

EXPLORING THE LINK: ACTIVE RECREATION, LEISURE BOREDOM, AND LIFE SATISFACTION IN SOUTH AFRICAN UNDERGRADUATE STUDENTS

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ABSTRACT

Student wellbeing is a growing research field, with limited research in a South African context, especially on the benefits of campus recreation sport (CRS) to students. This study determines the correlations between the frequency of participation in CRS, leisure boredom, and satisfaction with life (SWL) of undergraduate students at North-West University (NWU). A cross-sectional design was used with 512 students completing an online survey. Demographic information and data on frequency of participation, SWL, and leisure boredom were used. Spearman's correlation was used to determine relationships between variables. Students were 48% male and 52% female and included white (71%), black (22%), coloured (6%) and "other" (1%) students. A significant negative correlation was found between SWL and leisure boredom ($r=-0.170$). Frequency of participation across all forms of CRS had a significant negative correlation with leisure boredom ($r=-0.146$) and a significant positive correlation with SWL ($r=0.135$). Outdoor activities showed the strongest positive correlation with SWL ($r=0.143$) and negative correlation with leisure boredom ($r=-0.149$). A significant positive correlation exists between active participation and satisfaction with life, and a significant negative correlation between total participation and leisure boredom, although these correlations were weak. The results indicate the potential of CRS to benefit students' SWL.

Keywords: Active recreation; Campus recreation sport; Leisure boredom; Satisfaction with life; South Africa; Undergraduate students.

INTRODUCTION

The wellbeing of students has gathered more attention in recent years and, as a result, enquiry into the adjustment of students to university life also gained momentum (Lee *et al.*, 2023). Many students experience distress, loneliness, or even disengagement in their academic careers as they transition from high school to university (Pennington *et al.*, 2018). Consequently, universities face issues of recruitment, retention (Barnes *et al.*, 2015) and student satisfaction with life (Lindsey & Sessoms, 2006; Pennington *et al.*, 2018). One possible cause of students' negative experiences could be that they experience leisure boredom. Research by Kil *et al.* (2021) suggests that leisure boredom may contribute to students' emotional distress, including depression, anxiety, and stress. In contrast, students with more involvement in active recreation

experience less leisure boredom and a higher quality of life (Güngörmüş *et al.*, 2024). Students who participate more in CRS and other recreational activities outside of class have a higher commitment to their overall student lives than those who do not participate (Hall, 2006), develop stronger relationships, and have better long-term wellbeing (King *et al.*, 2021). These students will also have better academic performance, better social life, and be more satisfied with their university experience (Astin, 1993; King *et al.*, 2021).

Leisure boredom, a “negative mood or state of mind that reflects a mismatch between optimal experiences that are perceptually available to an individual”, can be caused by leisure feeling meaningless or by experiencing multiple constraints (Iso-Ahola & Weissinger, 1990). Leisure boredom will arise when a student is not satisfied with an activity or when an activity is not uniquely designed according to the needs of the students (Fourie *et al.*, 2011), and, consequently, when leisure boredom arises, students will experience an activity as pointless and meaningless (Spruyt *et al.*, 2018). In this regard, if the facilities and campus recreation sport (CRS) programmes are not up to par, students are likely to lose interest in what that specific university has to offer (Banta *et al.*, cited by Lindsey & Sessoms, 2006), indicating how the university can contribute to students experiencing leisure boredom. Additionally, on an individual level, Iso-Ahola and Weissinger (1990) suggested that leisure boredom is more likely to occur in people who do not know how to manage their leisure time or are unaware of the benefits of leisure. Similarly, Wang (2014) states how numerous students that do not know how to manage their free time, or that experience leisure boredom, may revert to unhealthy behaviour such as alcohol use and smoking to prevent boredom, rather than engaging in positive leisure. Within the context of students’ university lives, positive leisure experiences would include CRS – informal sports that students take part in on campus, and that plays an essential role in their student life development (Kanters, 2000). However, it is important to note that other active recreation activities that take place on and off campus can also play a role in the development of students. Research on the benefits of CRS has found that it gives students a feeling of having purpose in life and can improve overall satisfaction (Spruyt *et al.*, 2018; Lee, 2023). Therefore, universities must address the challenges of leisure boredom and lack of satisfaction with life by providing meaningful opportunities for students to form their identities, form new relationships, and explore new interests (Busseri *et al.*, 2010).

