

Effects of Benefits Derived from Campus Recreation on Emotional Attachment towards the University

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Abstract

The purpose of this study is two-fold: (1) identify the underlying structure of a relatively large set of physical, social, and psychological benefits students gain from campus recreation participation, and (2) determine how physical, social, and psychological benefits impact their level of emotional attachment to the university. Findings revealed that a three-factor model was acceptable to explain the underlying structure of the identified benefits. Decomposition of the significant relationships also indicated that physical benefits have a significant impact on social and psychological benefits, which, in turn, influence emotional attachment towards the university. Moreover, the indirect relationships between physical benefits and emotional attachment were found, although physical benefits were not directly associated with emotional attachment. Since college administrators aim to increase academic success as well as attract new students, university recreation facilities should be a more integral part of educational progress for college students and the recruitment process for prospective students.

Introduction

The college recreation facility is known as an accessible place for college students to participate in recreation and sport activities, programs, and services (Forrester, 2015). Additionally, participation in campus recreation helps college students to enjoy various benefits, such as improving upon recreational skills, gaining knowledge about certain activities, and so on (Artringer et al., 2006; Barcelona, 2002; Iso-Ahola, 1980). For these reasons, over the past couple of decades, college and university administrators have continued to enhance the student's well-being and improve the campus experience by making major financial investments specific to campus recreation facilities (Huesman, Brown, Lee, Kellogg, & Radcliffe, 2009).

With their efforts, according to the National Intramural and Recreational Sport Association (NIRSA) (2014), the field of campus recreation found that 75% of students use facilities, programs, and services offered by on-campus recreation centers. Moreover, 80% of those participants participate in campus recreation programs at least once a week. In line with this, the academic field of campus recreation proved that the frequency of campus participation directly contributes to an individual's overall well-being and the quality of campus life (Ellis, Compton, Tyson, & Bohlig, 2002).

Subsequently, many researchers have also put many efforts into identifying various benefits from campus recreation participation (Colditz & Mariani, 2000; Collins, Valerius, King, &

Graham, 2001; Corbin & Lindsey, 2005; Haines, 2001; Todaro, 1993). More specifically, those benefits are closely connected to aspects of social, mental, and physical wellness, which contribute to quality of life (Ellis et al., 2002). According to Kanters (2000), students regard campus recreation participation as an outlet to cope with stress and demands of their course load, while improving their overall psychological well-being. In addition, students may benefit socially from campus recreation since it provides an opportunity for them to meet new people (Henchy, 2011; Dalgarn, 2001).

While understanding students' physical, social, and psychological benefits derived from campus recreation participation is important, students' emotional attachment to the university has been identified as another outcome of its participation (Hall, 2006). The notion of attachment was originated from a research studied by Bowlby (1979, 1980), which is defined as a connection between a person and a certain object emotionally. He asserted that higher levels of attachment are linked to higher levels of affection, association or obsession with a certain object (Bowlby, 1979). Specifically, Rubinstein and Parmelee (1992) also demonstrated emotional attachment to places as "a set of feeling about a geographic location that emotionally binds a person to that place...as a setting for experience" (p.139).

Regarding emotional attachment to academic places, many researchers stated that recreational programs and club activities offered from campus recreation centers or departments enhance college students' involvement in the campus life, and directly improves students' sense of belonging to the university (Miller, 2011; Sánchez, B., Colón, Y., & Esparza, 2005; Smerdon, 2002; Walton & Cohen, 2011). Furthermore, it has been supported that emotional attachment to the university encourages students' attendance, academic effort, academic success, and academic value (Anderman & Anderman, 1991, Goodenow 1993a, Goodenow 1993b, Goodenow & Grady, 1993). To cite a specific example, students who participate in extracurricular activities while in college reported a higher sense of community on campus (Hall, 2006). Ultimately, students who are attached emotionally are more likely to be alumni who can be donors for investing in their school (Weerts, & Ronca, 2007). Overall, campus recreation has encouraged students to get involved in the university and has facilitated positive outcomes for students' academic life and the university (Astin, 1993; Elkins, Forrester, & Noël-Elkins, 2011; Pascarella, 2006).

