journal of Sport Management, Recreation and Tourism,* 24, 22-41.

COOPER, N., SCHUETT, P.A. & PHILLIPS, H.M. (2012). Examining intrinsic motivations in campus intramural sports. *Recreational Sports Journal,* 36(1), 25-36.

CLEMENTE, F. M., NIKOLAIDIS, P. T., MARTINS, F. M. L. & MENDES, R. S. (2016). Physical activity patterns in university students: Do they follow the public health guidelines? *PLoS ONE,* 11(3): e0152516. https://doi.org/10.1371/journal.pone.0152516

CRAWFORD, D. W. & GODBEY, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences,* 9(2): 119-127.

CRAWFORD, D. W., JACKSON, E. L. & GODBEY, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences,* 13(14): 309-320.

DALGARN, M. K. (2001). The role of the campus recreation center in creating a community. *NIRSA Journal,* 25(1): 66-72.

DECI, E. L. & RYAN, R. M. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E.L. Deci & R.M. Ryan (Eds), *Handbook of Self-Determination Research* (pp. 3-33). University Rochester Press.

DONG, E. & CHICK, G. (2012). Leisure constraints in six Chinese cities. *Leisure Sciences,* 34(5): 417-435.

EDGINTON, C.R., HANSON, C.J., EDGINTON, S. & HUDSON, S.D. (2004). *Leisure programming: A service-centered and benefits approach.* (4th ed). New York: McGraw-Hill.

EGLI, T., BLAND, H. W., MELTON, B. F. & CZECH, D. R. (2011). Influence of age, sex, and race on college students' exercise motivation of physical activity. *Journal of American College Health,* 59(5): 399-406.

FLETCHER, A. C., ELDER, G. H., JR & MEKOS, D. (2000). Parental influences on adolescent involvement in community activities. *Journal of Research on adolescence,* 10(1): 29-48.

FORRESTER, S. (2014). *The benefits of campus recreation*. Corvallis, *OR: NIRSA.*

FREDERICK, C. J., & SHAWS, S. M. (1995). Body image as a leisure constraint: Examining the experience of aerobic classes for young women. *Leisure Sciences,* 17(2): 57-73.

FU, Y., GAO, Z., HANNON, J., SHULTZ, B., NEWTON, M. & SIBTHORP, J. (2013). Influence of a health-related physical fitness model on students' physical activity, perceived competence, and enjoyment. *Perceptual and Motor Skills*, 117(3): 956-970.

GAVIN, J., KEOUGH, M., ABRAVANEL, M., MOUDRAKOVSKI, T. & MCBREARTY, M. (2014). Motivations for participation in physical activity across the lifespan. *International Journal of Wellbeing*, 4(1): 46-61.

GLASS, C. R., GÓMEZ, E. & URZÚA, A. (2014). Recreation, intercultural friendship, and international students' adaptation to college by region of origin. *International Journal of Intercultural Relations*, 42, 104-117.

GODBEY, G., CRAWFORD, D. W. & SHEN, X. S. (2010). Assessing hierarchical leisure constraints theory after two decades. *Journal of Leisure Research*, 42(1): 111-134.

GODBEY, G., CRAWFORD, D. W., SHEN, X. S. & YAĞCı, K. (2015). Assessing hierarchical leisure constraints theory after two decades. *Anatolia: Turizm Arastirmalari Dergisi*, 26(1): 114-129.

GOLDSMITH, P.A. (2003). Race relations and racial patterns in sports participation. *Sociology of Sport Journal*, 20(2): 147-171.

GÓMEZ-LÓPEZ, M., GALLEGOS, A. G. & EXTREMERA, A. B. (2010). Perceived barriers by university students in the practice of physical activities. *Journal of Sports Science & Medicine*, 9(3): 374-381.

GRAY, H. J. (2010). *Campus and Community.* In Human Kinetics (Eds.), *Dimensions of leisure for life* (pp. 253-270). Champaign, IL: Human Kinetics.

GUO, T. & SCHNEIDER, I. (2015). Measurement properties and cross-cultural equivalence of negotiation with outdoor recreation constraints: an exploratory study. *Journal of Leisure Research*, 47(1): 125-153.

HAINES, D. J. (2001). Undergraduate student benefits from university recreation. *NIRSA Journal*, 25(1): 25-33.

HALFORTY, G. A. & RADDER, L. (2015). Constraints to participation in organised sport: case of senior undergraduate students at a new generation university. *South African Journal for Research in Sport, Physical Education and Recreation*, 37(3): 97-111.

HEUSER, L. (2005). We're not too old to play sports: The career of women lawn bowlers. *Leisure Studies*, 24(1): 45-60.

HOMAN, K.J. & TYLKA, T.L. (2014). Appearance-based exercise motivation moderates the relationship between exercise frequency and positive body image. *Body Image*, 11(2): 101-108.

HUEBNER, A. J. & MANCINI, J. A. (2003). Shaping structured out-of-school time use among youth: The effects of self, family, and friend systems. *Journal of Youth and Adolescence,* 32(6): 453-463.

ISO-AHOLA, S. E. (1980). *The social psychology of leisure and recreation*, William C Brown Pub.

JACKSON, E. L. (1993). Recognizing patterns of leisure constraints: Results from alternative analyses. *Journal of Leisure Research,* 25(2): 129-129.

JACKSON, E. L. & HENDERSON, K. A. (1995). Gender-based analysis of leisure constraints. *Leisure Sciences,* 17(1): 31-51.

JACKSON, E.L. (1991). Leisure constraints/constrained leisure: Special issue introduction. *Journal of Leisure Research*, 23(4): 279-285.

JACKSON, E.L. (2000). Will research on leisure still be relevant in the twenty-first century? *Journal of Leisure Research*, 32(1): 62-68.

JACKSON, E. L. (2005). *Constraints to leisure*, State College, PA: Venture Publishing

JACKSON, E.L. & RUCKS, V.C. (1995). Negotiation of leisure constraints by junior-high and high-school students: an exploratory study. *Leisure Sciences*, 27(1): 85-105.

KANTERS, M. A. (2000). Recreational sport participation as a moderator of college stress. *Recreational Sports Journal*, 24(2): 11-24.

KANTERS, M. A. & FORESTER, S. (1997). The motivations and self-esteem of intramural sports participants. *NIRSA Journal,* 21(3): 3-7.

KAY, T. & JACKSON, G. (1991). Leisure despite constraint: The impact of leisure constraints on leisure participation. *Journal of Leisure Research,* 23(4): 301-313.

KILPATRICK, M., HEBERT, E. & BARTHOLOMEW, J. (2005). College students' motivation for physical activity: differentiating men's and women's motives for sport participation and exercise. *Journal of American College Health*, 54(2): 87-94.

KOLT, G. S., DRIVER, R. P. & GILES, L. C. (2004). Why older Australians participate in exercise and sport. *Journal of Aging and Physical Activity,* 12(2): 185-198.

KUNDA, Z. & SPENCER, S. J. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin,* 129(4): 522-544.

LIECHTY, T., FREEMAN, P. A. & ZABRISKIE, R. B. (2006). Body image and beliefs about appearance: Constraints on the leisure of college-age and middle-age women. *Leisure Sciences,* 28(4): 311-330.

LOX, C.L., MARTIN GINIS, K.A., & PETRUZZELLO, S.J. (2006). *The psychology of exercise: Integrating theory and practice*. Scottsdale, AZ: Holcomb Hathaway, Publishers.

MANNELL, R. C. & KLEIBER, D. A. (1997). *A social psychology of leisure*, Venture Publishing.

NIXON, H. L. & FREY, J. H. (1996). *A sociology of sport*, Wadsworth Publishing.

PANO, G. & MARKOLA, L. (2012). 14-18 Years old children attitudes, perception and motivation towards extra curricular physical activity and sport. *Journal of Human Sport and Exercise*, 7(1): 51-66.

PARK, Y., YOH, T. & PARK, M. (2015). Testing a leisure constraints model in the context of asian international students. *International Journal of Sport Management, Recreation and Tourism,* 20, 58-83.

PENGPID, S. & PELTZER, K. (2013). Physical inactivity and associated factors among university students in South Africa. *African Journal for Physical Health Education, Recreation and Dance,* 19(1): 143-153.

PLOTNIKOFF, R. C., COSTIGAN, S. A., WILLIAMS, R. L., HUTCHESSON, M. J., KENNEDY, S. G., ROBARDS, S. L., ALLEN, J., COLLINS, C. E., CALLISTER, R. & GERMOV, J. (2015). Effectiveness of interventions targeting physical activity, nutrition and healthy weight for university and college students: a systematic review and meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity,* 12(1): 45-55.

QUINTANA-MURCI, L., HARMANT, C., QUACH, H., BALANOVSKY, O., ZAPOROZHCHENKO, V., BORMANS, C., VAN HELDEN, P.D., HOAL, E.G. & BEHAR, D.M. (2010). Strong maternal Khoisan contribution to the South African coloured population: a case of gender-biased admixture. *The American Journal of Human Genetics*, 86(4): 611-620.

RAYMORE, L., GODBEY, G., CRAWFORD, D. & VON EYE, A. (1993). Nature and process of leisure constraints: An empirical test. *Leisure Sciences,* 15(2): 99-113.

REED, C. E. & COX, R. H. (2007). Motives and regulatory style underlying senior athletes' participation in sport. *Journal of Sport Behavior*, 30(3): 307-329.

RUSSELL, W. D. (2014). The relationship between youth sport specialization, reasons for participation, and youth sport participation motivations: A retrospective study. *Journal of Sport Behavior,* 37(3): 286-305.

RYAN, R. M. & DECI, E. L. (2000a). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology,* 2591): 54-67.

SAMDAHL, D. M. & JEKUBOVICH, N. J. (1997). A critique of leisure constraints: Comparative analyses and understandings. *Journal of Leisure Research,* 29(4): 430-452.

SCANLAN, T. K., STEIN, G. L. & RAVIZZA, K. (1989). An in-depth study of former elite figure skaters: II. Sources of enjoyment. *Journal of Sport and Exercise Psychology,* 11(1): 65-83.

SHAW, S. M. (1999). Men's leisure and women's lives: The impact of pornography on women. *Leisure Studies,* 18(3): 197-212.

SHAW, S. M. & HENDERSON, K. A. (2005). Gender analysis and leisure constraints: An uneasy alliance. *Constraints to Leisure,* 23-34.

SHINEW, K. J., FLOYD, M. F. & PARRY, D. (2004). Understanding the relationship between race and leisure activities and constraints: Exploring an alternative framework. *Leisure Sciences,* 26(3): 181-199.

STODOLSKA, M., & FLOYD, M. F. (2016). Leisure, race, ethnicity, and immigration. In G. Walker, D. Scott, and M. Stodolska (Eds.). *Leisure matters: The state and future of leisure studies* (pp. 243-252). State College, PA: Venture Publishing.

TAYMOORI, P., LUBANS, D. & BERRY, T. R. (2010). Evaluation of the health promotion model to predict physical activity in iranian adolescent boys. *Health Education & Behavior,* 37(1): 84-96.

VANSTEENKISTE, M., SIMONS, J., LENS, W., SOENENS, B., MATOS, L. & LACANTE, M. (2004). Less is sometimes more: Goal content matters. *Journal of Educational Psychology,* 96(4): 755-764.

WALKER, G. J., JACKSON, E. L. & DENG, J. (2007). Culture and leisure constraints: A comparison of Canadian and Mainland Chinese university students. *Journal of Leisure Research,* 39(4): 567-590.

WALKER, G. J. & WANG, X. (2008). A cross-cultural comparison of Canadian and Mainland Chinese university students' leisure motivations. *Leisure Sciences,* 30(3): 179-197.

WEILBACH, J. T. (2013). The relationship between demographic variables and leisure perceptions of selected South African first year university students. Unpublished doctoral thesis. Potchefstroom, South Africa: North-West University.

WOODS, R. B. (2011). *Social issues in sport*. 2nd ed. Champaigh, IL: Human Kinetics.

YAN, Z. & CARDINAL, B. J. (2013). Increasing Asian international college students' physical activity behavior: A review of the youth physical activity promotion model. *Health Educator,* 45(1): 35-45.

Chapter 5

Article 3

The contribution of recreational sport participation towards undergraduate university students' sense of community at a South African university

South African Journal for Research in Sport, Physical Education and Recreation

"The *South African Journal for Research in Sport, Physical Education and Recreation* (SAJRSPER) is a peer-reviewed journal that publishes original research articles, systematic reviews, commentaries, and letters on topics related to Sport and Exercise science, Physical education and Recreation. This includes research of topics such as bio-mechanics, motor control, sport injuries and rehabilitation, clinical exercise interventions, physical education, as well as outdoor and recreation related topics."

THE CONTRIBUTION OF RECREATIONAL SPORT PARTICIPATION TOWARDS UNDERGRADUATE UNIVERSITY STUDENTS' SENSE OF COMMUNITY AT A SOUTH AFRICAN UNIVERSITY

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ABSTRACT

The aim of this study was to determine if there is a link between frequency of recreational sport participation and the sense of community university students' experience at a South African university. Five hundred and eighty-one contact undergraduate students completed an online survey. Exploratory factor analysis was conducted to determine the underlying factor structure and four factors were extracted: University Culture, Stress and Loneliness, Staff Relationships and Activities or Facilities. T-test and analysis of variance were applied and indicated differences between various demographic groups in four sense of community factors. Binary logistic regression was used to determine whether sense of community varied significantly according to whether students participated in different types of recreational sport activities. The types of recreational sport in which students participated had an impact on the predictors of sense of community. The findings provided new information about students' perceptions of the campus community and the effect of participation on sense of community. This will assist campuses to develop recreational sport programmes with the aim of increasing sense of community, through focusing on the predictors generated by the results.