Satisfaction with life represents the assessment people have of their lives, and their satisfaction with relationships, health, and living conditions, as well as confidence in society as a whole (Organisation for Economic Cooperation and Development, 2022). It can be seen as “a person’s level of optimism towards the overall quality of his life” (Thomas & Kavya, 2022:13). Research conducted at a university in the USA found that students attributed improvement in life satisfaction to participation in recreation activities (Eubank & DeVita, 2024). Another study, also focused on students from the USA, found that certain types of leisure activities, specifically outdoor, sports, social, cultural, and civic activities, are predictors of students’ satisfaction with life (Kim *et al.*, 2023). Similarly, Eubank and DeVita (2024) found that students who engage in informal recreation performed better academically and experienced positive life satisfaction at their university. The above findings support the idea that the various benefits of participating in CRS and other active recreational activities, such as improving social skills, achieving intellectual goals, and better academic performance, only to name a few, can contribute to increased student satisfaction with life and decreased leisure boredom (Wang *et al.*, 2008; Wang, 2014).

University students experiment with a broad range of experiences to seek a better understanding of themselves, and CRS is a window of opportunity for students achieve this (Busseri *et al.*, 2010). Gender, race, and language influence student leisure behaviour and choice of recreational activities (Fourie *et al.*, 2011), and great importance must be placed on student preferences. Unlike the USA, where research has shown which types of university recreation activities contribute to satisfaction with life (e.g., Kim *et al.*, 2004), a paucity exists in this field of research in South Africa, with universities lacking knowledge of how vital CRS activities are in forming students' identity (Fourie *et al.*, 2011) and improving satisfaction with life. Therefore, this article is based on the research question "What are the correlations between student participation in active recreation, satisfaction with life, and leisure boredom?" Finding an answer to this question may help CRS administrators in motivating the importance of these services, which may lead to improved programming and investment in campus recreation facilities. This can not only improve students' satisfaction with life, but also improve student recruitment, retention, and academic performance.

PURPOSE OF RESEARCH

The aim of this study was to determine the correlations between active recreation participation, satisfaction with life, and leisure boredom experienced by undergraduate students at a South African university. The study was based on the following hypotheses: (1) there is a statistically significant ($p \leq 0.05$) negative correlation between participation in active recreation and leisure boredom, and (2) there is a statistically significant ($p \leq 0.05$) positive correlation between participation in active recreation and satisfaction with life.

METHODOLOGY

Research design

In this study, a quantitative survey with a cross-sectional research design was used. Data in this study were derived from a more extensive study titled: "*Recreational sport participation and its associated benefits among students at the Potchefstroom Campus of the North-West University.*" with data collection prior to the COVID-19 pandemic.

Sample

As the study used a survey of students and not a random sample from a population, no sample size calculations were required, but a power calculation, based on a 95% confidence interval and a 5% margin of error, suggested a sample of at least 377 students. This is in line with research carried out on similar populations and research topics that had response rates of between 300 and 800 completed questionnaires (Beggs *et al.*, 2005; Elkins *et al.*, 2011). The study target population included all full-time registered undergraduate students from a single campus of a South African university. Only 581 of the student population completed the survey, of whom 69 students did not participate in any form of active recreational activity. Therefore, only data from 512 students who participated in an active recreational activity were used. Students were between 18 and 30 years old. The sample consisted of 48% male and 52% female students. The different races included white (71%), black (22%), coloured (6%), and "other" (e.g., Indian/Asian) (1%) students.

