

I use the student recreation center, but I would use it more if... : Understanding male and female constraints to student recreation center use.

Abstract

Studies have found that there is a positive relationship between the number of student visits to campus recreation and academic outcomes such as rates of graduation and GPA (Huesman, Brown, Lee, Kellogg, & Ratcliffe, 2009). Despite the strong correlation between use of fitness facilities and academic performance some students choose not to visit, while some who use the facilities may not be maximizing such use due to constraints (barriers). The purpose of this study was to understand the constraints (~~barriers~~) to using the campus recreation facility at a midsized New England university. Moreover, this study sought ~~seeks~~ to understand the types of ~~what~~ management actions that would help increase use of the recreation center by current users. An online survey was distributed to a random sample ($n = 2400$) of all campus recreation visitors in fall of 2013 using a modified Dillman method of distribution (2009). A total of 882 respondents completed the survey for a response rate of nearly 37%. Important results from this study included that female students were much more likely than male students to report being constrained by not knowing how to use the free weight section safely ($m=3.40$, $SD=1.143$; $m=2.68$, $SD=1.166$, respectively) and that male students suggested that they were more likely to participate than female students ($m=3.07$, $SD=1.182$; $m=2.96$, $SD=1.235$, respectively) at the Student Recreation Center (SRC) if they were not as involved with other activities. This information can be used to guide the expansion planning of future SRC projects and to help improve the participation habits of students at the case institution.

KEYWORDS: campus recreation, gender, participation outcomes, management implications.

Introduction

The use of student recreation centers (SRCs) have significant correlations to positive student outcomes including higher student retention rates, improved student satisfaction, and a greater sense of community within an educational institution (Hall, 2006). SRCs are often a focal point for campus life and can create a strong sense of community on a college campus (Dalgarn, 2001). Students benefit from the use of campus recreation services in numerous ways, such as, improved general well-being (both mental and physical) while in college; increased likelihood of developing lifelong healthy behaviors; improved academic performance; and finally, increased satisfaction with the academic institution (Belch, Gebel & Maas, 2001; Broughton & Griffin, 1994; Huesman, Brown, Lee, Kellogg & Radcliffe, 2009; Kanter, 1997; Theodore, 1999). Hall (2006) suggests that participation in campus recreation can be a better predictor of student retention rates than other academic success measures such as grade point averages. Both Elkins et al. (2007) and Hall (2006) found that students develop a stronger sense of community from this participation and can become more connected to their institution. These social outcomes are also significant predictors of student retention and feelings of affinity toward their institution.

Despite the abundant benefits of using SRCs and participating in organized campus recreation activities, many students are not able to visit SRCs as frequently as desired (Young, Ross, & Barcelona, 2003). Although non-users are perceived as the most constrained, it is also important to consider infrequent users as they may not be realizing the full benefits of participation. Therefore, it is important to consider the constraints of all participants (non-users and infrequent users alike) to ensure that

students are able to receive the positive outcomes available through campus recreation programs.

Previous research has consistently found that not having time is the number one constraint to recreating (Miller, Bullock, Clements & Basi, 2000; Young, Ross, & Barcelona, 2003). There are numerous student activities and other responsibilities that take up students' time. Academic, social, and familial responsibilities all impede on student use of campus recreation. There are other barriers such as availability of equipment, parking and overcrowding that also constrain students' use of SRCs.

Constraints to SRCs are not experienced uniformly amongst all groups of students. For example, Young et al. (2003) found significant differences in how female students experience and participate in campus recreation compared to male student. Females, for example, tend to choose to participate in activities that are less competitive and where they can avoid conflict. In contrast, male students are more likely to participate in recreational activities in which they are already skilled (Young et al. 2003). Some institutions have addressed this issue in their facilities by developing new equipment configurations in order to "soften" the look and appearance of their SRC (Staeger-Wilson et al., 2012). In previous research females have reported perceived constraints to use SRCs such as perceived gender-dominated activities, intimidation, and feeling uncomfortable (Watson, Ayers, Zizzi, & Naoi, 2006). Considering these explicit differences, it is important to understand the differences based on gender in participation preferences within a SRC.

Previous research on constraints to recreation and sport are well known. Crawford and Godbey (1987) proposed a hierarchical model of constraints to recreation

that has been widely used as theoretical framework to understand leisure constraints. This hierarchy of recreation constraints has three separate categories: intrapersonal, interpersonal, and structural. These constraints often react in a hierarchical manner and recreationists must navigate these constraints effectively in order to participate in recreation programs (Crawford, Jackson & Godbey, 1991). An intrapersonal constraint (involves individual psychological states and attributes) for some students might be the lack of self-confidence or experience to participate in a certain activity. Interpersonal constraints (a result of interpersonal interactions) could include the desire to exercise with a friend who is unable to exercise at the same times.