Key words: Campus recreation, recreational sport, sense of community.

INTRODUCTION

Since 1994, South African universities have undergone major changes to ensure equal access for all students regardless of their background (Sennett, Finchilesou, Gibson & Strauss, 2003; Sumbulu & Boswell, 2003). The student population in general has become more diverse over the past several years; free education protests such as the '#FeesMustFall' events have not hindered applicants and the number of students attending South African tertiary institutions continues to increase dramatically (Allias, 2017; Ndelu, 2016). Although increasing numbers of South Africans have access to tertiary education, Monama (2013) and Smith (2013) have reported that only 5% of graduates in South Africa are from previously disadvantaged groups. Additionally, graduation rates are at an all-time low and half of students drop out before completing their first year at university (Department of Higher Education and Training [DHET], 2015). Although student dropout can be explained by several universal reasons, such as financial difficulties and academic stressors, the South African university setting experiences a number of additional factors contributing to

high dropout rates. Factors in South Africa such as the diversity of student populations, language barriers, an increased number of students from disadvantaged backgrounds who face deeply rooted socioeconomic issues (Subotzky & Prinsloo, 2011), as well as racial tension (Walker, 2005a), in combination, increase the likelihood of students dropping out of university.

Even though South African universities strive, through numerous policies, to make all students and staff feel at home regardless of their culture or language, social reality on campus unfortunately differs from institutional objectives and community ideals (Asmal & James, 2001). As a *microcosm*, a university functions as a miniature world with its own set of rules, identity and values (Gray, 2010). Walker (2005a) refers to this as one reason for the complexity of the university context in South Africa. Through an ongoing process of transformation, students from other races (e.g., black African, Coloured, Indian, Asian) are entering universities with white (especially Afrikaans) students who have certain commitments to culturally and racially exclusive traditions previously established throughout the universities' history (Walker, 2005a).

The changing student population has also meant that some universities have had to review their language policies (Walker, 2005a). Embracing language and cultural diversity develops a more inclusive university culture and community (Mokgala, 2003). South Africa has 11 official languages, with the two most commonly used in higher education being Afrikaans and English. Given that some South Africans are not fluent in Afrikaans, offering only Afrikaans-medium classes may exclude many potential students (Walker, 2005a). Therefore, the majority of universities offer parallel classes in Afrikaans and English, with some universities offering an optional African language. Unfortunately, this system presents another form of separation between students, especially white-Afrikaans students and English-speaking students. Students may prefer taking classes in a specific language, and choosing to have all their classes in Afrikaans may limit their contact with students from other racial backgrounds (Walker, 2005b). Thus, this system splits the institution into two and integration between race groups becomes more difficult.

Nussbaum (1997) suggested in her work that higher education's focus on transformation is from the *cultivation of humanity* basis. Universities can evaluate their transformation progress through three capacities. These include the capacity to critical examine oneself and one's traditions, the capacity of a person to see themselves not only belonging to a community, but bound to all human beings and the capacity to place themselves 'in other people's shoes' (Nussbaum, 1997). Walker (2005a) suggests that, as the academic system provides limited opportunity for social interaction unrelated to academic content, greater emphasis should be placed on the encounters students have out of class, where there is an opportunity to gain an understanding of diverse cultures. This suggestion is in line with Tinto's (1975) theory that students should be integrated into the university's social systems and not only the academic systems. It is on this premise that the social system, which includes out-of-class activities such as campus recreation, be used as a method to increase student involvement in campus life and to promote a sense of community. In their research, Yuen, Pedlar and Mannell (2005) found that leisure experiences can be used as common ground for a group of people who do not share the same history, language or culture. Similarly, Cheng (2004) and

Elkins, as well as Forrester and Noël-Elkins (2011), have found that through regular participation in recreational sport activities students get to know other students' values, background and cultures. There has been valuable insight from international researchers such as Elkins *et al*. (2011) and Cheng (2004, 2005) into the effect of campus recreation involvement on increasing students' sense of campus community, and it is worth investigating if recreational sport participation has the same effect on the sense of community of students on a South African campus.

LITERATURE REVIEW

Sense of community

Boyer's 1989 survey of more than a hundred North American universities indicated that students referred to campus as a *community* and *family* (Boyer, 1990). Sense of community can be described as 'a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together' (as quoted by McMillan & Chavis, 1986, p. 9). McMillan (1996) proposed that if students feel that they fit into a group, such as the campus community, and they feel accepted, they will experience a sense of belonging and will refer to the group as theirs.

Fostering a sense of community is not as simple as putting people together and expecting them to form a community (Flanagan, Cumsille, Gill & Gallay, 2007; Cohen-Katz, Miller & Borkan, 2003). Students bring their own backgrounds into the university; therefore, it cannot be expected that positive integration will take place by simply placing people together in a group, academically or socially (Tinto, 1975). Although students may live in the same residence or attend classes together, they may still feel isolated from their fellow students (Boyer, 1990). Elkins *et al*. (2011) found in their research that students who frequently participated in recreational sport on campus were significantly less lonely and had an increased sense of community. Another assumption is that people who share common interests and a common environment automatically feel a sense of community. This is not the case, according to Holt (1995), who found that certain underlying conditions influence a sense of community. These conditions include the intentions of the participants and the environmental circumstances (Holt, 1995). Thus, because students are part of the same university, support the same varsity team and attend the same classes, it would be wrong to assume that they will automatically feel a sense of community. According to Holt (1995), sense of community will only be accomplished if the students' relationship is intentional and has developed from specific conditions. Similarly, Costa, Chalip, Green and Simes (2006) use Wicker's manning theory (1979) to explain how sense of community is linked relatively to the number of responsibilities. For example, if the number of people outweighs the number of responsibilities, the sense of community will be weak, because people will feel unneeded or unimportant. Conversely, if there are more responsibilities than people, people will feel a strong sense of community because they experience mutual obligation and higher levels of support from each other to carry the responsibilities.

Boyer (1990) also spoke out about a decline of community on campuses, and emphasised the need for institutionally driven interventions to promote sense of community among students. Based on Boyer's findings, Cheng (2004) developed a sense of community scale, to identify factors that contribute to students' sense of community on campus. Throughout Cheng's (2004) research, a direct link was found between student activities and sense of community. Based on Cheng's suggestions for future research on the impact of student activities on sense of belonging, the researchers Elkins *et al*. (2011) found that students who participated regularly in campus activities had a significantly greater sense of community. Although campus activities can be of many different types, limited research has been conducted to determine the extent to which recreational sport participation contributes to the sense of campus community (Elkins *et al*., 2011).

STATEMENT OF THE PROBLEM

Having taken the preceding discussion into consideration, the aim of this study was to determine if there is a link between the frequency of recreational sport participation and students' sense of community at a South African university. As no previous African-based studies have examined this relationship, the study findings not only add to the body of knowledge in the leisure field, but potentially provide considerable insight into the concept of community from the perspective of South African students. They may also assist university administrators in finding ways to add value to the university experience and integrating students on a social and health level. In summary, the purpose of this study was to determine whether frequent participation in recreational sports affected students' perceived sense of community.

Research questions

In what ways does recreational sport participation contribute towards undergraduate students' sense of community at a South African university?

a. Do statistically significant differences exist between the factors contributing to sense of community and selected demographic groups (gender, race, etc.) of undergraduate students at a South African university?
b. Does a positive correlation exist between the frequency of recreational sport participation and sense of community of undergraduate students at a South African university?
c. Does a positive correlation exist between the level of participation in different types of recreational sport activities and sense of community of undergraduate students at a South African university?
d. Does a positive correlation exist between the frequency of recreational sport participation and sense of community of undergraduate students at a South African university?
e. Do the factors contributing to sense of community predict undergraduate students at a South African university choice to participate in recreational sport activities?
f. Do the factors contributing to sense of community predict undergraduate students at a South African university choice of type of recreational sport activities?

METHODS

Target population and sampling methods

A census sample was used, with all contact undergraduate students from one campus of a South African university based in North West Province invited to complete a survey (*N*=17,279). The contact undergraduate students on campus consisted of 9,725 females and 7,554 males. Of these, 22% were black African, 71% were white, 6% Coloured[1] and 1% were either Indian or Asian.

Data collection

Data were collected online using the SurveyMonkey® online survey system, distributed through the virtual learning environment of the university. By using an electronic or online questionnaire, a larger number of students could be reached during the month the link was available (Wright, 2005; Crawford, Couper & Lamias, 2001; Cook, Heath & Thompson, 2000). Students who consented to participate in the survey continued to the full questionnaire, which took 10 to 15 minutes to complete. A lucky draw was used to encourage students to participate, and students needed to enter their student number before completing the survey, as a means of identifying and contacting the winner.

Measuring instrument

The online questionnaire consisted of a demographic section, a section measuring current recreational sport participation and a section measuring sense of community. Demographic information, such as age, gender and ethnicity, was obtained by close-ended or forced-choice questions. The second section provided an opportunity to indicate in which recreational sport activities the student currently participated, from a list of 60 different recreational sport activities. If an activity was selected, respondents had to indicate the frequency (on average during the previous 6 months) of participation. The last section included an adapted version from Cheng's (2004) sense of community scale, which consisted of 25 close-ended questions measured on a five-point Likert scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5).

Statistical analysis

SPSS version 24.0 (IBM Corp., Armonk, NY, USA) was used to analyse the data. Data analysis was performed in five stages. In the first stage, descriptive statistics were generated to illustrate the demographic composition of the sample group. As the study used an adapted version of Cheng's (2004) sense of community scale, an exploratory factor analysis (EFA) was conducted in the second stage. A principal component factor analysis was performed on the 25 items using an oblimin rotation with Kaiser normalisation. To determine whether the covariance matrix was suitable for the factor analysis, the Kaiser-Keyer-Olkin (KMO) measure of sampling adequacy was used. Extracted factors with eigenvalues larger than 1 were used in the study, as prescribed by the KMO criteria. Factors loaded with a value lower than 0.3 were considered as not correlating significantly with a factor and were discarded. In the case of two items cross-loading on two factors with factor loadings above 0.3, the items were paired with the factor that

[1] In the South African context, the term *Coloured* refers to a specific population group. This population derives from different populations that include Khoisan, Bantus, Europeans, Indians, and Southeast Asians (Quintana *et al.*, 2010).

best described the item. To estimate the internal consistency of each factor, the reliability coefficient, or Cronbach alpha (α), was calculated and only factors above 0.6 were accepted as having acceptable internal consistency. During the third stage, effect sizes, independent sample *t*-tests and analyses of variance (ANOVAs) with Tukey's multiple comparisons were used to examine for statistical or practical differences between continuous variables (the extracted factors) and nominal variables (demographic variables) The demographic variables described were gender, race, residential type and nationality. Statistical significance was set at $p \leq 0.05$. Cohen's interpretation of effect sizes was used to evaluate the practical or clinical importance of the effect (small effect: $d=0.2$; medium effect: $d=0.5$; large effect: $d=0.8$). In the fourth stage, nonparticipants were removed, and Spearman's rank order correlations were used to determine the relationship between the frequency of participation and the sense of community factors. Finally, the extracted sense of community factors served as independent variables in a binary logistic regression analysis used to predict students' sense of community based on the type of recreational sport activity in which students participated. Confidence intervals were set at 95%.

Ethical considerations

All sections of the study were approved by the Dean of Student Affairs and the Departmental Scientific and Health Research Ethics Committee (NWU-00034-16-A1) of the university before the study was conducted.

RESULTS

Sample characteristics

A total of 581 undergraduate students volunteered to take part in the survey, of whom 281 were male (48%) and 300 were female (51%). The mean age (standard deviation [*SD*]) of the participants was 20.8 (2.5) years. Fifty-seven percent of the respondents were white, 33% were black African, 6% were Coloured, 2% were Asian and 3% reported to belong to other ethnic groups, such as Indian. Seventeen percent of the respondents were not from South Africa and classified as international students. The majority of respondents made use of private accommodation (62%), while 29% of the respondents stayed in university/campus residences and 9% lived privately but were members of a town residence. Campus residences are physically based on the campus and provide residential accommodation, while town residences do not offer physical accommodation but rather function as student clubs.

Factor analysis results

To examine the underlying factor structure of the 25 sense of community items, EFA was conducted using data from all 581 respondents who completed the sense of community section of the survey. As the items were fairly normally distributed, a principal component factor analysis using an oblimin rotation with Kaiser normalisation was performed. Bartlett's test of sphericity was significant at $p<0.000$ and the KMO measure of sampling adequacy was 0.932, inferring that the data were suitable for factor analysis. The pattern matrix of the principal component factor analysis identified four factors, which were labelled according to similarities (see Table 2). Items loaded on a factor with a loading value greater than 0.3 were included and indicated a reasonably high correlation between the explained factor and their individual items.