Data collection

An online survey was developed with a cloud-based system (SurveyMonkey®) to collect data. The link to the survey was available on the university's online learning management system. The students were required to consent to access the questionnaire, which took 10 to 15 minutes to complete. There were eight sections with open-ended and closed-ended questions. For this article, only sections related to demographic information, frequency of participation, format in which each activity is presented, satisfaction with life, and leisure boredom were used. Demographic information was obtained by participants answering closed questions in the questionnaire. The frequency and format variables of the activities were determined through questions asking about frequency of participation in an activity per month and the format of the activity in which they participated, such as hostel teams, private clubs, with friends or family, or on their own. The Satisfaction with Life Scale of Diener *et al.* (1985) was used to determine the students' overall satisfaction with life, and the leisure boredom section included items from the Leisure Experience Battery for Young Adults (LEBYA). A five-point Likert scale was used to determine the level of agreement the students had with the question (5=strongly agree; 4=agree; 3=neutral; 2=disagree; 1=strongly disagree).

The activities identified in the survey were grouped into six different activity codes, according to Janse van Rensburg (2018). These sport codes are: *main sports* – official university sports (e.g., athletics, hockey, soccer, netball, cricket, rugby, and tennis); *additional sports* – a university sport but not seen as a priority sport (e.g., aerobics, badminton, basketball, competitive chess, gala swimming, golf, gymnastics, judo, karate, kayaking, open water swimming, ringball, road marathon, softball, squash, table tennis, tae kwon do, and volleyball); *group sports* (e.g., sevens rugby, action cricket, action hockey, indoor hockey, indoor soccer, mixed martial arts, off-road running, off-road triathlon, and touch rugby), *outdoor activities* (e.g., adventure, hiking, mountain biking, paintball, rock climbing, warrior race, water ski, road cycling, road running, archery, target shooting, chip and putt-putt, and swimming for fun), *dance* (e.g., ballet, ballroom, modern dancing, social dancing, and tap), and *exercise* (e.g., bodybuilding, CrossFit, general exercise, jogging for exercise, Pilates, and yoga) (Janse van Rensburg, 2018).

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS), version 26. Spearman's correlation coefficients were used to determine the relationships between different variables, with statistical significance set at $p \leq 0.05$. Since a Likert ranking scale was used and the central limit theorem does not hold, non-parametric Spearman rank order correlations were the preferred analyses. Correlation coefficients were categorised as follows: 0–0.3 were considered weak, 0.4–0.6 were considered moderate, and 0.7–0.9 were considered strong, while 1 represented a perfect correlation (Dancey & Reidy, 2011).

Ethical considerations

Ethical approval for the overarching study was obtained from the Health Research Ethics committee for Humans (HREC) of the North-West University with the number NWU-00034-16-A1. This specific study obtained additional ethics approval as a sub-study from the same HREC with reference number NWU-00034-16-A1-03.

RESULTS

This section discusses the results of the correlations between the frequency of participation in the different activity codes, satisfaction with life, and leisure boredom. Firstly, the correlations for the total sample are provided, followed by correlations between the variables mentioned above for male and female students, respectively.

The following statistically significant correlations (Table 1) were found. Satisfaction with life had a statistically significant, albeit weak, negative correlation with leisure boredom ($r=-0.170$, $p=0.000$). To a small extent, satisfaction with life was positively related to the frequency of students' participation in additional sports ($r=0.090$, $p=0.029$) and exercise ($r=0.099$, $p=0.017$). Outdoor activities ($r = 0.143$, $p=0.001$) had a slightly larger, positive statistically significant correlation with satisfaction with life. Leisure boredom had a small, negative statistically significant correlation with various sports, such as additional sport ($r=-0.095$, $p=0.022$), group sport ($r=-0.089$, $p=0.032$), dance ($r=-0.085$, $p=0.040$), and exercise ($r=-0.099$, $p=0.017$). Outdoor activities ($r=-0.149$, $p=0.000$) had a negative statistically significant correlation with leisure boredom. In terms of total frequency of participation across all activity codes, a statistically significant positive correlation existed for satisfaction with life ($r=0.135$, $p=0.001$) while a statistically significant negative correlation existed between leisure boredom and the total frequency of participation ($r=-0.146$, $p=0.000$).