As mentioned, campus recreation has provided a wide array of benefits to students. To add meaningful information to the literature of campus recreation, this study developed a model to support the causal relationship between those benefits (i.e., physical, social, psychological benefits) and emotional attachment to the university, which is associated with the student's academic success in higher education. Therefore, the purpose of this study is two-fold: (1) to identify the underlying structure of a relatively large set of physical, social, and psychological benefits students derive from campus recreation participation and (2) to decompose the causal relationships among physical, social, and psychological benefits, and emotional attachment to the university. This study could provide practical implications for participation in campus recreation, which can improve students' emotional attachment, in higher education.

Literature Review

Benefits of Participation in Campus Recreation

Several studies have examined campus recreation participation to primarily determine motives of student participation and to evaluate the benefits of students' experiences (Beggs, Nicholson,

Elkins, & Dunleavy, 2014; Forrester, 2015; Henchy, 2011). Research has revealed that students are motivated to participate in campus recreation because of the various positive benefits derived from participation such as physical, social, and psychological outcomes (Beggs et al., 2014).

First, physical activity in the context of campus recreation involves participation that is intended to contribute to a healthier lifestyle, which leads to physical benefits (Henchy, 2011). College students reported that one of their major reasons for participating in campus recreation activities is to maintain and promote good physical health (Yoh, 2009). In support of the physical benefits, scholars have provided evidence that physical activities are positively associated with better physical functioning and improved strength (Colditz & Mariani, 2000; Corbin & Lindsey, 2005; Haines, 2001). For instance, physical activities in general play a significant role in preventing cardiovascular diseases, diabetes, and obesity in the life of college students (Chandrashekhar & Anand, 1991; Fletcher et al., 1996; Smith, Blair et al., 1995).

Second, campus recreation has been recognized as one of the places in higher education where students can build a sense of belonging to the university and form various social interactions (Correll & Park, 2005; Taylor, Canning, Brailsford, & Rokosz, 2003). According to Miller (2011), students who often use campus recreation centers have a high level of social belonging to the university because they experience social integrations through campus recreation activities. More specifically, Sutton, McDonald, Milne, and Cimperman (1997) suggested that common interests and pursuits can foster students' social integration with other students on college campuses. In other words, students who are participating in campus recreation are more likely to have a sense of belonging to their university or have common interests in and pursuits of physical benefits. As a result, this can make social integration and interaction with one another a success in higher education. This is a result of campus recreation's potential to connect students with others who share similar characteristics and interests (Correll & Park, 2005).

Finally, campus recreation participation also has the capacity to enhance the psychological wellness of students and several studies have noted that recreational activities are beneficial to an individual's psychological well-being. (Mannell & Kleiber, 1997; Shin & You, 2013). Csikszentmihalyi and Hunter (2003) revealed that students perceive more emotional benefits when they participate in recreational activities with other friends. Thus, active recreational participation generates more significant psychological benefits while passive participation negatively drives emotional wellness (Shin & You, 2013). In other words, active participation in programs and services designed by the campus recreation could improve the psychological well-being of students through increased self-confidence and reduced stress (Mannell & Kleiber, 1997). Accordingly, students actively participating in campus recreation are likely to express themselves in a positive manner (e.g., feeling of self-worth, self-confidence, and self-understanding), to develop social bonding and interaction with others, and to improve physical wellness (Ellis et al., 2002).

Importance of Emotional Attachment in Higher Education

Although previously mentioned benefits pertaining to physical, social, and psychological well-being are important, emotional attachment to the university is key to improving academic performance, and increasing retention rates among students (Anderman & Anderman, 1991, Goodenow 1993a, Goodenow 1993b, Goodenow & Grady, 1993; Hall, 2006). Multiple studies have sought to figure out the importance of emotional attachment in higher education (Eubanks

& DeVita, 2015; Miller, 2011). Eubanks and DeVita (2015) described emotional attachment as the students' sense of belonging to the university that may be created by social bonds developed during campus recreation participation. Moreover, Miller (2011) discussed students' sense of belonging as the level of commitment a student has to the university. Similarly, Hall (2006) found that students who participated in campus recreation while in college reported a higher sense of community on campus due to their emotional connection to the institution. Thus, scholars have determined that emotional attachment is fostered through campus recreation participation and positively impacts the university due to students' heightened allegiance to the institution (Hall, 2006; Miller, 2011).