All four of the factors had eigenvalues greater than 1.0 and accounted for 56.76% of the variance. Seven statements loaded on more than one factor. The items *There are opportunities to interact with people from different backgrounds* and *Being part of campus activities will raise my awareness of campus resources* double loaded on different factors and this may be due to unclear interpretation of statements. Although the items should have been stated more clearly to avoid misinterpretation or eliminated, for the purpose of this study, they were loaded on the factor *Activities or Facilities.*

The first factor, containing 11 items, was labelled *University Culture* and had a mean value of 3.75, the second lowest of the four factors. The second factor, comprising three items, was titled *Loneliness and Stress* and had a mean value of 3.30, the lowest mean score. The third factor, which included four items, and termed *Relationship with Staff* and had the highest mean score of all four values (3.99). The last factor contained seven items and was titled *Activities or Facilities*. It had a mean score of 3.89, the second-highest of the four. Based on the results of the component correlation (see Table 1), the factors could be clearly distinguished.

TABLE 1: **CORRELATIONS AMONG THE FACTORS RELATED TO SENSE OF COMMUNITY**

Factor		University Culture	Loneliness and Stress	Relationship with Staff	Activities or Facilities
University Culture	Pearson correlation	-		.	
	Sig. (two-tailed)	-			
Loneliness and Stress	Pearson correlation	-0.255**	-		
	Sig. (two-tailed)	0.000	-		
Relationship with Staff	Pearson correlation	0.563**	-0.150**	-	
	Sig. (two-tailed)	0.000	0.001	-	
Activities / Facilities	Pearson correlation	0.731**	-0.162**	0.582**	-
	Sig. (two-tailed)	0.000	0.000	0.000	-

** Correlation significant at the 0.01 level (two-tailed)
Sig, significance.

TABLE 2: **FACTOR ANALYSIS OF SENSE OF COMMUNITY ITEMS**

Items	Factor 1: University Cultures	Factor 2: Loneliness and Stress	Factor 3: Relationship with Staff	Factor 4: Activities or Facilities
I am proud of this institution's history and heritage	**0.877**			
I am satisfied with the overall quality of instruction on campus	**0.728**			
I feel accepted as part of the campus community	**0.708**			
Students care about each other	**0.702**			
There is an environment for free and open expression of ideas/opinions/beliefs	**0.618**			
Student structures like the SRC (student council) help/helped to lead the community on campus	**0.608**			
I feel valued as a person	**0.598**			
Different cultural communities participate in each other's events	**0.540**			-0.335
The institution's traditions and celebrations play an important role in my life as a student	**0.432**			-0.342
Friends share my interest and values	**0.405**			
There is a clear sense of appropriate and inappropriate behaviour on campus	**0.344**		-0.280	
I often felt under a lot of stress during my time on campus		**0.810**		
I have felt lonely on campus		**0.731**		
My social interactions are largely confined to students of my race/ethnicity		**0.536**		
University staff (like lecturers) are accessible to me when I seek help			**-0.879**	
University staff care about students			**-0.756**	
Students and university staff are engaged in teaching and learning			**-0.731**	
I would seek/sought the assistance of university staff in case of an emergency			**-0.560**	
There are opportunities to interact with people from different backgrounds			-0.427	**-0.325**
I am satisfied with the range of extracurricular activities and recreational sport programmes				**-0.751**
I am/was satisfied with the recreational sport programmes and activities at the university				**-0.747**
There is/was opportunity to interact with other people on campus				**-0.611**
My experience participating in campus activities has been/was positive	0.346			**-0.540**
Being part of campus activities will raise my awareness of campus resources			-0.445	**-0.497**
Recreational sport programmes effectively foster positive relationships among different cultural communities				**-0.394**
Cronbach α	0.91	0.54	0.80	0.83
Mean	3.75	3.30	3.99	3.89
Standard deviation	0.76	0.89	0.70	0.65

Factor loadings <0.3 were suppressed.
Extraction method: principal component analysis.
Rotation method: oblimin with Kaiser normalisation.

ANOVA and independent sample *t*-test results

The four sense of community factors were used to determine if there were demographic differences in the sample group. To examine for differences between male and female students in the four factors, independent *t*-test was used (see Table 3) and found statistically significant differences ($p \leq 0.05$) between male and female students for the factors Loneliness and Stress and Activities or Facilities (Table 3). The results implied that female students experienced higher levels of loneliness and stress (mean [*M*]=3.38; *SD*=0.87) than male students, while male students had more positive experiences of activities or facilities (*M*=3.94; *SD*=0.61).

TABLE 3: **T-TEST RESULTS FOR SENSE OF COMMUNITY ACCORDING TO GENDER**

Factor	Gender	*N*	*M*	*SD*	*p*-value	*d*
University Culture	Male	281	3.77	0.74	0.469	0.06
	Female	300	3.72	0.76		
Loneliness and Stress	Male	281	3.20	0.89	0.022*	0.19
	Female	300	3.37	0.87		
Relationship with Staff	Male	281	3.98	0.71	0.888	0.01
	Female	300	3.99	0.69		
Activities or Facilities	Male	281	3.94	0.61	0.028*	0.17
	Female	300	3.83	0.685		

Notes:
(1) Means based on a five-point Likert scale 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
(2) Original scale reverse items were changed for better comprehension.
(3) Small effect size: *d*=0.3; medium effect size: *d*=0.5; large effect size: *d*=0.8.

*Statistical significance: $p \leq 0.05$
M, mean; *d*, effect size; *SD*, standard deviation.

According to the ANOVA results shown in Table 4, three of the sense of community factors had an overall statistical difference ($p \leq 0.05$) among the racial groups, and the exception was Relationship with Staff ($p=0.559$). Post hoc analysis found that white students (*M*=3.96, SD=0.64) had a more positive experience ($p \leq 0.05$) with University Culture than black African students (*M*=3.41, SD=0.80) and students in the Other race group (*M*=3.51, SD=0.88). Additionally, white students (*M*=3.97, SD=0.58) had a more positive experience ($p \leq 0.05$) of Activities or Facilities than students in the Other race group (such as Indian or Asian) (*M*=3.57, SD=0.90). Post hoc analysis found no significant difference between any race group and Loneliness and Stress as a component of sense of community.

Results from the ANOVA (Table 5) indicated an overall statistical difference ($p \leq 0.05$) among residential types for two of the four sense of community factors, University Culture ($p \leq 0.001$) and Activities or Facilities ($p \leq 0.001$). Post hoc analysis found that students who lived privately (*M*=3.62, SD=0.77) had a less positive experience ($p \leq 0.05$) of University Culture than students who lived in campus residences (*M*=3.92, SD=0.72) and students affiliated with town residences (*M*=4.00, SD=0.61). Similarly, students who lived privately (*M*=3.80, SD=0.68) had a less positive experience of Activities or Facilities ($p \leq 0.05$) than student who lived in

campus residences (*M*=4.01, SD=0.59) and students affiliated with town residences (*M*=4.07, SD=0.53). No differences were found in terms of the nationality of students in the community factors (see Table 6).

TABLE 4: **ANOVA AND TUKEY POST HOC MULTIPLE COMPARISON RESULTS FOR SENSE OF COMMUNITY ACCORDING TO RACE GROUP**

Factor		*N*	*M*	*SD*	*p*-value	F-ratio
University Culture	Other	16	3.51[b]	0.88	0.000*	24.854
	Black African	194	3.41[b]	0.80		
	Coloured	37	3.67[c]	0.71		
	White	334	3.96[a]	0.64		
Loneliness and Stress	Other	16	3.20	1.03	0.031*	2.990
	Black African	194	3.40	0.86		
	Coloured	37	3.52	0.92		
	White	334	3.20	0.88		
Relationship with Staff	Other	16	3.96	0.87	0.559	0.689
	Black African	194	4.04	0.72		
	Coloured	37	3.89	0.74		
	White	334	3.97	0.67		
Activities or Facilities	Other	16	3.57[b]	0.90	0.002*	5.049
	Black African	194	3.77[c]	0.71		
	Coloured	37	3.84[c]	0.66		
	White	334	3.97[a]	0.58		

Notes:
(1) Means based on a five-point Likert scale 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
(2) Original scale reverse items were changed for better comprehension.
(3) Means similarly indicated (a, b, c) are not significantly different from each other.

*Statistical significance: $p \leq 0.05$
M, mean; *SD*, standard deviation.

TABLE 5: **ANOVA AND TUKEY POST HOC ANALYSIS MULTIPLE COMPARISON RESULTS FOR SENSE OF COMMUNITY ACCORDING TO RESIDENTIAL TYPE**

Factor		*N*	*M*	*SD*	*p*-value	F-ratio
University Culture	Campus	169	3.92[a]	0.72	0.000*	12.625
	Town	54	4.00[a]	0.61		
	Private	358	3.62[b]	0.77		
Loneliness and Stress	Campus	169	3.23	0.87	0.462	0.774
	Town	54	3.26	0.99		
	Private	358	3.33	0.87		
Relationship with Staff	Campus	169	3.95	0.68	0.559	0.582
	Town	54	4.07	0.62		
	Private	358	3.99	0.72		
Activities or Facilities	Campus	169	4.01[a]	0.59	0.000*	8.355
	Town	54	4.07[a]	0.53		
	Private	358	3.80[b]	0.68		

Notes:
(1) Means based on a five-point Likert scale 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
(2) Original scale reverse items were changed for better comprehension.
(3) Within each row, means with the same letter in their superscript are not significantly different from each other.

*Statistical significance: $p \leq 0.05$.
M, mean; *SD*, standard deviation.

TABLE 6: **T-TEST RESULTS FOR SENSE OF COMMUNITY ACCORDING TO NATIONALITY**

Factor		*N*	*M*	*SD*	*p*-value	*d*
University Culture	South African	547	3.76251	0.74670	0.156	0.25
	Non-South African	34	3.53209	0.90747		
Loneliness and Stress	South African	547	3.29250	0.88224	0.727	0.06
	Non-South African	34	3.35294	0.97767		
Relationship with Staff	South African	547	3.98903	0.70880	0.588	0.09
	Non-South African	34	4.05147	0.64191		
Activities or Facilities	South African	547	3.90154	0.63616	0.151	0.26
	Non-South African	34	3.68067	0.86294		

Notes:
(1) Means based on a five-point Likert scale 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
(2) Original scale reverse items were changed for better comprehension.
(3) Small effect size: d=0.3; medium effect size: d=0.5; large effect size: d=0.8.

*Statistical significance: $p \leq 0.05$
M, mean; *d*, effect size; *SD*, standard deviation.

Respondents were asked to indicate if they participate in any recreational sport activities. Twelve percent of respondents indicated that they do not participate in recreational sport activities, 9.4% occasionally participated in recreational sport (four times or less a month), 10.4% participated often (more than four times, but less than eight times a month) and 80.3% participated very often (more than eight times a month). After removing the nonparticipants, the remaining 512 students in the sample were 51% male and 49% female. The recreational sport participants were predominantly white (61.5%), while 29.9% were black African, 5.9% were Coloured and 2.7% were from other races such as Indian or Asian. Thirty percent resided on campus, 10.5% were associated with town residences and 59.4% lived privately.

Respondents were also asked to indicate in which activities they participate from a list of 60 recreational sport activities. These were grouped into six categories: main sport codes, additional sport codes, and group, outdoor, dance and exercise activities. To provide the sampled university with valuable information on the popularity and relevance of their main and additional sport codes, the specific activities were grouped together. Main sport codes included the official university sports which are athletics, soccer, hockey, netball, cricket, rugby and tennis. The additional sport codes, also administered by the university but not seen as priority sports, included aerobics, badminton, basketball, competitive chess, gala swimming, golf, gymnastics, judo, karate, kayaking, open water swimming, ringball, road triathlon, softball, squash, table tennis, tae kwon do and volleyball. The remaining activities were not offered and administrated by the university, but were available in the surrounding campus area and were divided into four categories. Group activities included sevens and touch rugby, action cricket, action hockey and action netball, indoor hockey and soccer, mixed martial arts, and off-road running and triathlon. Outdoor activities included adventure-related activities, hiking, mountain biking, paintball, rock climbing, warrior racing, water skiing, road cycling and road running, archery, target shooting, chip and putt, putt-putt and swimming for fun. Dance activities included ballet, ballroom, modern and social dancing, as well

as tap. The final category comprised exercise-related activities, such as bodybuilding, CrossFit™, general exercise, jogging, Pilates and yoga.

Results from correlations

The correlations between the level of participation in each of the six groups of recreational sport and the four sense of community factors are illustrated in Table 7. From the Spearman's rank order correlation analysis, the following statistically significant correlations were found. University Culture (r=0.141, p=0.001) and Activities or Facilities (r=0.184, p<0.001) were, to a small degree, positively related to the level of participation in the main sport code activities of the university. The same positive correlation, although small, was found between University Culture (r=0.184, p<0.001; r=0.119, p=0.004) and Activities or Facilities (r=0.137, p=0.001; r=0.136, p=0.001) and the level of participation in the additional sport code and group activities. While University Culture (r=0.216; p<0.001) and Activities or Facilities (r=0.141, p=0.001) also had a positive relationship with the level of participation in outdoor activities, Loneliness and Stress (r=-0.117, p=0.005) was negatively related to outdoor activity participation. University Culture (r=0.130, p=0.002) was positively related to participation in dance activities. University Culture (r=0.113, p=0.006) was positively related to the level of participation in exercise activities, as well as Activities or Facilities (r=0.094, p=0.024). Average participation indicated that University Culture (r=0.229, $p\leq0.001$) and Activities or Facilities (r=0.211, $p\leq0.001$) were positively related to the frequency that students participated in recreational sport, while Loneliness and Stress (r=-0.104, p=0.012) was negatively related to frequency of participation.