For students, an insufficient amount of free time is the most frequent structural constraint to their participation (Young et al. 2003). Examples of other structural constraints (an intervening factor between leisure preference and participation) might include, not having enough money, or a lack of transportation. While it is imperative that campus recreation professionals understand all the constraints that students face using campus recreation services, of particular importance are the structural constraints (i.e., building design, hours of operation, equipment layout, etc.). Structural constraints are often the constraints that managers can most readily address. Structural constraints are particularly germane when restructuring, remodeling or building new campus recreation facilities. Despite decades of research on leisure constraints on other populations, relatively little research has specifically examined constraints college students face to using SRCs. Structural constraints, more than intrapersonal or interpersonal constraints are the simplest constraints for SRC management to address. If availability of equipment

is the strongest barrier to participation, management can provide methods of displaying the use of equipment remotely to potential users.

Considering the positive outcomes expressed by Hall (2006) and Elkins et al. (2007), campus recreation administrators must better understand the unique relationship between constraints and participation at their institutions and how they can improve the services they provide to the university community. Though previous research suggests that there may be gender differences in how students experience constraints to using SRCs, few studies have directly examined and compared how male and female students experience SRC constraints. The purpose of this study was to examine the constraints faced by male and female students users of at a midsized university in New England.

Research Questions

1. What are the strongest perceived constraints to using the SRC?
 - a. Do perceived constraints differ between male and female users of the SRC?
2. Are constraints to using the SRC significantly related to use of the SRC?
 - b. For female users which SRC constraints are significantly related to the use of the SRC?
 - c. For male users which SRC constraints are significantly related to the use of the SRC?

Methods

A cross sectional quantitative survey research was used to collect data at a public, mid-sized university in the Northeastern United States. An online (Qualtrics) questionnaire was distributed to a random sample of 2,400 of 9,992 students who visited the SRC during the fall semester of 2013. The selected sample was emailed a link to the

questionnaire a total of three times using a modified Dillman method. Respondents were entered into a drawing for an Apple iPod Touch. Of the 2,400 individuals who received the survey, 882 respondents started the survey, and 720 respondents completed every question in the survey, representing a completed survey response rate of 30%.

Pilot Study

An initial pilot survey was distributed to determine an approximate response rate for the final survey and to assess the quality and readability of the survey items. The pilot survey was sent out to a random sample of 100 visitors of the SRC during the fall 2013 semester. Considering the pilot survey yielded a response rate lower than 10%, it was determined that excess items needed to be removed in order to limit respondent fatigue. Items were removed if they measured similar categories and if they became redundant within the study. Modifications made as a result of the pilot may have played a significant role in improving the response rate for the final survey.

Instrument

Respondents took approximately 10-15 minutes to complete this survey. This survey included *participant usage, participant constraints, and demographics*. Fourteen likert scale items were used to measure respondent constraints in the second section of the questionnaire. Responses to these questions were measured on a scale of strongly disagree to strongly agree where strongly disagree = 1 and strongly agree = 5. The items in this section were adapted from a variety of resources including Beggs et al. (2005) and Elkins et al. (2007). Items were approved by a team of researchers, including the director of campus recreation and recreation constraint researchers, and were vetted in the pilot

survey. All phases of this study were also vetted and approved by the University of New Hampshire Institutional Review Board for the Protection of Human Subjects in Research.

Data Analysis

The survey provided empirical data that explained the relationships between student participation and various leisure constraint variables. All data was analyzed in SPSS 20. Descriptive statistics and One-Way Analysis of Variance were used to answer research question 1. To address research question 2, multi-linear regression analysis was used for both male and female respondents.

Results

Demographics

Of the 720 respondents who completed the surveys, 429 (59.6%) were female and 291 were male (40.4%). The percent of female respondents is slightly higher than the percent of enrolled female students (55% of all university students). Respondents ranged in age from 18 to 54 years old, with an average age of 21 (SD = 1.3). There was a fairly equal distribution of respondents between the freshman, sophomore and junior classes. There was a notable decrease in the number of respondents from the senior class (17.8%) compared to the other classes

Respondents reported visiting an average of 11.5 (SD = 8.7) times per month. Approximately 68% of the respondents reported that they were not able to visit campus recreation as often as they would like. Respondents were asked how many times a month they would like to visit the SRC. They reported that they would prefer to visit the SRC 19.7 (SD = 9.2) times per month. The average number of visits did not differ

significantly between female and male respondents (11.6 visits, SD = 8.7; 11.8 visits, SD = 8.8 respectively). No significant difference was found between male and female students for the optimal number of visits per month (20 visits, SD = 8.9; 19.9 visits, SD = 9.3 respectively) (see Table 1 for full results).