Previous scholarly endeavors have indicated the importance of emotional attachment to institutions of higher education. Miller (2011) suggested that campus recreation facilities and programs directly improve students' sense of belonging to the university. Campus recreation activities encourage students to get involved in the university and facilitate positive interactions with other people on campus, enhancing the community atmosphere at the university (Astin, 1993; Elkins, Forrester, & Noël-Elkins, 2011; Pascarella & Terenzini, 2005). Additionally, participation in campus recreation has been found to positively influence students' motivation to stay at the university and to feel a part of the institution (Artinger et al., 2006). Therefore, increased feelings of emotional attachment to the university, derived from campus recreation participation, may lead to positive outcomes for the university. Since campus recreation participation may enhance students' sense of belonging to the university, emotional attachment is a crucial outcome for universities that should be explored further.

Relationship Between Benefits Derived From Campus Recreation

Prior research has been overwhelmingly supportive of the physical benefits that campus recreation participation provides students, but it is important to note that physical benefits may influence other outcomes (e.g., social and psychological benefits) as well. For instance, physical benefits have been found to increase students' social and mental well-being (Ellis et al., 2002). Kanter (2000) suggested that college students' participation in recreational programs are significant tools for controlling stress and enhances their social and psychological development. Similarly, Henchy (2011) discovered that students' participation in campus recreation activities led to social benefits, such as developing friendships with other students. Overall, research has consistently found that physical participation in campus recreation is related to additional benefits, namely social and psychological. Thus, physical benefits associated with campus recreation participation also improve students' social and psychological wellness (Ellis et al., 2002; Kanter, 2000; Henchy, 2011; Miller, 2011). As such, the following two hypotheses are proposed:

H₁: Physical benefits derived from participation in campus recreation are positively associated with students' social benefits.

H₂: Physical benefits derived from participation in campus recreation are positively associated with students' psychological benefits.

On the other hand, while the literature identifies social benefits as an outcome of campus recreation participation (Henchy, 2011; Miller, 2011), prior research also reveals that social membership is positively associated with an individual's psychological state (Branscombe & Wann, 1991; Wann, 2006). To be specific, according to Tajfel (1981), and Tajfel and Turner (1979), social identity theory has properly addressed the intangible benefits of social group membership. Such social benefits include developing emotional relationships with others

through interaction, such as a sense of affiliation with others, which can be referred to psychological benefits (Bressler & Grantham, 2000; Wang et al., 2002). This supports the causal relationship between social and psychological benefits derived from campus recreation participation.

As mentioned, participation in campus recreation allows students to interact with their peers and form friendships with other peer group members (Branscombe & Wann, 1991; Brewer, 1979; Wann, 2006), which plays a major role in increasing his or her psychological wellness (Mannell & Kleiber, 1997; Shin & You, 2013). In other words, the cultivation of social and emotional links with students' peer group through recreational activities can result in greater psychological well-being. This circumstance might boost students' psychological benefits in higher education as a result of their relationships with the in-group members (Branscombe & Wann, 1994; Tajfel, 1981). Therefore, social benefits that students experience because of their participation in campus recreation can be positively associated with students' psychological benefits. The forgoing discussion leads to the research hypothesis below:

H₃: Social benefits derived from participation in campus recreation are positively associated with students' psychological benefits.

Effects of Benefits on Emotional Attachment

Even though physical participation in campus recreation activities improves students' social and psychological benefits in higher education, the social benefits have also been found to stimulate a stronger sense of belonging to the university (Eubanks & DeVita, 2015; Henchy, 2011). Miller (2011) suggested that social bonds may improve during campus recreation activities and can contribute to students' heightened sense of belonging to the university. For example, students can develop an informal system where they have common interests or concerns and can assist each other through campus recreation participation, which in turn increases their emotional attachment to the university. Thus, emotional attachment to the university is enriched because of the social benefits that students experience through campus recreation participation.

H₄: Social benefits derived from participation in campus recreation are positively associated with students' emotional attachment to the university.