TABLE 7: **SPEARMAN CORRELATION OF THE FACTORS RELATED TO SENSE OF CAMPUS COMMUNITY AND FREQUENCY OF PARTICIPATION**

Frequency of participation		University Culture	Loneliness and Stress	Relationship with Staff	Activities or Facilities
Main sport codes	Correlation coefficient	0.141**	-0.044	0.001	0.184**
	Sig. (two-tailed)	0.001	0.295	0.977	0.000
Additional sport codes	Correlation coefficient	0.184**	-0.048	-0.037	0.137**
	Sig. (two-tailed)	0.000	0.250	0.379	0.001
Group activities	Correlation coefficient	0.119**	-0.069	0.028	0.136**
	Sig. (two-tailed)	0.004	0.097	0.495	0.001
Outdoor activities	Correlation coefficient	0.216**	-0.117**	0.038	0.141**
	Sig. (two-tailed)	0.000	0.005	0.367	0.001
Dance activities	Correlation coefficient	0.130**	0.038	-0.006	0.068
	Sig. (two-tailed)	0.002	0.357	0.879	0.099
Exercise activities	Correlation coefficient	0.113**	-0.035	0.013	0.094*
	Sig. (two-tailed)	0.006	0.394	0.747	0.024
Total	Correlation coefficient	0.229**	-0.104*	0.025	0.211**
	Sig. (two-tailed)	0.000	0.012	0.542	0.000

Note: Correlation coefficient = *r;* Sig. (two-tailed) = *p*

** Correlation significant at the 0.01 level (two-tailed)

* Correlation significant at the 0.05 level (two-tailed)

Binary logistic regression results

A binary logistic regression analysis (with odds ratios) was conducted to determine whether students' choice (yes or no) to participate in the six groups of recreational sport activities could be predicted by the four factors extracted by the EFA (see Table 8). An additional binary logistic regression analysis (odds ratios) was conducted to determine whether the four sense of community factors predicted whether students chose to participate in recreational sport (see Table 9). Odds ratios significantly greater than 1.0 show an increase in the odds of an outcome of '1', whereas odds ratios less than 1.0 show a decrease in the odds of that outcome (Menard, 2002).

The results indicated that the more students positive experienced or satisfied they were with the Activities or Facilities of the university (Wald=7.15; Exp(beta)=1.79; p=0.007), the more likely they were to participate in the main sport codes of the university (Table 8). Additionally, the more students felt that that they were valued and cared for by their peers (Wald=6.91; Exp(beta)=1.66; p=0.009), the more likely they were to participate in the additional sport codes of the university. The more students felt that university staff were accessible and cared about the students (Wald=9.11; Exp(beta)=0.58; p=0.003), the less likely students were to participate in the additional sport codes of the university.

For outdoor and dance activities, the only statistically significant predictor was a positive perception of the campus culture, which included relationships with other students. In particular, the more students felt that they could participate in events with students from other cultures and the freer they felt to be themselves among their peers, the more likely they were to participate in outdoor (Wald=13.23; Exp(beta)=2.05; p<0.001) and dance (Wald=9.32; Exp(beta)=2.1; p=0.002) activities. There were no statistically significant results for group or exercise activities.

The results of the second binary logistic regression analysis (Table 9) indicated that the more positive experiences they had or satisfied students were with the Activities or Facilities of the university (Wald=6.14; Exp(beta)=2.07; p=0.013), the more likely students were to participate in recreational sport. Students who felt more positive about the recreational sport activities or facilities were twice as likely to participate in recreational sports. The results also indicated that the better students perceived their relationship with the university staff (Wald=4.08; Exp(beta)=0.62; p=0.043), the less likely they were to participate in recreational sport. It should be noted that a suppressor effect might have emerged in predicting recreational sport participation.

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TABLE 8: **RESULTS OF BINARY LOGISTIC REGRESSION FOR PREDICTING TYPE OF ACTIVITY**

Predicted variables	Main sport codes		Additional sport codes		Group activities		Outdoor activities		Dance activities		Exercise activities	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
University Culture	0.89	0.62-1.30	1.66**	1.13-2.43	1.05	0.69-1.59	2.05***	1.39-3.02	2.18**	1.32-3.61	1.35	0.90-2.03
Loneliness and Stress	0.959	0.78-1.17	1.01	0.82-1.23	0.93	0.75-1.17	0.85	0.69-1.04	1.25	0.97-1.60	1.14	0.91-1.43
Relationship with Staff	0.71	0.51-1.01	0.58**	0.41-0.82	0.84	0.58-1.24	0.76	0.54-1.07	0.74	0.48-1.13	0.81	0.55-1.17
Activities or Facilities	1.79**	1.16-2.75	1.10	0.72-1.68	1.40	0.87-2.25	0.70	0.46-1.07	0.76	0.44-1.30	0.77	0.49-1.23

OR, odds ratio; CI, confidence interval.
**p<0.01. ***p<0.001.

TABLE 9: **RESULTS OF BINARY LOGISTIC REGRESSION FOR PREDICTING PARTICIPATION**

	Choosing to participate in recreational sport participation					
					95% CI	
Predicted variables	***β***	**Wald**	**Sig.**	**Exp(*β*)**	**Lower**	**Upper**
University Culture	0.38	2.26	0.132	1.47	0.88	2.44
Loneliness and Stress	-0.13	0.78	0.375	0.87	0.64	1.18
Relationship with Staff	-0.46	4.08	0.043*	0.62	0.40	0.98
Activities or Facilities	0.72	6.14	0.013*	2.07	1.16	3.69

Exp(*β*), expected beta; CI, confidence interval; Sig, significance.
*p<0.05.

DISCUSSION

The benefits associated with campus activities are well documented in international literature (Huesman, Brown, Lee, Kellogg, & Radcliffe, 2009; Belch, Gebel, & Maas, 2001), and some international research has examined the contribution of recreational sport participation to students' sense of campus community (Elkins *et al*., 2011; Cheng, 2004). However, no such research has been carried out in the South African context. The purpose of this study was to examine the contribution of recreational sport participation to students' perceived sense of community on a South African university campus.

Using an adapted version of Cheng's (2004) sense of community scale, an EFA produced four factors related to campus sense of community that we named as follows: University Culture (relationship with other students), Loneliness and Stress, Relationship with (university) Staff, and Activities or Facilities. Considering the uniqueness of every university campus, and of the South African setting, it is not surprising that the four factors we extracted differed somewhat to those of Cheng (2004) and Elkins *et al*. (2011). The factor indicated by students to contribute most to sense of community was Relationship with Staff. The items loaded on this factor included: 'university staff (like lecturers) care about students', 'students and university staff are engaged in teaching and learning', 'university staff are accessible to me when I seek their help,' and 'I would seek the assistance of university staff in case of an emergency'. The finding is supported by Cheng (2004), who suggests that the mutual commitment to teaching and learning by both university staff and students is the most important principle of community on campus. Spitzberg and Thorndike (1992) further add that the interaction between students and university staff can be seen as the heart of the campus community and cannot be substituted.

The results also suggest that the more satisfied students were with their relationship with other students and the university staff, the less lonely and stressed they felt. These findings agree with Boyer's (1990) findings that although students live together and attend classes together, they may still feel isolated from their fellow students. According to Cheng (2004), feeling lonely on campus has the strongest negative influence on students' perceived sense of community. When transitioning to university, students often leave their support structures behind and it is important that students find new support structures among friends and staff on campus (Rodriguez & Gamble, 2010). Wright, Rosenberg, Egbert, Ploeger, Bernard and King (2013) suggest that an increase in social support will make students feel cared for and that they have someone to assist when they need help. Social support also decreases depression, which affects a number of university students and is related to significant academic problems (Villatte, Marcotte & Potvin, 2017; Rodriguez & Gamble, 2010). Positive social interaction is important to students and it is through activities such as recreational sport that students have the opportunity to develop companionship and friendships (Coleman & Iso-Ahola, 1993). Diener and Seligman (2002) determined that students who are highly social and form stronger social relationships are much happier. Research by Artinger, Clapham, Hunt, Meigs, Milord, and Sampson *et al*. (2006) found that recreational sport participation is socially motivated and by participating

in recreational sport, not only will students meet people with the same interests as them, but they will also have the opportunity to engage with students from different backgrounds.

The results indicated certain differences in the four factors among different demographic groups. Female students experienced higher levels of loneliness and stress than male students. Kim (2001) found similar results, while in contrast, research by Booth (1983) found that men feel lonelier than women, although Booth's study is now somewhat dated. It should, however, be noted that although the feeling of loneliness may not be predicted by gender, leisure constraints and gender may determine the activities female students prefer, as well as why they may choose not to participate (Weilbach, 2013; Jackson & Henderson, 1995), which may influence their experience of loneliness. We found that male students had significantly more positive perceptions of the recreational sport activities or facilities on campus. Reed and Ainsworth (2007) suggests that awareness of recreational sport activities and facilities is based more on environmental factors than students being biologically male or female. In his research, Reed and Ainsworth (2007) found that female students were less aware of recreational sport activities or facilities than male students, due to where they lived. Literature also indicates that men are greater users of campus recreation facilities (Miller, Noland, Rayens, & Staten, 2008; Keating, Guan, Pinero, & Bridges, 2005), which also suggests that their perceptions of activities or facilities may be different to those of women. Moreover, Suttikun and Chang (2016) found a significant relationship between students' satisfaction with recreation facilities and their involvement in recreation activities. It thus makes sense that if men are more active participants in recreational sport activities, they may have a different perception of the usefulness of the resources available.

Our results also suggest that students who live privately feel less positive about their relationships with other students and the recreational sport activities or facilities available than students who live on campus or who are associated with town residences. In the South African context, Weilbach's (2013) study indicates that students living privately experience more structural constraints to leisure participation than students living on campus. It is possible that students who live privately might not have as easy access to university activities or facilities as students living on campus, and therefore feel that the activities provided by the university are exclusive to campus and town residences. This would not, therefore, foster positive relationships among students. Their dissatisfaction with the range of activities offered by the university could force them to seek opportunities to participate off campus. While the impression that students will look for alternative ways to participate might be positive, the chance that it will be with people with the same background is highly possible, which does not necessarily contribute to cultural integration and acceptance. Another reasonable explanation to the findings can be found in Gray's microcosm, in that the students who live privately form smaller communities and only the members of the society feel a sense of belonging within their microcosm (Gray, 2010). According to Evans, Forney, Guido, Patton and Renn (2009), sense of involvement increases if students have more opportunity to be involved in recreational sports, which in turn increases their sense of community (Kampf & Teske, 2013).

Our study results suggested that white students experienced more positive relationships with other students than black African students and students from other races, but not Coloured students. Examining campus diversity, Bourke (2010) recognised that structural diversity alone will not transform campuses. While structural diversity allows for equal access to university regardless of students' or staff's gender, race, ethnicity and religion, when the percentages of minority groups are small, students from these groups may feel less valued and part of the campus community than the larger population groups on campus (Sears & Lane, 2016; Hurtado, Milem, Clayton-Pedersen and Allen, 1999). That white students felt that students care more about each other and that they were more satisfied with the traditions on campus than students from other races is not surprising, since literature suggests that on a predominantly white campus, the celebration of tradition lacks diversity, expressing *whiteness* (Higham, 2012; Bourke, 2010). In a South African study, Highan (2012) found that for many South African students, friendships across racial divides remain difficult. Higham (2012) referred to friendships between black African and white students who share a Eurocentric orientation and could afford similar interests, while poorer black students continue to experience certain exclusions. Similarly, research by Ostrove and Long (2007) found that sense of belonging was strongly related to students' social-class background. South African universities have seen an increase in students from different backgrounds, including different social classes. An article by Kaufman (2001) highlights that on a university campus, cell phones, laptops and accommodation type are visible indicators of social class. According to Govender (2017), the number of students needing assistance from government funding initiatives such as the National Student Financial Aid Scheme will increase, as well as the number of students belonging what is known as the *missing middle,* who are unable to fund their own tuition but are not poor enough to qualify for government funding. The provision of funding by stakeholders (government, university and private) may provide opportunity for as many South Africans as possible to enter tertiary institutions, but getting students onto campus seems to become a means to an end rather than an end in itself in terms of fostering community.

Recreational sport activities or facilities were more important contributors to sense of community according to white students but not Coloured or black African students, when compared with Asian and Indian students. Stereotyping of recreational sport preference and ability is often applied to students from the same race group. Bourke (2010) found that, although their intentions were not harmful, white students would, solely based on stereotype, ask African-American students to participate with them only when they played basketball, even if a black student had no interest in basketball. Indian and Asian students comprised a small section of the campus population in our study, and their dissatisfaction with activities or facilities may relate to a lack of information about their recreational interests, or to religious and cultural constraints.

Some interesting results were found when we examined the relationship between the different types of recreational sport in which students participate and the four sense of community factors. The main and additional sport codes had positive correlations with the factors University Culture and Activities or Facilities. Because the university makes provision for participation (activities and facilities) in the sport

codes maintained by them, it is reasonable that students feel more positive or satisfied with increased participation in the main and additional sport codes. The findings are supported by Miller, Noland, Rayens and Staten (2008), who suggested that frequent use of recreational sport facilities and activities increases students' satisfaction. The binary logistic regression analysis also indicated that the more positive their experiences or the more satisfied students were with the activities or facilities of the university, the more likely they were to participate in the main sport codes of the university. Additionally, the more students felt valued and cared for by their peers the more likely they were to participate in additional sport codes. But then again, the more students felt that university staff were accessible and cared about the students the less likely students were to participate in the additional sport codes of the university.