The following sport codes reported stronger statistically significant correlations with each other: main sport and group sport ($r=0.256$), additional sport and group sport ($r=0.254$), additional sport and outdoor activities ($r=0.284$), additional sport and exercise ($r=0.251$), group sport and outdoor activities ($r=0.247$), outdoor activities and dance ($r=0.301$), and, lastly, outdoor activities and exercise ($r=0.288$).

The following statistically significant correlations were found for male students (Table 2). Satisfaction with life had a weak, positive statistically significant correlation with additional sport ($r=0.123$, $p=0.039$) and outdoor activities ($r=0.124$, $p=0.037$). Leisure boredom had a weak, statistically significant negative correlation with satisfaction with life ($r=-0.124$, $p=0.038$) and outdoor activities ($r=-0.140$, $p=0.018$). The following sport codes had larger statistically significant correlations with each other: main sport and group sport ($r=0.326$), additional sport and group sport ($r=0.291$), additional sport and outdoor activities ($r=0.206$), group sport and exercise ($r=0.268$), and, lastly, outdoor sport and dance ($r=0.250$).

For female students (Table 3), leisure boredom had a weak statistically significant negative correlation with satisfaction with life ($r=-0.214$, $p=0.000$) and exercise sport ($r=-0.149$, $p=0.010$). A weak statistically significant positive correlation was also found between satisfaction with life and outdoor sport ($r=0.159$, $p=0.006$). Lastly, a statistically significant, albeit weak, negative association was reported between leisure boredom, group sport ($r=-0.140$, $p=0.015$), outdoor activities ($r=-0.142$, $p=0.014$), and dance ($r=-0.136$, $p=0.019$). The following sport codes had statistically significant correlations with each other: main sport and additional sport ($r=0.217$), additional sport and outdoor activities ($r=0.335$), additional sport and exercise ($r=0.349$), outdoor activities and dance ($r=0.378$), outdoor activities and exercise ($r=0.384$), and, finally, dance and exercise ($r=0.221$).

Table 1. SPEARMAN CORRELATION OF SATISFACTION WITH LIFE, LEISURE BOREDOM, AND FREQUENCY OF PARTICIPATION

		Satisfaction with life	Leisure boredom	Main sport codes	Additional sport codes	Group sport codes	Outdoor sport codes	Dance sport codes	Exercise sport codes	Total
Satisfaction with life	Correlation coefficient	1.000	-0.170**	0.013	0.090*	0.0019	0.143**	0.046	0.099*	0.135**
	Sig. (two-tailed)		0.000	0.749	0.029	0.652	0.001	0.274	0.017	0.001
Leisure boredom	Correlation coefficient		1.000	-0.010	-0.095*	-0.089*	-0.149**	-0.085*	-0.099*	-0.146**
	Sig. (two-tailed)			0.812	0.022	0.032	0.000	0.040	0.017	0.000
Main sport codes	Correlation coefficient			1.000	0.192**	0.256**	0.093*	0.009	0.122**	0.347**
	Sig. (two-tailed)				0.000	0.000	0.025	0.836	0.003	0.000
Additional sport codes	Correlation coefficient				1.000	0.254**	0.284**	0.167**	0.251**	0.472**
	Sig. (two-tailed)					0.000	0.000	0.000	0.000	0.000
Group sport codes	Correlation coefficient					1.000	0.247**	0.099*	0.194**	0.360**
	Sig. (two-tailed)						0.000	0.017	0.000	0.000
Outdoor sport codes	Correlation coefficient						1.000	0.301**	0.288**	0.456**
	Sig. (two-tailed)							0.000	0.000	0.000
Dance sport codes	Correlation coefficient							1.000	0.166**	0.305**
	Sig. (two-tailed)								0.000	0.000
Exercise sport codes	Correlation coefficient								1.000	0.567**
	Sig. (two-tailed)									0.000