Psychological benefits have also been addressed in past research as an outcome of physical participation in campus recreation activities and have been described as students' emotional wellness (Mannell & Kleiber, 1997; Shin & You, 2013). Students who reportedly experience psychological benefits, such as increased self-confidence and reduced stress, generally have a better quality of campus life (Eubank & DeVita, 2015; Miller, 2011). A higher quality of campus life typically results in a more positive experience at the university and higher satisfaction with the university, which contributes to their sense of belonging to the institution (Sung, Koo, Kim, & Dittmore, 2015). In essence, psychological benefits improve students' mental state, which in turn influences their emotional attachment to the university. In review, physical, social, and psychological benefits are connected and result in students' emotional attachment to the university. Research has identified benefits resulting from participation in campus recreation, but the relationship between benefits is relatively unknown. Thus, the following hypotheses and conceptual framework have been proposed to explain the direct and indirect effects of benefits derived from participation in campus recreation on emotional attachment to the university.

H₅: Psychological benefits derived from participation in campus recreation are positively associated with students' emotional attachment to the university.

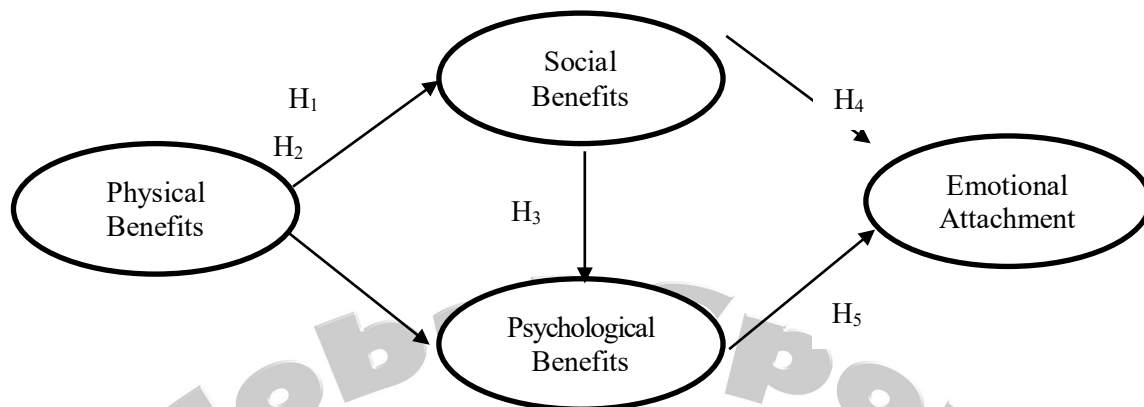


Figure 1. The Proposed Relationships between Benefits and Emotional Attachment

Method

Participants and Data Collection

The study used a cross-sectional quantitative online survey design. A purposive sample of college students who previously experienced campus recreation activities was taken from a Division I public university located in the southeastern area of the United States. The questionnaires were sent out to the sample via email containing the survey link. Out of 284 responses, 164 students (57.7%) who previously participated in campus recreation activities were used for the analysis and the remaining incomplete responses were discarded. This was because the study evaluates students' perceived benefits. The sample consisted of 90 females (54.9%) and 74 males (45.1%) students, containing 21 freshmen (12.8%), 38 sophomores (23.2%), 32 juniors (19.5%), 32 seniors (19.5%), and 41 graduate students (25.0%). The majority (60.7%) of the respondents were upper classman with the lowest number of respondents being freshman (16.7%). Additionally, most of the students (N=110, 67.1%) lived off campus.

Measures

The physical and psychological benefits were adapted from the National Intramural-Recreational Sports Association's *Quality and Importance of Recreational Services scale* (QIRS; NIRSA, 1991; Banta et al., 1991). NIRSA developed the QIRS scale in 1991, and this scale assessed perceived benefits related to student's involvement in campus recreations. Also, this scale had a normal distribution, and the psychometric properties of this scale were found to be reliable and valid in previous research using the QIRS scale (NIRSA, 1991; Forrester & Beggs; 2005; Lower, Turner, & Petersen, 2013). The psychological and physical benefits in this study were measured by eight items and the items were slightly modified for the purpose of this study. For example, four items, such as increasing self-worth, developing self-condition, understanding self, and improving happiness were used to measure psychological benefits, while physical benefits were measured by physical strength, fitness, weight control, and balance. Also, all items for the physical and psychological benefits were anchored by a 5-point Likert scale (1 = *Not beneficial*, 5 = *Extremely beneficial*).