Other results suggested that students who participated in outdoor activities were less likely to experience loneliness and stress, while participation in dance activities related positively to positive relationships with other students on campus. The results also indicated that the more students felt able to participate in activities with students from diverse cultures and the more they felt free to be themselves among their peers, the more likely students were to participate in outdoor and dance activities. According to Edginton, Hanson, Edginton and Hudson (2004), dance activities are a form of human expression that provide the opportunity to transmit culture as well as express emotions. Although the list of outdoor activities is endless, the relief and relaxation they bring to the participant is valuable, especially in the crowded environment of a university campus (Edginton *et al*., 2004).

The level of participation in all groups of recreational sport activities had a positive relationship with university culture, which included relationships with other students, as well as with the activities offered and the university facilities. However, participation had a negative relationship with loneliness and stress. Similarly, Elkins *et al*. (2011) found that stress and loneliness could be significantly reduced by participation in recreational sport. Other fascinating results related to the four factors' ability to predict recreational sport participation. Students' perceptions about activities or facilities and their relationship with staff were strong predictors of recreational sport participation. Students who felt positive about the activities or facilities were twice as likely to participate in recreational sport, while the more positive students felt about their relationship with staff the less likely they were to participate in recreational sport. Because this study focused on the contribution of recreational sport participation to the perceived sense of community, the latter finding is worrying. Since the relationship with staff plays a crucial role in students' sense of community on campus, it is necessary to understand why improving this relationship could negatively influence students' choice to participate in recreational sport. The suppression effect should also be considered as a possible explanation for this finding and requires further investigation (Cohen, Cohen, West & Aiken, 2013).

In an effort to understand the dynamics between the institution and the student, Kahu (2013) proposes that universities take an ontological turn and engage the student as a *whole person*. Students transition not only

from school to university, but also pass through the emerging adulthood phase, during which they may experience identity struggles (Mann, 2001). Students may not perceive themselves as adults (Arnett, 2000), and their perception of the role of university staff may be authoritarian, rather than supportive.

Boyer (1990) suggested that universities no longer have the role of parental substitutes, and should rather be supporting the developmental changes that students, as emerging adults, undergo (Zarrett & Eccles, 2006). Unfortunately, the modern university culture is sometimes viewed as three separate communities – the student, the teachers and the administrators (Matthews, 1997). Cheng (2004) supported this statement, adding that universities have been the least successful in the practical aspect of engaging students and lecturers in teaching and learning, in and out of class. Campus community cannot be built by only depending on classroom interactions (Wiley, 2002). Both Boyer (1990) and Zarrett and Eccles (2006) proposed that university responsibilities should not be limited to academic support, but also to supporting participation in extracurricular activities such as recreational sport. Entering into positive relationships with university staff should not limit students from a having a balanced university life (Boyer, 1990). University students might experience an initial culture shock when entering university, even more so students from ethnic minorities (Johnson, Soldner, Leonard, Alvarez, Inkelas, Rowan-Kenyon & Longerbeam, 2007) entering an institution where most of the student and staff population are from the same background (in the case of a previously white-Afrikaans university) (Jansen, 2004).

Students from differing backgrounds to university staff may find it more difficult to ask for assistance or have difficulty feeling valued when they fear that staff may have negative perceptions of their racial group (Furr & Elling, 2002). The university staff are the key driving force behind transformation on campus and it is important to consider that students' relationship with staff may be influenced by race (Lundberg & Schreiner, 2004).

LIMITATIONS AND FUTURE STUDIES

We identified certain limitations. We used a quantitative measure to gain knowledge about students' perceived sense of community, and although the use of an online survey made accessibility to a large population possible, it could only provide a general indication of students' interpretation of the survey items. Although this study was the first of its kind in South Africa, it is recommended that a qualitative approach should be taken for delving deeper into the topic. Another limitation was the relatively small sample size of students who were willing to participate in the study, which may have resulted in bias from students' predetermined views on the topic. In order to increase the response rate, a modified Dillman approach can be used in the future with could include follow-up messages to remind participants about the survey. Using only one campus population also limited the study comparability and generalisation of results. Research on more campuses would enable comparison between universities and facilitate more accurate information on students' perceived sense of community. The adaptation of survey items is needed to adjust terminology and context to South Africa and the unique setting and culture of each university campus, which in turn makes comparability to international research problematic.

CONCLUSION

The purpose of this study was to provide insight into the contribution of recreational sports participation to university students' sense of community in the South African setting. As a first of its kind in South Africa, the results provide valuable information for universities, enabling the use of recreational sport in building a strong sense of community among a diverse student population. Sense of community is affected by demographics and activity types, and it is suggested that recreational sport programmes are more intentional when planning. An awareness of the influence of participation in recreational sport on students' sense of community will not only help with planning, but also with the marketing of activities. In addition, university efforts to increase students' sense of community through provision of recreational sport are a potential marketing tool to prospective students.

The important role of activities and facilities in fostering sense of community was a recurring topic throughout the study. Universities need to explore recreational sport activities that might have been overlooked as main or additional sport codes, such as nonvarsity sports that might have a greater impact on increasing students' sense of community. While the university's main and additional sport codes may appear to provide activities that cater for diversity, the real question is whether such provision is based on information about preference or on stereotyping. The location, state and accessibility of facilities need to be revisited, as well as their activity counterparts. Improved functionality and quality of campus-based facilities is the first step in attracting more students, on and off campus, to participate in activities in the same location. Examining the formats in which activities are available is also important. Including open formats that do not only include teams from campus or town residences may provide the opportunity for more students to participate in activities on campus. The quality of activities and facilities offered by the university, as means of increasing sense of community, should uphold the quality and trendiness of private establishments, therefore retaining the interest of students who could otherwise afford better, in returning and using campus facilities alongside other students.

Rarely do universities have the opportunity for a new beginning. Building new traditions that include all students is an important element in shaping students' sense of community. This does not mean that the history and heritage of a university should be forgotten, but students should have the opportunity to include their own heritage, culture and beliefs in campus traditions. Celebrating diversity on campus is not merely about having a diverse student population, but is also about social integration. Through meaningful programming, recreational sport activities can provide a basis for such social integration. Finally, finding ways to enhance student-staff relationships out of the classroom would enhance students' learning experiences. Sport day initiatives would provide an opportunity for students and staff to participate in recreational sport activities together in an informal, fun setting. Making the sport and leisure facilities accessible to staff would also increase staff presence among students, away from the classroom.

REFERENCES

ALLAIS, S. (2017). Towards measuring the economic value of higher education: Lessons from South Africa. *Comparative Education*, 53(1): 47-163.

ARNETT, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5): 469-480.

ARTINGER, L., CLAPHAM, L., HUNT, C., MEIGS, M., MILORD, N., SAMPSON, B. & FORRESTER, S.A. (2006). The social benefits of intramural sports. *Journal of Student Affairs Research and Practice*, 43(1): 69-86.

ASMAL, K. & JAMES, W. (2001). Education and democracy in South Africa today. *Daedalus*, 130(1): 185-204.

BELCH, H.A., GEBEL, M. & MAAS, G.M. (2001). Relationship between student recreation complex use, academic performance, and persistence of first-time freshmen. *NASPA Journal*, 38(2): 254-268.

BOOTH, R. (1983). An examination of college GPA, composite ACT scores, IQs, and gender in relation to loneliness of college students. *Psychological Reports*, 53(2): 347-352.

BOURKE, B. (2010). Experiences of black students in multiple cultural spaces at a predominantly white institution. *Journal of Diversity in Higher Education*, 3(2): 126-135.

BOYER, E. (1990). *Campus life: In search of community*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

CHENG, D.X. (2004). Students' sense of campus community: What it means, and what to do about it. *Journal of Student Affairs Research and Practice*, 41(2): 415-433.

CHENG, D.X. (2005). Assessing Students' Perceptions of Campus Community: A Focus Group Approach. *Association for Institutional Research*, 95, 1-11.

COHEN, J., COHEN, P., WEST, S.G. & AIKEN, L.S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

COHEN-KATZ, J.L., MILLER, W.L. & BORKAN, J.M. (2003). Building a culture of resident well-being: Creating self-reflection, community, & positive identity in family practice residency education. *Families, Systems, & Health*, 21(3): 293-304.

COLEMAN, D. & ISO-AHOLA, S.E. (1993). Leisure and health: The role of social support and self-determination. *Journal of Leisure Research*, 25(2): 111-128.

COOK, C., HEATH, F. & THOMPSON, R.L. (2000). A meta-analysis of response rates in web- or internet-based surveys. *Educational and Psychological Measurement*, 60(6): 821-836.

COSTA, C.A., CHALIP, L., GREEN, B.C. & SIMES, C. (2006). Reconsidering the role of training in event volunteers' satisfaction. *Sport Management Review*, 9(2): 165-182.

CRAWFORD, S.D., COUPER, M.P. & LAMIAS, M.J. (2001). Web surveys: perceptions of burden. *Social Science Computer Review*, 19(2): 146-162.

DEPARTMENT OF HIGHER EDUCATION AND TRAINING (DHET). (2015). Annual Report: 2015/16 Financial Year, Pretoria: Department of Higher Education and Training.

DIENER, E. & SELIGMAN, M.E. (2002). Very happy people. *Psychological Science*, 13(1): 81-84.

EDGINTON, C.R., HANSON, C.J., EDGINTON, S. & HUDSON, S.D. (2004). *Leisure programming: A service-centered and benefits approach.* (4th ed). New York, NY: McGraw-Hill.

ELKINS, D.J., FORRESTER, S.A. & NOËL-ELKINS, A.V. (2011). The contribution of campus recreational sports participation to perceived sense of campus community. *Recreational Sports Journal*, 35(1): 24-34.

EVANS, N.J., FORNEY, D.S., GUIDO, F.M., PATTON, L.D. & RENN, K.A. (2009). *Student development in college: Theory, research, and practice*. John Wiley & Sons.

FLANAGAN, C.A., CUMSILLE, P., GILL, S. & GALLAY, L.S. (2007). School and community climates and civic commitments: Patterns for ethnic minority and majority students. *Journal of Educational Psychology*, 99(2): 421-431.

FURR, S.R. & ELLING, T.W. (2002). African-American students in a predominantly-white university: Factors associated with retention. *College Student Journal*, 36(2): 188-203.

GOVENDER, S. (2017). NSFAS funds 67 875 first-time students in 2017. *Herald live.* Hyperlink: [http://www.heraldlive.co.za/news/2017/02/09/nsfas-funds-67-875-first-time-students-2017/] Retrieved on 6 June 2017.

GRAY, H.J. (2010). *Campus and Community. Dimensions of Leisure for Life.* Champaign, IL: Human Kinetics.

HIGHAM, R. (2012). Place, race and exclusion: university student voices in post-apartheid South Africa. *International Journal of Inclusive Education*, 16(5-6): 485-501.

HOLT, D.B. (1995). How consumers consume: A typology of consumption practices. *Journal of Consumer Research*, 22(1): 1-16.

HUESMAN, R., BROWN, A.K., LEE, G., KELLOGG, J.P. & RADCLIFFE, P.M. (2007). Modeling student academic success: Does usage of campus recreation facilities make a difference. In the *national symposium on student retention* (pp. 1-13). Proceedings of "The National Symposium on Student Retention" 24-26 September 2007. Milwaukee.

HURTADO, S., MILEM, J., CLAYTON-PEDERSEN, A., & ALLEN, W. (1999). Enacting diverse learning environments: Improving the climate for racial/ethnic diversity in higher education. *ASHE-ERIC Higher Education Report,* 26(8): 3-133.

JACKSON, E.L. & HENDERSON, K.A. (1995). Gender-based analysis of leisure constraints. *Leisure Sciences*, 17(1): 31-51.

JANSEN, JD. (2004). Changes and Continuities in South Africa's higher education system, 1994-2004. In Chisholm, L. (ed.). *Changing class. Education and social change in post-apartheid South Africa*. (pp. 293-314). Cape Town: HSRC Press.

JOHNSON, D.R., SOLDNER, M., LEONARD, J.B., ALVAREZ, P., INKELAS, K.K., ROWAN-KENYON, H.T. & LONGERBEAM, S.D. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development*, 48(5): 525-542.

KAHU, E.R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, 38(5): 758-773.

KAMPF, S. & TESKE, E.J. (2013). Collegiate recreation participation and retention. *Recreational Sports Journal*, 37(2): 85-96.

KAUFMAN, J. (2001). "Campus currency: At elite universitites, a culture of money highlighs class divide. *Wall Street Journal*, June 8, A1.

KEATING, X.D., GUAN, J., PIÑERO, J.C. & BRIDGES, D.M. (2005). A meta-analysis of college students' physical activity behaviors. *Journal of American College Health*, 54(2): 116-126.

KIM, O. (2001). Sex differences in social support, loneliness, and depression among Korean college students. *Psychological Reports*, 88(2): 521-526.

LUNDBERG, C.A. & SCHREINER, L.A. (2004). Quality and frequency of faculty-student interaction as predictors of learning: An analysis by student race/ethnicity. *Journal of College Student Development*, 45(5): 549-565.