Correlation coefficient= r . $r \leq 0.4$: weak; $r = 0.4-0.6$: moderate; $r \geq 0.7$: strong.Sig. (two-tailed)= p

**Correlation significant at the 0.01 level (two-tailed). *Correlation significant at the 0.05 level (two-tailed).

Table 2. SPEARMAN CORRELATION BETWEEN MALE STUDENTS' SATISFACTION WITH LIFE, LEISURE BOREDOM, AND PARTICIPATION FREQUENCY

		Satisfaction with life	Leisure boredom	Main sport codes	Additional sport codes	Group sport codes	Outdoor sport codes	Dance sport codes	Exercise sport codes
Satisfaction with life	Correlation coefficient	1.000	-0.124*	0.033	0.123*	0.005	0.124*	-0.006	0.084
	Sig. (two-tailed)		0.038	0.577	0.039	0.929	0.037	0.915	0.159
Leisure boredom	Correlation coefficient		1.000	-0.012	-0.074	-0.043	-0.140*	-0.029	-0.048
	Sig. (two-tailed)			0.846	0.216	0.472	0.018	0.631	0.423
Main sport codes	Correlation coefficient			1.000	0.126*	0.326**	-0.014	0.001	0.146*
	Sig. (two-tailed)				0.035	0.000	0.817	0.991	0.014
Additional sport codes	Correlation coefficient				1.000	0.291**	0.206**	0.161**	0.165**
	Sig. (two-tailed)					0.000	0.001	0.007	0.006
Group sport codes	Correlation coefficient					1.000	0.292**	0.183**	0.268**
	Sig. (two-tailed)						0.000	0.002	0.000
Outdoor sport codes	Correlation coefficient						1.000	0.250**	0.194**
	Sig. (two-tailed)							0.000	0.001
Dance sport codes	Correlation coefficient							1.000	0.095
	Sig. (two-tailed)								0.112
Exercise sport codes	Correlation Coefficient								1.000
	Sig. (two-tailed)								

Note: Correlation coefficient= r . $r \leq 0.4$: weak; $r = 0.4-0.6$: moderate; $r \geq 0.7$: strong.

Sig. (two-tailed) = p

**Correlation significant at the 0.01 level (two-tailed). *Correlation significant at the 0.05 level (two-tailed)

Table 3. SPEARMAN CORRELATION BETWEEN FEMALE STUDENTS' SATISFACTION WITH LIFE, LEISURE BOREDOM, AND PARTICIPATION FREQUENCY

		Satisfaction with life	Leisure boredom	Main sport codes	Additional sport codes	Group sport codes	Outdoor sport codes	Dance sport codes	Exercise sport codes
Satisfaction with life	Correlation coefficient	1.000	-0.214**	-0.009	0.058	0.022	0.159**	0.083	0.111
	Sig. (two-tailed)		0.000	0.873	0.316	0.704	0.006	0.154	0.056
Leisure boredom	Correlation coefficient		1.000	0.009	-0.102	-0.140*	-0.142*	-0.136*	-0.149**
	Sig. (two-tailed)			0.876	0.078	0.015	0.014	0.019	0.010
Main sport codes	Correlation coefficient			1.000	0.217**	0.072	0.174**	0.054	0.110
	Sig. (two-tailed)				0.000	0.216	0.003	0.352	0.056
Additional sport codes	Correlation coefficient				1.000	0.124*	0.335**	0.209**	0.349**
	Sig. (two-tailed)					0.031	0.000	0.000	0.000
Group sport codes	Correlation coefficient					1.000	0.125*	0.141*	0.154**
	Sig. (two-tailed)						0.030	0.014	0.007
Outdoor sport codes	Correlation coefficient						1.000	0.378**	0.384**
	Sig. (two-tailed)							0.000	0.000
Dance sport codes	Correlation coefficient							1.000	0.221**
	Sig. (two-tailed)								0.000
Exercise sport codes	Correlation coefficient								1.000
	Sig. (two-tailed)								

Note: Correlation coefficient = r ; $r \leq 0.4$ weak; $r = 0.4 - 0.6$ moderate; $r \geq 0.7$ strong.