The scale for social benefits was adapted from the previous study designed by Artringer et al. (2006). The social benefits were measured by five items including group cooperation skills, belonging/association, respect for others, developing a friendship, and sense of adventure, which was considered as interpersonal and group (social) benefits in a previous study (Forrester, Arterberry, & Barcelona, 2006). In addition, the items were slightly modified for campus recreation participation activities using a five-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*). For instance, one of the items, “friendships” from the Forrester, et al.’s scale was modified to “developing a friendship”.

Lastly, University Attachment Scale (UAS; Prentice, Miller, & Lightdale, 1994) was adapted to measure college student’s emotional attachment to the university. Emotional attachment to the university contained five items measuring acknowledgement of the university, being a part of the university, importance of the belonging to the university, feeling of the university, and recommending the university to others, anchored by 5-point Likert scale (1 = *Strongly Disagree*, and 5 = *Strongly agree*).

Data Analysis

The data analysis was performed using SPSS 20.0 and EQS 6.2. First, exploratory factor analysis (EFA) was employed to identify the underlying structures of the benefits derived from participating in campus recreation (Hair et al., 2010). The current study intended to use an exploring approach rather than a confirming approach to evaluate the structures of the benefits derived from participation in campus recreation. Since items were chosen from various scales, it was a necessary step to develop a clear understanding of the instrument’s structure. Second, the decomposition of effects between the identified benefits and emotional attachment to the university were evaluated by Structural Equation Modeling (SEM) via analyzing the direct and indirect relationships.

Results

Benefits From Participation in Campus Recreation

An exploratory factor analysis (EFA) with varimax rotation was used to identify the underlying structures of benefits derived from participation in campus recreation (Hair, et al., 2010). As seen in Table 1, findings revealed that a three-factor model was acceptable in terms of a reasonable compromise between model parsimony and adequacy of fit, which accounted for 79.60% of the total variance of the benefits. For instance, the first factor was associated with social benefits, which explained 27.75% of the variance of the benefits. The second factor correlated with psychological benefits, which accounted for 26.21% of the variance of the benefits. The third factor was related to physical benefits, which accounted for 25.64% of the variance of the benefits. In addition, as seen in Table 1, the internal consistency of extracted benefits also ranged from .899 for social benefits to .934 for psychological benefits, exceeding the recommended threshold value of .70 (Nunnally & Bernstein, 1994).

Table 1: Underlying Structures of Benefits

Benefits	Items	Factor Loading	Cronbach's Alpha
Social	Developing friendship	.873	.899
	Belonging/association	.776	
	Group cooperation skills	.774	
	Sense of adventure	.761	
	Respect for others	.682	
Psychological	Better understand myself	.909	.934
	Improves my self confidence	.907	
	Increases my feeling of self-worth	.833	
	Improves my overall happiness	.771	
Physical	Fitness	.882	.927
	Physical strength	.859	
	Balance/coordination	.770	
	Weight control	.736	

Effects of Physical, Social, and Psychological Benefits on Emotional Attachment

As seen in Table 2, the decomposition of significant relationships derived from the Structure Equation Model revealed that physical benefits have a significant impact on social benefits ($\beta = .650$, $t = 8.60$, $p < .05$) and psychological benefits ($\beta = .428$, $t = 3.67$, $p < .05$), supporting H₁ and H₂. Thus, a one standard deviation increase in physical benefits will lead to a .685 standard deviation increase in social benefits and .370 standard deviation increase in psychological benefits, holding all else constant.