MANN, S.J. (2001). Alternative perspectives on the student experience: Alienation and engagement. *Studies in Higher Education*, 26(1): 7-19.

MATTHEWS, A. (1997). *Bright college years: Inside the American campus today.* New York, NY: Simon & Schuster.

MCMILLAN, D.W. (1996). Sense of community. *Journal of Community Psychology*, 24(4): 315-325.

MCMILLAN, D.W. & CHAVIS, D.M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14(1): 6-23.

MENARD, S. (2002). *Applied logistic regression analysis: quantitative applications in the social sciences*. (2nd ed). Thousand Oaks, CA: Sage.

MILLER, K.H., NOLAND, M., RAYENS, M.K. & STATEN, R. (2008). Characteristics of users and nonusers of a campus recreation center. *Recreational Sports Journal*, 32(2): 87-96.

MOKGALA, T. (2003). Mbeki meets HE group. Hyperlink: [http://protea.botany.uwc.ac.za/epu/ news/]. Retrieved on 6 June 2017.

MONAMA, T. (2013). University Dropouts Outnumber Graduates. *Timeslive.* Hyperlink: [http://www.timeslive.co.za/thetimes/2013/08/22/universitydropouts-outnumber-graduates]. Retrieved on 6 June 2017.

NDELU, S. (2016). 'Liberation Is a Falsehood': Fallism at the University of Cape Town. *An analysis of the# FeesMustFall Movement at South African universities*, 58-82.

NUSSBAUM, M. C. (1997). *Cultivating humanity: A classical defense of reform in liberal education*. Cambridge, MA: Harvard University Press.

OSTROVE, J.M. & LONG, S.M. (2007). Social class and belonging: Implications for college adjustment. *The Review of Higher Education*, 30(4): 363-389.

REED, J. & AINSWORTH, B. (2007). Perceptions of environmental supports on the physical activity behaviors of university men and women: a preliminary investigation. *Journal of American College Health*, 56(2): 199-204.

RODRIGUEZ, A. & GAMBLE, D.J. (2010). Leisure & quality of life. In Human Kinetics (Eds.),. *Dimensions of leisure for life*. (pp. 47-66). Champaign, IL: Human Kinetics.

SEARS, R. & LANE, T.B. (2016). Integrating diversity training into doctoral programs in mathematics education. *Transformations*, 1(1): 37-45.

SENNETT, J., FINCHILESCU, G., GIBSON, K. & STRAUSS, R. (2003). Adjustment of black students at a historically white South African university. *Educational Psychology*, 23(1): 107-116.

SMITH, D. (2013). South Africa's universities 'racially skewed'. *The Guardian.* Hyperlink: [http://www. theguardian.com/global-development/2013/aug/22/south-africauniversities-racially-skewed]. Retrieved on 6 June 2017.

SPITZBERG, I.J. & THORNDIKE, V.V. (1992). *Creating Community on College Campuses: Beyond the Cultural Politics of Enjoyment*. SUNY Press.

SUBOTZKY, G. & PRINSLOO, P. (2011). Turning the tide: A socio-critical model and framework for improving student success in open distance learning at the University of South Africa. *Distance Education*, 32(2): 177-193.

SUMBULU, A. & BOSWELL, G. (2003). Rapid change in a South African tertiary institution: Implications for occupational social work. *Social Work Education*, 22(5): 505-516.

SUTTIKUN, C. & CHANG, H.J. (2016). College Students' Satisfaction and Involvement With the Recreation Center Based on Perceived Service Quality: The Moderating Effects of Health and Weight Consciousness. *Recreational Sports Journal*, 40(2): 179-192.

TINTO, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1): 89-125.

VILLATTE, A., MARCOTTE, D. & POTVIN, A. (2017). Correlates of depression in first-year college students. *Canadian Journal Of Higher Education*, 47(1): 114-136.

WALKER, M. (2005a). Race is nowhere and race is everywhere: narratives from black and white South African university students in post-apartheid South Africa. *British Journal of Sociology of Education*, 26(1): 41-54.

WALKER, M. (2005b). Rainbow nation or new racism? Theorizing race and identity formation in South African higher education. *Race Ethnicity and Education*, 8(2): 129-146.

WEILBACH, J.T. (2013). The relationship between demographic variables and leisure perceptions of selected South African first year university students. Unpublished doctoral thesis. Potchefstroom, South Africa: North-West University.

WICKER, A.W. (1979). Ecological psychology: Some recent and prospective developments. *American Psychologist*, 34(9): 755-765.

WILEY, L. (2002). Review of W. M. McDonald and Associates (Eds.), Creating campus community: In search of Ernest Boyer's legacy. *Teachers College Record,* John Wiley & Sons.

WRIGHT, K.B. (2005). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3): 00-00.

WRIGHT, K.B., ROSENBERG, J., EGBERT, N., PLOEGER, N.A., BERNARD, D.R. & KING, S. (2013). Communication competence, social support, and depression among college students: a model of facebook and face-to-face support network influence. *Journal of Health Communication*, 18(1): 41-57.

YUEN, F.C., PEDLAR, A. & MANNELL, R.C. (2005). Building community and social capital through children's leisure in the context of an international camp. *Journal of Leisure Research*, 37(4): 494-518.

ZARRETT, N. & ECCLES, J. (2006). The passage to adulthood: Challenges of late adolescence. *New Directions for Student Leadership*, 2006(111): 13-28.

Chapter 6

Summary, conclusion and recommendations

6.1 INTRODUCTION

A lack of South African research focusing on campus-based leisure and recreation was evident throughout the literature review. Most campus-based leisure and recreation research has been limited to Western university campuses, and the extent to which this information can be applied to the South African context is uncertain. While the availability of South African leisure research into subtopics such as constraints and motivation has been increasing, only a handful of researchers have focused on South African university students. The diverse nature of a university campus population and that university students are transitioning as emerging adults in society makes this population a unique research focus. Even more unique in the South African context is that these university students are the first of the 'born-free'[1] generation to enter tertiary education (Kotze & Prevost, 2015:145). Many universities have seen student protests since 2015, most of which have been driven by underlying economic, cultural and political issues (Shay, 2017). These remain largely unresolved and the South African university life and future seems to be in crisis (Shay, 2017). One such issue, driven from the perspective of South African university student, is the decolonisation of education, which has become a reality for consideration by South African researchers. This does not mean that international research findings should be rejected because of their Western origins, rather that the decolonisation of education should use best practice (be it international) to improve the quality of life of all people (Wingfield, 2017).

Although based in the United States (US), the National Intramural and Recreational Sports Association (NIRSA) promotes itself as global leader in collegiate recreation, and its academic journals and manuals provide abundant research on recreational sport topics. Considering that international research has found that campus recreation programmes and facilities play an important role in providing students with the opportunity to meet friends, build relationships and become part of the campus community (Franklin, 2013:47), it is reasonable to assume that they may hold the same benefits for the South African student and university. As participation in recreational sports provides students with the opportunity to engage in activities that are physical in nature (Kanters, 2000:11; Wechsler & Nelson, 2001:290), the health-related benefits, as well as the overall increase in students' wellness and quality of life, can have long lasting implications on their success at university. Therefore, research conducted in South Africa must be directly relevant; it is important not to simply take Western research findings and apply them locally. This study

[1] 'Born free' refers to a South African born after the 1994 democratic elections (Kotze & Prevost, 2015:145).

initiates that research agenda by looking at the relationship that exists between demographic variables and the different social correlates.

6.2 SUMMARY

The literature review and findings of the first research article, *Recreational sport participation patterns of university students at a South African university*, provided evidence of distinct recreational sport participation patterns among undergraduate university students. The results of the first article indicated that the activities in which most participation took place were fitness-related, such as general exercise and jogging. In terms of variety, students indicated that they participated in more than one kind of recreational sport activity, which included the main and additional sport codes of the university, as well as group, outdoor, dance and exercise activities. With regard to differences in recreational sport participation patterns according to demographic variables, the results suggested that preference for, and variety of, recreational sport participation are products of health trends and perceptions about activities, rather than being limited by facility or activity access. In terms of gender differences, similar to the findings of Peltzer *et al*. (2014:7438) and Huang *et al*. (2003:83), the study found that male students were more active in recreational sport participation than female students. In the types of activities in which students participated, male students preferred group activities, while female students preferred dance and exercise activities (Pinto & Marcus, 1995:29; Leslie *et al*., 1999:25; Saelens *et al*., 2003:89).

The results also indicated that race had an influence on the recreational sport participation of undergraduate students. Compared with students from other races, black African students were less likely to participate in recreational sports. It has been suggested that black African students experience greater interpersonal constraints, thus influencing their participation (Weilbach, 2013:112). While differences among racial groups in terms of activity choices were expected, based on a US study (Shinew *et al.*, 2004:195), the results confirmed that black African students participated less in the additional sport codes and outdoor and dance activities compared with the other races. Results also indicated that black African students were more likely to participate in more than one kind of recreational sport, mostly exercise-related or within the main sport codes of the university. According to Philipp's (1998:229) US-based findings, it is necessary to note that for some students, certain activities may be considered race-specific, emphasising the importance of educating and promoting the recreational sport activities available to students. It should be noted, however, that the Philipp study is dated, particularly in terms of racial identity.

Comparing residential types, the results indicated that students who live on campus in campus residences participated less in recreational sport than other students, which contradicts Dinger (1999:37) and Miller *et al.* (2008:93). For choice of activity, the results indicated that campus-resident students participated more in the main and additional sport codes, which may be due to traditions in the residences, as well as greater opportunity to participate in exclusive tournaments. Although it was expected from literature that the more familiar students become with the university environment, the more their participation in recreational sport

would increase (Halforty & Radder, 2015:109), the results did not find any association between the number of years a student had spent at university and participation in any of the six different recreational sport categories. This might be due to the influence of the first-year orientation programme of the university, which introduces only the main and additional sport codes to students, who may only later in their studies find recreational activities in which they are more interested. The study only focused on current participation and over a period of time activities in which students participate may be replaced with different activities; however, longitudinal research is needed to confirm this.

To describe students' reasons for recreational sport participation and the constraints to participation that they experience, these two leisure research subfields were combined in the second article, *Factors influencing undergraduate students' recreational sport participation: results from a South African study*. This sub-study found that the main reasons for undergraduate students' participation were health-related, such as achieving physical fitness and better health. Structural constraints, such as lack of time and money, were the greatest perceived constraints to recreational sport participation. In terms of demographic variables, the nationality of students accounted for the greatest difference in reasons for recreational sport participation. Similarly to Reed and Cox (2007:323) and Kolt *et al*. (2004:194), no differences were found in the reasons for recreational sport participation between genders, although enjoyment and recognition were significantly more important to male students than female students. Russell (2009:4) and Henderson (1996:151) suggest that leisure participation is based on societal context rather than being biologically male or female, and the study findings provide insight into pressures male students might experience in their recreational sport participation. Similar to the South African-based findings of Halforty and Raddar (2015:109) and Weilbach (2013:135), the results indicated that female students experience more intrapersonal constraints than male students.

No differences were found in the reasons for recreational sport participation or in constraints to participation in terms of race. While the literature suggests that white students are more likely to participate for enjoyment and stress management (Egli *et al*., 2011:404), Weilbach (2013:136) found that no specific race group experienced any constraints to a greater degree than another race. Although the results may indicate that students have found effective ways to negotiate through their leisure constraints, the only way to test this suggestion is to re-examine the way in which constraints are predicted (Godbey *et al*., 2015:127). The study further examined whether reasons for and constraints to recreational sport participation differed among student residential types. Inconsistent with Weilbach's (2013:137) findings, no significant differences were found in constraints to participation, or reasons for participation, according to where students live. Due to the accessibility and proximity of activities and facilities, it is logical to assume that students who do not live on campus experience more constraints. Students living off campus might participate in recreational sport activities at private clubs or facilities in town, and are therefore not dependent on campus-offered activities or facilities. The results also indicated that South African students participated more in recreational sport activities for social reasons than non-South African students, possibility because they are more familiar with the activities and have stronger social support systems than

students from other countries. Research by Cho and Price (2016:32) and Walker *et al*. (2007:584) found, not unexpectedly, that international students did not experience higher levels of constraint than local students.

The potential use of recreational sport as a means to increase students' feeling that they are part of the university community was highlighted in the third article, *The link between frequency of recreational sport participation and sense of community university students experience at a South African university.* The results indicated that undergraduate students perceived four distinct factors as contributing to their sense of community: (1) the campus culture, (2) loneliness and stress, (3) their relationship with university staff and (4) the activities or facilities available. Students' perceived relationship with staff was the factor contributing most to their sense of community on campus. This finding is supported by Cheng (2004:224), who suggested that the relationship between staff and students is the most important principle of community on campus. The results also suggest that the more satisfied students were with the campus culture and the university staff, the less lonely and stressed they felt. The campus culture, which largely comprises the relationship of students with others, provides students with social support, which in turn decreases depression (Clark & Morrow, 2017:38; Wright *et al*., 2013:52). The results indicated certain demographic differences and four factors were identified from the factor analysis. Similarly, Kim (2001:524), found that Korean female students experienced higher levels of loneliness and stress than males, while activities and facilities were significantly more important contributors to their sense of community than for male students.