Table 1. Demographics and Visitor Use

Variable	% or Mean	n
<i>Age</i>	M = 20.96 (SD 1.3)	711
18-19	14.9%	106
20	26.7%	190
21	23.6%	168
22	17.2%	122
23 and older	17.6%	125
<i>Class</i>		
Freshman	22.5%	161
Sophomore	27.7%	198
Junior	23.6%	169
Senior	17.8%	127
Other	8.4%	60
<i>Gender</i>		
Male	40.4%	291
Female	59.6%	429
<i>Average number of visits per</i>	M = 11.5 (SD 8.7)	
<i>Do you visit as often as you would</i>		
Yes	32.3%	271
No	67.7%	569
<i>Optimal number of times each</i>	M = 19.7 (SD 9.2)	829

Student Recreation Center Constraints

Survey respondents identified several constraints that strongly influenced their participation at the Student Recreation Center. Of those constraints that scored highest, students suggested that they would go to the Student Recreation Center (SRC) more if they had more free time ($m=4.10$, $SD=1.003$). In addition, survey respondents would be more likely to visit the SRC if they had a friend to participate with ($m=3.21$, $SD=1.211$), if parking was more easily available ($m=3.12$, $SD=1.279$), if they knew how to lift free

weights safely ($m=3.13$, $SD=1.210$), and if they were less involved with other activities ($m=3.00$, $SD=.987$).

Survey respondents also concluded that some constraints were less likely to impact their participation at the SRC. Results indicated that most respondents were ~~are~~ satisfied with available opportunities ($m=2.00$, $SD=.920$). Available transportation was not a barrier to their participation ($m=1.80$, $SD=.910$) along with the perceived body image of survey respondents ($m=1.92$, $SD=1.061$). Lastly, respondents of this study reported that receiving a free membership at a different gym would have very little impact on their use of the SRC ($m=1.66$, $SD=.987$).

Gender Differences in Student Recreation Center Constraints

Though male and female students did not differ significantly in their use of the SRC or their preferred use of the SRC, there were significant differences in how they experienced constraints to the SRC. Female students were much more likely than male students to report being constrained by not knowing how to use free weights safely ($m=3.40$, $SD=1.143$; $m=2.68$, $SD=1.166$, respectively). Additionally, female students reported that they would be more constrained than male students by the either being cold in the winter ($m=3.19$, $SD=1.314$; $m=2.64$, $SD=1.227$, respectively). Male students suggested that they were more likely to participate than female students at the SRC if they were not as involved with other activities ($m=3.07$, $SD=1.182$; $m=2.96$, $SD=1.235$, respectively) (see table 2 for a full list of constraint items and differences).

Table 2. One-Way Analysis of Variance Comparing Mean Respondent Constraint Scores by Gender

Improvement Item	N	Overall Mean** (SD)	Female* Mean (SD)	Male* Mean (SD)	F-value	Significance
I would go to the Student Recreation Center if I had more free time.	718	4.10 (1.003)	4.21 (.931)	3.96 (1.053)	11.446	.001*
I would go to the Recreation Center more if I had a friend to participate with.	719	3.21 (1.211)	3.10 (1.239)	3.32 (1.136)	5.549	.019*
I would participate more if parking was more easily available.	720	3.12 (1.279)	3.02 (1.295)	3.25 (1.243)	5.363	.021*
I would use the free weight section more if I learned how to lift weights safely.	717	3.13 (1.210)	3.40 (1.143)	2.68 (1.166)	67.427	.000*
I am involved with other activities.	717	3.00 (.987)	2.96 (1.235)	3.07 (1.182)	1.416	.234
I would participate if the weather was not as cold in the winter.	720	2.99 (1.311)	3.19 (1.314)	2.64 (1.227)	32.129	.000*
I would go to the Recreation Center more if there were activities I was familiar with.	718	2.52 (1.141)	2.56 (1.147)	2.40 (1.100)	3.163	.076
I do not participate because I do not have a team to play on.	719	2.31 (1.120)	2.31 (1.118)	2.26 (1.097)	.442	.506
I find the fitness center to be intimidating.	715	2.27 (1.140)	2.39 (1.173)	2.08 (1.065)	13.008	.000*
I do not participate because I don't enjoy available opportunities.	719	2.00 (.920)	1.95 (.907)	2.04 (.912)	1.580	.209
I am self-conscious of my body image.	714	1.92 (1.061)	1.94 (1.077)	1.84 (1.017)	1.657	.198
I do not have transportation to get to the Student Recreation Center.	715	1.80 (.910)	1.68 (.865)	1.87 (.884)	8.554	.004*
I have a free membership at a different gym.	718	1.66 (.987)	1.57 (.947)	1.72 (1.009)	3.893	.049*

*N for male respondents is 291; N for female respondents is 429

Note. Strongly Disagree = 1, Disagree = 2, Neither Agree or Disagree = 3, Agree = 4; Strongly Agree = 5; across all constraint items.