Sig. (two-tailed) = p

**Correlation significant at the 0.01 level (two-tailed). *Correlation significant at the 0.05 level (two-tailed).

DISCUSSION

The aim of the study was to determine the correlation between undergraduate student satisfaction with life, leisure boredom, and frequency of participation in various forms of CRS and active recreation. The significant negative correlation between leisure boredom and satisfaction with life (Table 1) found in this study is echoed by a study conducted in the USA (Lepp, 2018) that also found a significant negative correlation between leisure boredom and satisfaction with life. Although these correlations do not confirm a cause-and-effect relationship between the variables, Spruyt *et al.* (2018) found that leisure boredom significantly predicts low life satisfaction. Combating leisure boredom through improved active recreation offerings to university students may, in the long run, lead to increased satisfaction with life, benefitting students, as well as the university (Lee *et al.*, 2023).

Outdoor activities, such as mountain biking, paintball, and rock climbing, to name a few, had the strongest positive correlation with student satisfaction with life. A possible reason for this result is that outdoor activities are not fully affiliated with the university, which means that students can participate in an environment where there is no specific set of university rules or forms of competition between participants (Kelly, 2019). The results also indicated that students who participate more often in outdoor activities experience less leisure boredom. These outdoor activities can be seen as informal recreation activities and are less structured than, for example, the main sports or additional sports, and make it possible for students to focus on fun and fitness (Human Kinetics, 2006). A systematic review by Thompson Coon *et al.* (2011) found that exercising in natural outdoor areas has a greater effect on physical and mental wellbeing than indoor exercise. Knowing that outdoor recreation activities have a positive correlation with satisfaction with life and a negative correlation with leisure boredom, universities should turn their attention to improving and expanding their outdoor recreation offerings, as students can benefit from participating in outdoor activities through improved student wellness, better academic performance, increased leadership skills, and the promotion of diversity and inclusion (Andre *et al.*, 2017). Furthermore, providing safe natural outdoor areas for exercise can also benefit students who want to engage in low-intensity outdoor activities, which have been found to have greater mental health benefits than high-intensity sports (Weng & Chiang, 2014).

No correlation was found between main university sports and satisfaction with life. This might be because main sports are more competitive and hence extrinsically motivated, meaning that students may only participate for the reward they receive afterwards. However, concern is that main sports often receive the most investment from the university but add little in improving satisfaction with life or combating leisure boredom. The statistically significant positive correlations between main sports and other forms of active recreation highlight that students who participate in main university sports also participate in other sports, possibly because the more they participate, the more they become aware of the other sports available, which can then lead to students wanting to participate in more sports. The study of Diehl *et al.* (2018) similarly posited that upon participating in one university sport, students will be motivated to try another university sport. Lastly, as the total frequency of participation has a statistically significant positive relationship with satisfaction with life, which is supported by Dhurup and Mokoena (2017), and a significant negative correlation with leisure boredom, it is suggested that universities invest in increasing student engagement in active recreation to maximise the

benefits that can be gained through CRS and active recreation. Weilbach (2013) found that students who are more aware of campus activities will experience less leisure boredom.

In terms of male students (Table 2), the significant positive statistical correlation that exists between participation in group sports and all the other categories of active recreation could mean that male students are more likely to choose activities that provide social opportunities, such as group sports (Beggs *et al.*, 2014) and that this also motivates them to participate in other types of active recreation. Furthermore, we found no statistically significant relationship between satisfaction with life and the main university sports, but positive, statistically significant relationships between satisfaction with life and additional sports and between satisfaction with life and outdoor activities. The assumption can be made that male students who participate in main sports do so because there are university leagues, university sports, sports scholarships for main sports, and competition. Participation in main university sports is often not for recreational reasons or because students experience leisure boredom, but because they are obligated to participate because of sports scholarships (Medic *et al.*, 2007) and because of this extrinsic motivation, the contribution of main sports towards satisfaction with life may be limited. Additional sports, in contrast, are less structured and often less competitive, and therefore students may participate in additional sports because they can initiate and participate in them for intrinsic reasons (Medic *et al.*, 2007), which may promote satisfaction with life. Similarly, outdoor activities may be self-initiated and intrinsically motivated, which may explain the correlation between outdoor activities and satisfaction with life.