The results indicated that students who lived privately felt that the campus culture and the recreational sport activities or facilities were less important to sense of community. Students living off campus and those with no association with residences may have felt that the activities provided by the university were exclusive to campus and town residences. These students may also have formed their own smaller communities, as suggested by Gray's microcosm, and it could be that only the members of these smaller societies feel a sense of belonging within their microcosm (Gray, 2010:254).

The findings suggested that the campus culture and the activities or facilities were more important contributors to sense of community for white students than students from other races. Friendships between people of different race groups are often encouraged by similar interests, so certain exclusions might not be based on race but rather on socioeconomic status. If certain students are dissatisfied with activities or facilities, it might suggest that these activities cater for one specific race group and that there is a lack of information about the recreational interests and preferences of students from other backgrounds. The findings reported in the third article were that participation in the main and additional sport codes was positively correlated with campus culture and activities or facilities. Miller *et al*. (2008:96) found that frequent use of recreational sport facilities and activities increased students' satisfaction, also a finding in this study. Additional analysis found that the more satisfied students were with the activities or facilities of

the university or the more positively they experienced them, the more likely they were to participate in the main sport codes of the university.

The analysis produced interesting results about the additional sport codes. The more positively students experienced the campus culture, but negatively they perceived they were cared for by staff, the more likely they were to participate in the additional sport codes. Students' increased participation in outdoor activity decreased their feelings of stress and loneliness, while participation in dance activities increased students' positive experience of campus culture. Dance activities are a form of human expression (Edginton *et al*., 2004:216) and provide students with the opportunity to learn more about each other's culture and feelings. As expected, participation in any of the categories of recreational sport activity was associated with a decrease in stress and loneliness (Elkins *et al*., 2011:33) and an increase in satisfaction with campus culture and the activities and facilities.

The results also indicated that students were twice as likely to participate in recreational sport activities if they had a positive perception about the activities available or the facilities. Contrary to Cheng's (2004:224) suggestion that the relationship with staff is the greatest predictor of students' sense of community, the results suggested that the better students perceive their relationship with the university staff, the less likely they were to participate in recreational sport. It is of great importance to understand the reasons why improved relationships with staff negatively influenced students' choice to participate in recreational sport. Since university staff and students might be seen as two separate communities on campus, engaging students and staff in and out of class in recreational sport or similar activities provides an opportunity for the entire campus community to interact in a fun and informal setting.

6.3 CONCLUSION

The three related studies set out to determine the social correlates of recreational sport participation among the undergraduate students at a South African university. To do so, four research questions were formulated to delineate the focus of this study. The first research question aimed at setting a foundation from which to understand the current recreational sport participation patterns of the undergraduate students attending university. For this question, students' choice to participate, as well as their activity preferences and the variety of activities in which they participated, were identified, which served as foundational information for determining differences in participation between certain demographic groups. Fitness-related activities seemed to be a trend among undergraduate students from all demographic backgrounds, and although fitness-related activities might be students' first choice, this did not limit the students from participating in a variety of other recreational sports, expanding their leisure repertoire. Specific demographic factors such as students' gender, race, where they lived and their nationality influenced their initial choice to participate in recreational sport, while where they lived and their race influenced the kinds of recreational sport activities they chose to participate in.

The second and third research questions aimed to determine why students choose to participate in recreational sport, as well as the constraints they perceived as limiting their participation. Those undergraduate students who chose to participate in recreational sport were largely motivated by health reasons. In terms of the self-determination theory, being motivated by health reasons is classified as *identified* motivation, which is a type of external motivation, and although intrinsic motivation is the hallmark of leisure, it can be concluded that undergraduate students' motivation for recreational sport participation is still positive. Closely related to intrinsic motivation, the reason motivation for health reasons is viewed positively is due to its probability of sustainable participation. The greatest perceived constraints to sustainable recreational sport participation or even to choosing to participate in the first place, were time and money. Only small significant differences to motives for recreational sport participation were observed between students from different backgrounds, as well as for perceived constraints to participation, while where students lived had no effect on their motives or constraints.

The last research question was aimed at examining the contribution of recreational sport towards students' feelings of belonging to the campus community. Unsurprisingly, the results indicated that the relationship students had with university staff was the most important factor contributing to students' sense of community; however, that this relationship influenced their choice to participate in recreational sport negatively was unexpected. While this finding might be explained by the suppression effect, it requires further investigation before it can be concluded as a concern. The more students participated in recreational sport, the less lonely and stressed they felt, an important consideration if seeking ways to improve the mental health of students. The different categories of recreational sport activities played different roles in influencing sense of community among the students. In particular, the contribution of university-endorsed recreational sport activities (which include the main and additional sport codes) influenced the students' experiences with campus culture as well as positively affected their experience of the recreational sport activities or facilities. Student experience with activities or facilities was a recurring theme, determining not only whether undergraduate students chose to participate in recreational sport in general, but also whether they chose to participate in many kinds of recreational sport activities.

For both student and university to benefit from recreational sport participation, understanding the impact of supply and demand is essential. The true demand for recreational sport on campus can only be determined through frequent inquiry, following which the supply of activities can be adjusted. Universities can use recreational sport as a tool for social integration, or even to motivate students to look after their health and to decrease obesity rates. While teaching students to manage their time might aim towards removing structural constraints to recreational sport participation, it will also benefit students in other facets of their lives. Recreational sport activities appear beneficial in uniting the whole campus, not only as a tool to improve students' relationships with one another, but also to unite students and staff.

6.4 CONTRIBUTION OF STUDY AND RECOMMENDATIONS

The contribution of this study is divided into three subsections: contribution to theory, methodology and practice.

The theoretical contribution

Knowledge gained from the empirical findings of this study contributes to an understanding of recreational sport participation among university students in South Africa. The study examined students' recreational sport participation patterns, and their motives for participation, perceived constraints and sense of community. Furthermore, the study expands the existing knowledge on recreational sport participation among South African university students, a field of study in its infancy. For these reasons, the motive for carrying out the study was not only the need for more leisure-related research in South Africa (Goslin, 2003:39; Wegner *et al*., 2006:249), but to add to the relatively small existing body of knowledge on recreational sport as a subtopic of leisure.

Although the study originates from a leisure field, efforts to improve the quality of life and experiences of university students are highly relevant to college retention theories. This thesis forms part of the larger discussion about the use of recreational sport to integrate students into the social system of the university which, based on Tinto's theory of student retention (1975), is equally as important as academic integration in retaining students. Various factors other than academic integration can affect students' social integration (e.g., social support, loneliness, a feeling of belonging). The analytical challenge was to find out how recreational sport can assist with the social integration of students on a university campus, more specifically, a South African campus.

Due to the complexity of the South African university setting, the usefulness of research from other nations in understanding how recreational sport participation promotes retention is questionable. Unfortunately, South African-based research in the field of leisure, including studies on university students, is limited. Some South African research studies have focused on leisure meanings (Weilbach 2013:6), while those that have included recreational sport used selective sample populations, such as senior students (Halforty & Radder, 2015:109) and students with disabilities (Wright & Titus, 2013:1148), or have only explored the perceptions of a specific gender (Solomon, 2005:9). A recent US work in a domain related to recreational sport participation is that of Elkins *et al.* (2011:26), who raised the topic of involvement in campus recreational sports and its contribution to students' sense of campus community. Cheng (2004) presented a campus community scale based on US research and Boyer's (1990) principles of campus community, arguing that certain factors relate to students' perceived sense of community. While Cheng (2004:225) found a positive relationship between the activities in which students participate and their sense of community, he recommended that this factor be studied further. Based on Cheng's findings, the current study is one of the first to investigate this relationship in the South African context, serving as the basis for similar studies at other universities. This study aims, therefore, to contribute to the literature in the field of

leisure research by incorporating different social correlates of recreational sport, including motives for participation, perceived constraints to participation and sense of community. The study also offers an innovative methodology, by investigating simultaneous constructs of recreational sport behaviour among university students on a South African campus.

The methodological contribution

The main methodological contribution of the study has been the measurement and application of appropriate theoretical concepts and theories to the South African setting. Because the majority of the research theories, models and related research instruments were not developed in South Africa or on the African continent, the applicability is questionable given the differences in the social and cultural setting. While adjustment to the South African context was needed, the addition of a useful measuring instrument to determine recreational sport participation patterns and other social constructs among the relatively untested population of university students, is a step in the right direction for leisure as a research field in South Africa.

The practical contribution

In terms of practical value, the study findings are pertinent to the university's sport department, as well as to the university administrators. The results provide a platform from which the sport department can reflect on the relevance of university-endorsed sport codes. The choices of recreational sport activities and other related information can be used by universities to take stock of the activities in which there is truly participation on campus. While certain activities are based on trends (such as the health and fitness trend), others such as the main and additional sport codes must be relevant and of interest to the populations that the university is meant to serve. If universities choose to administer and promote only certain activities, these activities must be inclusive and accessible to all students who are part of the university. Although varsity sport will always have a place on campus, not all students are varsity athletes, and the importance of nonvarsity or additional sport codes is often overlooked. Interest in nonvarsity or additional sport code activities, such as ultimate Frisbee, is increasing, and providing a larger variety of activities that cater to more students on campus is potentially a competitive advantage, to be used in the university's marketing campaign (Weaver *et al.*, 2017:50).

For the sport department to effectively develop recreational sport-related activities and programmes, emphasis on the importance of understanding students' motives and constraints to participation is necessary. The research revealed health as the most important reason that undergraduate students participate in recreational sport, and it is proposed that the sport department use persuasive communication, framing messages that affect student behaviour and enhance their self-determined motivation (Pelletier & Sharp, 2008:215; Rothman & Salovey, 2007:835). By framing the promotion of recreational sport benefits in terms of intrinsic gains or losses, rather than extrinsic gains or losses, self-determined motivation increases, adding to the likelihood of continued participation. Considering the growing rate of obesity among the university population, the provision of recreational sports as moderate physical activity may assist

universities to promote healthy living on campuses. Additionally, literature has indicated that habits learned during students' time at university may continue well after students have left university. Promoting continued recreational sport participation during their studies could lead to students learning to make time for leisure as working adults and experiencing this as a long-term benefit.

Despite the positive recreational sport participation patterns identified by the study, it is essential to recognise that there are certain factors that hinder some groups of students from participating. While encountering these factors does not mean that students will not participate at all, it may hinder continued participation, as well as the level of participation. Although a degree of insight into these factors was acquired through the study, sport departments need to determine the specific reasons students feel constrained within these factors. As mentioned in the second article's findings, providing students with tools to negotiate their constraints may be ultimately more helpful than simply eliminating all constraints in the programme delivery. Providing tips to students on effective time management, or implementing online platforms for students to find partners with whom to participate are only tools; students need to appreciate the value of participation. The university is in a position to provide a much larger number of recreational sport activities than the school system, and appropriate introduction and education is key to students making use of these opportunities. University sport departments could draw on the availability of different sport clubs for educating students on rules and providing opportunities. It is suggested that sport open days be held annually, not only to provide an opportunity for sport clubs to hand out information about their represented sport, but also to recruit team members for the sustainability of the sport on campus.

The findings of this study could assist university administrators in using recreational sport as a tool in the process of university transformation. While transformation affects staff and students alike, staff are also key role players in fostering sense of community on campus. A campus environment in which a person feels valued and able to express themselves should not only be exclusive students, but also to staff as members of the entire campus community. As mentioned in the third article, structural diversity is not the answer to transformation, but the beginning of it. The university's population is rapidly changing, and merely being on campus does not mean students will automatically feel part of the campus community. The study's findings suggested that university administrators consider relooking at the use of teaching and learning, and their value outside the classroom as well as inside. Limiting activities that foster three separate communities on campus (administrators, lecturers and students), and focusing on the campus community as one entity could begin with recreational sport. Many corporate organisations invest in sport or fun days for their staff and their families, to increase staff morale and sense of belonging. It may benefit the university, as a community, to investigate if the blend of fun, socialising and education in a well-planned event for all members of university could become a university tradition and an initiative towards transformation, as well as promoting a sense of community.

6.5 STUDY LIMITATIONS AND FUTURE RESEARCH

The following study limitations must be acknowledged. Firstly, this study was conducted on a single campus at a particular university in South Africa, limiting the generalisability of results to other campuses. Each university in South Africa has its own history, culture and unique student population. For that reason, the results cannot be generalised to the entire South African student population. Similarly, the study focused only on undergraduate contact students and, as a result, the findings cannot be generalised to students who are enrolled as distance learners or postgraduate students. A second limitation was the relative small sample size. Although sufficient for the analysis, the voluntary nature of the sampling may have created bias, since students who chose to participate in the study might have had more experience in or exposure to recreational sport. Thirdly, although the questionnaire was piloted, ongoing research is needed to determine its validity and reliability, in order to refine the items. Furthermore, valid and reliable measurement of the recreational sport social constructs in the South African university context needs to include more universities, to ensure generalisability. The fourth study limitation is the concern that both the dependent and independent variables were based on one source of data collection. Since the study relied on self-reporting to measure variables, the data may have been contaminated by common method variance. The fifth limitation of the study is the research design – without qualitative research, interpretation of the results is limited. The final limitation refers to the exclusion of other leisure activities, inclusion of which would have given a broader view of student leisure behaviour and choices, as not all people are interested in sport-related activities.

Based on the limitations and the study results, the following suggestions for future research are made. Firstly, the research instruments must be reviewed. To increase the reliability of the instrument it might be necessary to look at translating the items and providing students with the option to complete the survey in their home language. Since terminology may be problematic, attention should be given to representing terms such as *recreational* or *leisure* correctly, irrespective of the language. While using an online survey method ensured that large numbers of students were reached than self-administered surveys, shortening the survey might further increase response rates. Shortened versions of the survey may enhance adaptability to personal devices (such as cell phones) as a method of participation.