Table 2: Decomposition of Effects with Standardized Values

Predictor	Outcome	Effects		
		Direct	Indirect	Total
Physical Benefits	Social Benefits	.650		.650*
Physical Benefits	Psychological Benefits	.428		.428*
Social Benefits		.351		
Social Benefits	Emotional Attachment	.278		.403*
Psychological Benefits		.129		.244*
Physical Benefits			.279 + .141	.420*

* $p < .05$, ** $p < .001$

Findings indicated that social benefits have a significant impact on psychological benefits ($\beta = .351$, $t = 2.79$, $p < .05$) and emotional attachment towards the university ($\beta = .278$, $t = 3.78$, $p < .05$), supporting H₃ and H₄. For instance, a one standard deviation increase in social benefits will lead to a .288 standard deviation increase in psychological benefits and .404 standard

deviation increase in emotional attachment, holding all else constant. Findings also supported H₅, specifying that psychological benefits are positively associated with students' emotional attachment towards the university ($\beta = .420$, $t = 2.35$, $p < .05$). For instance, a one standard deviation increase in psychological benefits will lead to a .288 standard deviation increase in emotional attachment, holding all else constant.

The model R^2 s reflect the overall strength of relationships between benefits and emotional attachment. About 47% of the variability of social benefits was explained by physical benefits while about 37% of the variability of psychological benefits was explained by physical benefits and social benefits. About 32% of the variability of emotional attachment towards the university was explained by social and psychological benefits. Finally, the overall model had a reasonable fit to the data (Hu & Bentler, 1999): $\chi^2(130) = 257.69$, $p < .001$; RESMES = .078; SRMSR = .058; CFI = .941.

Discussion and Conclusion

College students' participation in campus recreation activities has been found to enhance their wellness and promote a more positive experience in higher education (Huesman, Brown, Lee, Kellogg, & Radcliffe, 2009). The findings of this study indicate that students derived physical, social, and psychological benefits from participation in campus recreation and these benefits positively impacted their emotional attachment to the university.

The first hypothesis was supported and results found that physical benefits stemming from campus recreation participation were positively associated with social benefits. This finding is consistent with the notion that the non-academic environment such as campus recreational activities provides students a variety of opportunities to enhance their social well-being, which is not just limited to physical health benefits (Walton & Cohen, 2011).

The second hypothesis was supported and results found that physical benefits resulting from campus recreation participation were positively associated with psychological benefits. According to Ellis et al. (2002), physical benefits are helpful for enhancing psychological benefits, such as mental well-being as well as relieving psychological stress related to academic coursework at the university. Also, several past studies had similar results, finding that physical benefits derived from participating in campus recreation activities improve students' psychological wellness (Kanter, 2000; Henchy, 2011; Miller, 2011). Therefore, physical benefits that students perceived through their participation also enhanced their psychological benefits.

The third hypothesis was supported and unveiled that social benefits derived from participation in campus recreation were positively associated with psychological benefits. Although past studies have identified social and psychological benefits that students experience from campus recreation participation (Coleman & Iso-Ahola, 1993; Taylor et al., 2004; Wankel, & Berger, 1990), research has not identified the relationship that exists between the benefits. Therefore, the results of the study advance knowledge in the discipline and demonstrate that social benefits, such as friendships and community atmosphere, also foster a more positive mental state among students.

The fourth hypothesis was supported and results found that social benefits predicted by physical benefits from campus recreation participation were positively associated with college students' emotional attachment to the university. Campus recreational activities serve as a place for students to grow and gain a sense of belonging to the university since students spend most of

their time with each other outside of class (Miller, 2011; Korpela, Hartig, Kaiser, & Fuhrer, 2001). In conjunction with this line of thinking, social benefits developed through campus recreation programs promote a sense of belonging to the community among students, which is directly related with their level of attachment to the university.

The fifth hypothesis was supported and results found that psychological benefits predicted by physical benefits from campus recreation participation were positively associated with college students' emotional attachment to the university. The physical and psychological benefits produced by participation in campus recreation are likely to improve a student's campus quality of life. Also, those benefits are closely related to students' psychological and emotional wellness (Mannell & Kleiber, 1997; Shin & You, 2013). Through participation in campus recreation, students can experience many psychological benefits, such as the ability to better cope with stress and increase their level of self-confidence, which in turn contributes to a higher quality of academic life (Miller, 2011). Finally, a higher quality of academic life results in a stronger sense of belonging to the university (Sung, Koo, Kim, & Dittmore, 2015). Because of this, a better quality of life is likely to result in a student having positive experiences and connections to the university (i.e., emotional attachment).