For female students (Table 3), outdoor activities had a statistically significant correlation with satisfaction with life, which can be explained by the fact that outdoor and nature-based activities provide opportunities to be physically active, to relieve stress, and for emotional and cognitive renewal (Puhakka, 2021). However, that only outdoor activities have a statistically significant correlation with satisfaction with life is concerning. Although the correlation does not indicate a cause-and-effect relationship, research has found that, in addition to outdoor activities, other activities such as sports are also associated with improved satisfaction with life (Kim *et al.*, 2024). Therefore, it seems that within the context of this study, the different sports offered by the university may not be in the right format or context to facilitate satisfaction with life among female students. Students have different motivations to participate in different activities (Beggs *et al.*, 2014), and knowledge of what motivates participation could go a long way in ensuring that activities meet the reasons for participation. It also seems that female students use outdoor activities, group sports, exercise, and dance as ways to combat leisure boredom. Even though, apart from outdoor activities, these activities are not related to satisfaction with life, they may offer other benefits not measured by this study. For example, combating leisure boredom can lead to decreased smartphone use and emotional distress such as depression, anxiety, and stress among students (Kil *et al.*, 2021).

Finally, one of the reasons for the differences in the results of male and female students may be that female students participate to gain benefits such as increased self-esteem, better class performance, being more social, increased campus community support, and better after-class time usage, while male students mostly participate to increase their wellbeing and overall physical fitness (Ceurvorst *et al.*, 2018). Lindsey (2012) supported this statement by adding that the reasons for male participation tend to cluster around benefits related to themselves, whereas female students are more drawn to activities that have social and community benefits.

Universities should be aware of these differences between male and female students so that sports and active recreation offerings can be designed and presented in ways that match student motivations, which may lead to improved participation in these activities, as well as achieving more desirable results and benefits.

The study had some limitations that need to be mentioned. The university used in the present study consists of three campuses, with students from only one campus participating in the study. Although including all three campuses would have been ideal, the campuses differed in student demographics and available infrastructure, making it impossible to generalise the findings. Generalising the findings is furthermore restricted because the relatively large sample size might have produced statistically significant findings. Additionally, this study only reported correlations; intervention studies might provide more information about the cause-and-effect relationship between the different variables. In this study only quantitative data were used, and qualitative methods could provide more information on how the various elements relate.

CONCLUSION

As a whole, in this study a positive statistically significant correlation between total frequency of participation and satisfaction with life was found, as well as a negative statistically significant correlation between total frequency of participation and leisure boredom. However, it should be noted that these correlations were weak. Therefore, the stated hypotheses are accepted. Considering the findings of other studies on how campus recreation offerings can improve student satisfaction with life, the university in the present study should reconsider its sports and active recreation offerings, as well as the format, context, and structure in which these activities are offered to maximise the benefits that students can obtain. It should also be noted that many of the active recreation activities in which students engage (e.g., exercise, dance, or outdoor activities) are not part of the university's sports and recreation offerings, highlighting the need for the university to diversify its current offerings and not just focus on main and additional sports.

In conclusion, universities must also focus on the sports and active recreation activities most preferred by students to encourage as many students as possible to participate. Students must be exposed to all sports codes to ensure they have an equal chance to participate in what they are interested in; thus, diversity and inclusivity need to be addressed and delivered. A suggestion to universities is to present more non-competitive sports on campus to ensure more participation and enable more students to enjoy the activities. Universities can also improve the marketing of their campus recreation offerings, to increase student awareness.

Conflict of interest

The authors declare no conflict of interest.

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