Results from a single campus are insufficiently representative of the entire South African student population, or even the entire university. Therefore, a second recommendation for future research is that the study is duplicated on other South African university campuses. Not only would this provide a more detailed analysis of the recreational sport participation patterns of students, but a comparison of different campus results would improve insight into the multicultural aspects of recreational sport behaviour. A third recommendation for future study is the use of a qualitative approach to build on the survey results. Although valuable insights were gained from the survey, quantitative methodology has certain limits to deeper understanding and interpretation of results. Although surveys might reach more students, the in-depth discussion generated on issues raised in the results would make focus groups or interviews worth the time and effort.

The fourth suggestion for future studies is to consider a longitudinal research design. Testing university students over a four-year period could provide valuable information on their participation patterns across the time they spend at university, as well as on changes in their interests as trends come and go and new students enter the university. Test measures for stressful times such as exams could also be built in. A longitudinal approach would provide a basis for tracking changing recreational sport patterns in students from their first year at university until their last. A fifth recommendation is that future studies take stock of the university infrastructure, such as the availability, accessibility and overall quality of the facilities. Information on students' satisfaction with the quality of the facilities, as well as issues related to their use or lack of use could provide information from which long- and short-term plans can be made to increase facility use by students. Finally, other leisure activities must be included when determining the overall leisure behaviour of university students. Many students are active in forms of leisure other than sport, which may be considered a preference, and the arts (performing and visual) is another programme area in which university students participate during their leisure time.

6.6 REFERENCES

Boyer, E. 1990. Campus life: In search of community. A special report of the Carnegie foundation for the advancement of teaching. Princeton, NJ: Princeton University Press

Cheng, D.X. 2004. Students' sense of campus community: What it means, and what to do about it. *Journal of student affairs research and practice*, 41(2):415-433.

Cho, D. & Price, T. 2016. Examining the leisure constraints affecting international collegiate students' participation in intramural sport programs. *International journal of sport management, recreation and tourism*, 24:22-41.

Clarke, K. & Morrow, L. 2017. Kidding around: Using play to enhance students' well-being and learning. *PNLA quarterly*, 81(1):32-40.

Dinger, M.K. 1999. Physical activity and dietary intake among college students. *American journal of health studies*, 15(3):139-148.

Edginton, C.R., Hanson, C.J., Edginton, S. & Hudson, S.D. 2004. Leisure programming: A service-centered and benefits approach. 4th ed. New York, NY: McGraw-Hill.

Egli, T., Bland, H.W., Melton, B.F. & Czech, D.R. 2011. Influence of age, sex, and race on college students' exercise motivation of physical activity. *Journal of American college health*, 59(5):399-406.

Elkins, D. J., Forrester, S. A. &. Noël-Elkins, A. V. 2011. The contribution of campus recreational sports participation to perceived sense of campus community. *Recreational sports journal*, 35(1):24-34.

Franklin, D. 2013. Evolution of campus recreational sports. (*In* National Intramural-Recreational Sports Association, *ed*. *Campus Recreational Sports*. Champaign, IL: Human Kinetics. p. 12-40).

Godbey, G., Crawford, D.W., Shen, X.S. & Yağcı, K. 2015. Assessing hierarchical leisure constraints theory after two decades. *Anatolia: Turizm arastirmalari dergisi*, 26(1):114-129.

Goslin, A. 2003. Assessment of leisure and recreation research in Africa. *South African journal for research in sport, physical education and recreation*, 25(1):35-46.

Gray, H.J. 2010. Campus and Community. Dimensions of Leisure for Life. Champaign, IL: Human Kinetics.

Halforty, G.A. & Radder, L. 2015. Constraints to participation in organised sport: case of senior undergraduate students at a new generation university. *South African journal for research in sport, physical education and recreation*, 37(3):97-111.

Henderson, K.A. 1996. One size doesn't fit all: the meanings of women's leisure. *Journal of leisure research*, 28(3):139-154.

Huang, T.T.K., Harris, K.J., Lee, R.E., Nazir, N., Born, W. & Kaur, H. 2003. Assessing overweight, obesity, diet, and physical activity in college students. *Journal of American college health*, 52(2):83-86.

Kanters, M.A. 2000. Recreational sport participation as a moderator of college stress. *NIRSA journal*, 24(2):10-23.

Kim, O. 2001. Sex differences in social support, loneliness, and depression among Korean college students. *Psychological reports*, 88(2):521-526.

Kolt, G.S., Driver, R.P. & Giles, L.C. 2004. Why older Australians participate in exercise and sport. *Journal of aging and physical activity*, 12(2):185-198.

Kotze, J. & Prevost, G. 2015. 'Born free - an assessment of political identity formation and party support of South Africa's first post-Apartheid generation', *Africa insight*, 44(4):142-168.

Leslie, E., Owen, N., Salmon, J., Bauman, A., Sallis, J.F. & Lo, S.K. 1999. Insufficiently active Australian college students: perceived personal, social, and environmental influences. *Preventive medicine*, 28(1):20-27.

Miller, K.H., Noland, M., Rayens, M.K. & Staten, R. 2008. Characteristics of users and nonusers of a campus recreation center. *Recreational sports journal*, 32(2):87-96.

Pelletier, L.G. & Sharp, E. 2008. Persuasive communication and proenvironmental behaviours: How message tailoring and message framing can improve the integration of behaviours through self-determined motivation. *Canadian psychology/psychologie canadienne*, 49(3):210-217.

Peltzer, K., Pengpid, S., Samuels, T., Özcan, N.K., Mantilla, C., Rahamefy, O.H., Wong, M.L. & Gasparishvili, A. 2014. Prevalence of overweight/obesity and its associated factors among university students from 22 countries. *International journal of environmental research and public health*, 11(7):7425-7441.

Philipp, S.F. 1998. Race and gender differences in adolescent peer group approval of leisure activities. *Journal of leisure research*, 30(2):214-232.

Pinto, B.M. & Marcus, B.H. 1995. A stages of change approach to understanding college students' physical activity. *Journal of american college health*, 44(1):27-31.

Reed, C.E. & Cox, R.H. 2007. Motives and regulatory style underlying senior athletes' participation in sport. *Journal of sport behavior*, 30(3):307-329.

Rothman, A. J., & Salovey, P. 2007. The reciprocal relation between principles and practice. In A. Kruglanski, & E. T. Higgins (Eds.), Social psychology: Handbook of basic principle (2nd ed., pp. 826–849). New York: Guilford Press

Russell, R.V. 2009. Pastimes: The context of contemporary leisure. (4th ed.). Champaign, IL: Sagamore Publishing.

Saelens, B.E., Sallis, J.F. & Frank, L.D. 2003. Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures. *Annals of behavioral medicine*, 25(2):80-91.

Shay, S. 16 Aug. 2017. 'The end of South African universities?', The Conversation: https://theconversation.com/the-end-of-south-african-universities-82180 Date of access: 1 Nov. 2017.

Shinew, K.J., Floyd, M.F. & Parry, D. 2004. Understanding the relationship between race and leisure activities and constraints: exploring an alternative framework. *Leisure sciences*, 26(2):81-199.

Solomon, G.A. 2005. Perceptions of constraints to recreational sports participation: A case study of the University of the Western Cape (UWC) undergraduate female students. Cape Town: University of the Western Cape (Thesis – MA).

Tinto, V. 1975. Dropout from higher education: A theoretical synthesis of recent research. *Review of educational research*, 45(1):89-125.

Walker, G.J., Jackson, E.L. & Deng, J. 2007. Culture and leisure constraints: A comparison of Canadian and Mainland Chinese university students. *Journal of leisure research*, 39(4):567-590.

Weaver, A.G., Forte, D.J. & McFadden, C.W. 2017. Perceptions of higher education administrators regarding the role of club sports in the recruitment and retention of male students. *Recreational sports journal*, 41(1):42-54.

Wechsler, H. & Nelson, T.F. 2001. Binge drinking and the American college students: What's five drinks? *Psychology of addictive behaviors*, 15(4):287-291.

Weilbach, J. T. 2013. The relationship between demographic variables and leisure perceptions of selected South African first year university students. Potchefstroom: NWU (Thesis – PhD).

Wegner, L., Flisher, A.J., Muller, M. & Lombard, C. 2006. Leisure boredom and substance use among high school students in South Africa. *Journal of leisure research*, 38(2):249-266.

Wingfield, B. 28 Nov. 2017. 'What "decolonised education" should and shouldn't mean'. News24: https://projectrise.news24.com/decolonised-education-shouldnt-mean/ Date of access: 1 Nov. 2017.

Wright, K.B., Rosenberg, J., Egbert, N., Ploeger, N.A., Bernard, D.R. & King, S. 2013. Communication competence, social support, and depression among college students: a model of Facebook and face-to-face support network influence. *Journal of health communication*, 18(1):41-57.

Wright, S.A. & Titus, S. 2013. Experiences and perceptions of students with disabilities concerning factors influencing participation in recreational sports at a University in the Western Cape Province, South Africa. *African journal for physical health education, recreation and dance*, 19(4_2):1146-1157.

Appendix A

Author guidelines

HUMAN KINETICS JOURNALS

Recreational Sports Journal

Author Guidelines

Authorship Guidelines

The Journals Division at Human Kinetics adheres to the criteria for authorship as outlined by the International Committee of Medical Journal Editors*:

Each author should have participated sufficiently in the work to take public responsibility for the content. Authorship credit should be based only on substantial contributions to:

a. Conception and design, or analysis and interpretation of data; and
b. Drafting the article or revising it critically for important intellectual content; and
c. Final approval of the version to be published.

Conditions a, b, and c must all be met. Individuals who do not meet the above criteria may be listed in the acknowledgments section of the manuscript.
*Uniform requirements for manuscripts submitted to biomedical journals. *New England Journal of Medicine,* 1991, 324, 424–428.

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2. Submit complete names, title, mailing address, phone, fax, and e-mail addresses for all authors.
3. A 150-word abstract should accompany an article of no longer than 3,500 words; longer articles will receive lower priority for publication.
4. Supply no more than six key words that are not duplicated in the article title.
5. Articles should be “letter perfect” in grammar, spelling, and punctuation, and all lines in manuscripts should be numbered (line numbering should be turned on in Microsoft Word).

6. For style, articles must adhere to the guidelines published in the *Publication Manual of the American Psychological Association* (6th ed., 2010). Copies are available in most academic libraries (inquire at the reference desk) and can be purchased in most bookstores.
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Cover letter

Proof of Language editing

3 Potential reviewers

Ethical approval number

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1.5 spacing

12-point Times New Roman letter size for the text

Text in tables and figures should be in 10-point Times New Roman font size.

20 pages (tables, figures, references, etc. included).

The **page setup** (cm) must be in the following format:

MARGINS		PAPER SIZE	
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Left:	2.11 cm		
Right:	2.11 cm		
Gutter:	0.00 cm		
Header:	2.03 cm		
Footer:	0.89 cm		

PREPARATION OF MANUSCRIPT

Word format

Title page,

Abstract, 150- 200 words

Introduction,

Purpose of Research,

Methodology,

Results,

Discussion,

Practical application,

Conclusions,

Acknowledgements (if applicable)

References. - Harvard

Tables and Figures – Arabic 1, 2 , 3

EXAMPLES OF STYLE OF FORMULATIONS FOR DIFFERENT REFERENCES

Journal

ZHENG, N.; BARRENTINE, S.W.; FLEISIG, G.S. & ANDREWS, J.R. (2008). Kinematic analysis of swing in pro and amateur golfer. *International Journal of Sports Medicine*, 29(6): 487-493.

Book

WEINBERG, R.S. & GOULD, D. (2011). *Foundations of sport and exercise psychology* (5th ed.). Champaign, IL: Human Kinetics.

Chapter in book

SCHNECK, C.M. (2010). Visual perception. In J. Case-Smith & J.C. O'Brian (Eds.), *Occupational therapy for children* (6th ed.) (pp. 373-403). Maryland Heights, MO: Mosby.

Thesis/Dissertation

SURUJLAL, J. (2004). Human resources management of professional sports coaches in South Africa. Unpublished doctoral dissertation. Johannesburg, South Africa: Rand Afrikaans University.

Proceedings of a conference

HARDMAN, K. & MARSHALL, J. (2001). Worldwide survey on the state and status of physical education in schools. In G. Doll-Tepper & D. Scoretz (Eds.), *World summit on physical education* (pp. 15-37). Proceedings of the "World Summit on Physical Education", 3-5 November 1999. Berlin, Germany: International Council of Sport Science and Physical Education (ICSSPE).

Personal communication/correspondence/interview

BOUKES, P.B. (2015). Personal communication from the Acting Director of Sport at the Nelson Mandela Metropolitan University, Port Elizabeth on 27 February 2015.

JACOBS, L. (2015). Personal interview with the Spokesperson of UNICEF, 25 August, Pretoria.

Newspaper

CAPE ARGUS, The (1997). 25 March, p.5.

Electronic source

DINOFFER, J. (2011). "Activities to build balance". *Prevent child obesity 101.* Hyperlink: [http: //www.preventchildobesity101.com/Activities/BalanceActivities.php]. Retrieved on 20 November 2012.