In summary, the physical benefits, which predict social and psychological benefits, ultimately result in a stronger emotional attachment to the university. Overall, the proposed model supports the notion that campus recreation participation benefits are interrelated and lead to an increase in emotional attachment to the university. Universities can utilize this information to enhance their campus recreation programs and increase students' emotional attachment to the school. Since campus recreation results in much more than just physical benefits, universities should encourage students to participate due to the social, psychological, and emotional connection that is created through the campus recreation experience.

Managerial Implications

While the findings reveal benefits students experience because of the campus recreation participation, results also discovered that social and psychological benefits, derived from physical benefits, are positively related to students' emotional attachment to the university. Therefore, campus recreation professionals should ensure that social programs and activities are provided since they positively influence psychological wellness and attachment to the university. In order to increase student's attachment to the university, campus recreation departments could provide more on and off campus social bonding opportunities, such as group activities and trips. Pittman and Richmond (2008) suggested that an increase in emotional attachment to the university positively influences students' social belonging and academic efficacy.

Another benefit for universities associated with higher levels of emotional attachment created by campus recreation participation is the increased likelihood of alumni that will be future donors. Patouillet (2000) suggested that students with a positive emotional attachment to the university are more likely to be future university donors. To be specific, the higher the level of social and psychological benefits that students perceived through campus recreation participation (Hall, 2006), the higher the level of emotional attachment that they experienced. Therefore, higher levels of emotional attachment positively influences students to become alumni who can be future donors and investing in their school (Weerts, & Ronca, 2007). With the continued financial issues university administrators confront, identifying ways to increase alumnus'

emotional attachment to their alma mater may assist institutions in increasing an important revenue stream.

Participation in campus recreation and the social interactions it creates has also been linked to student retention (Miller, 2011). Findings from the study indicated that participation in campus recreation resulted in social benefits and these benefits were related to emotional attachment to the university. As students become more involved in and attached to the university, the more likely they are to remain in school (Forrester, 2014). Forrester (2014) suggested that participation in campus recreation has positive impacts on student retention rates at universities. Since university administrators are making significant financial investments to increase retention rates, campus recreation departments should be an integral part of retention strategies implemented by institutions (Bejou & Bejou, 2012; Henchy, 2011).

Finally, all institutions of higher education can benefit from the information provided by this study. Institutions considering the construction of new campus recreation facilities and those that have already constructed new facilities can use the findings from this study to support the utilization of resources on such facilities. Participation in campus recreation not only provides personal benefits (i.e., physical, social, and psychological) to the students, but it also increases emotional attachment to the university. Taken together, the personal benefits that students perceived by campus recreation participation is closely related to the quality of student's academic life (Astin, 1993; Elkins, Forrester, & Noël-Elkins, 2011) and affects student's commitment to the university as emotional attachment (Hall, 2006; Miller, 2011). In summary, the quality of student life at the university greatly impacts the capacity of the school to positively influence retention rates and alumni support.

Limitations and Future Studies

The current study yielded significant findings but also included some limitations that can be utilized to guide future research. First, the study only examined physical, social, and psychological benefits stemming from participation in campus recreation, but there may be other benefits that were not explored in this study. Also, it would be interesting to examine what role the socio-demographics play in the social, psychological, and physical benefits of campus recreation participation. Future studies should seek to expand the presented framework considering socio-demographics to identify other benefits of campus recreation participation.

Second, the study only considered the student population at one specific university in the southeastern area of the United States. Thus, findings may not be generalizable to all universities and benefits may differ at other schools. Future studies may want to sample students from multiple universities and other geographic regions as well. Findings may reveal that students experience different benefits or outcomes when participating in campus recreation activities at other universities.

Finally, although emotional attachment is an important outcome, additional results, such as academic performance or university retention should be included. Currently, past research provides reasoning for how emotional attachment can impact academic outcomes and retention rates, but more studies are still needed to verify this relationship. Therefore, additional factors could be included to improve results of the study and implications for practitioners.

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