Multiple Linear Regression of SRC Constraints by Gender

A majority of survey respondents reported that they desired to visit campus recreation more frequently, but they encountered constraints that prevented their visitation. To assess which constraints posed the strongest barriers to visitation, all 13 constraints and the number of respondent visits per month were entered into a linear regression using the stepwise method. The results of this stepwise regression found that five constraints explained a modest ($R^2 = .143, p = .000$) amount of the variance in student visitation to the SRC. Being “involved with other activities” had the strongest negative relationship with visitation to the SRC ($\beta = -.267, p = .000$). The constraints “I find the fitness center intimidating”, “I have a membership at another gym”, and “I don’t participate because I don’t enjoy the available opportunities” all had significant negative relationships with visitation of the SRC ($\beta = -.154, p = .000$; $\beta = -.085, p = .015$; $\beta = -.083, p = .000$ respectively). Only one of the constraint items, “I would use the free weight section more if I learned how to lift weights safely”, was positively related to visitation to the SRC ($\beta = .075, p = .036$).

When analyzing constraints for female and male respondents, minor differences in which constraint items most strongly related to visitation became apparent. Constraints to visitation explained over 16% ($p = .000$) of the variance in monthly visitation for female visitors, and 11% ($p = .000$) for male visitors. For both female and male visitors, being involved with other activities had the strongest relationship with visitation to the SRC ($\beta = -.316, p = .000$; $\beta = -.308, p = .000$, respectively). Similarly, female and male visitors were both constrained by being intimidated by the fitness center ($\beta = -.164, p = .001$; $\beta = -.144, p = .012$, respectively).

For female respondents, there were two unique constraints that were related to visitation of the SRC that were not constraints for male visitors. The constraints “I would go to the SRC more if I had a friend to go with”, and “I would use the free weight section more if I learned how to lift weights safely” were both significantly related to female visitation to the SRC ($\beta = -.115, p = .015$; $\beta = .110, p = .020$, respectively). For male respondents, lack of free time had a significant positive relationship with visitation of the SRC ($\beta = .120, p = .047$) (see Table 3 for a regression model of SRC participation and constraints).

Table 3. Final Regression Model for SRC Participation and SRC Constraints

Model	R ²	Constraint	β	Sig
All Respondents	.143***	I am involved with other activities.	-.267	.000
		I find the fitness center to be intimidating.	-.154	.000
		I have a membership at a different gym	-.085	.015
		I don't participate because I don't enjoy available opportunities	-.083	.029
		I would use the free weight section more if I learned how to lift weights safely.	.075	.036
Female Respondents	.166***	I am involved with other activities.	-.316	.000
		I find the fitness center to be intimidating.	-.164	.001
		I would go the SRC more if I had friend to go with.	-.115	.015
		I would use the free weight section more if I learned how to lift weights safely.	.110	.020
Male Respondents	.115***	I am involved with other activities.	-.308	.000
		I find the fitness center to be intimidating.	-.144	.012
		I would go to the SRC if I had more free time.	.120	.047

* $p < .050$, ** $p < .010$, *** $p < .001$, Only significant variables were used in this model.

Discussion

There is a strong desire by students regardless of gender to use the SRC more frequently. The results of this study support previous research to help identify a variety of constraints faced by students in SRC participation. Specifically, Lindsey (2012) and Watson et al. (2006) addressed the connotation that females are more likely to participate due to social and community concerns. This is also reinforced by Cooper, Schuett, & Phillips (2012) as they suggest that females have shown a higher motivation to participate due to appearance or social motives. In contrast, male students are more likely to participate if they have more free time.

Female students are visiting the SRC at similar rates as male students, but they are encountering constraints to using certain area of the SRC once they are there (i.e., free weight section). Though visitation to the SRC was positively related to the constraint item of not knowing how to use the free weights, female respondents were not able to maximize their use of the entire SRC due to this lack of knowledge. They reported that they would use the free weights more if they understood how to use them. This difference may exist due to the priority of strength training in boys' high school athletics as males are more likely to have a basic or preliminary understanding of strength training programs they feel more comfortable participating in similar activities. Less of a focus is placed on strength and weight training in female high school athletics.

Previous research has suggested that SRCs soften their appearance to be more inviting to female students, but in this study we found that both male and female students would participate more if the SRC were not as intimidating (Young et al., 2003). As Staeger-Wilson et al. (2012) and Young et al. (2003) suggest, it is important to develop

equipment configurations that “soften” the appearance of fitness centers in order to make them more welcoming to all students.

Practitioner Implications

Conducting a student assessment can provide valuable data to guide practitioner decisions to help students negotiate constraints. In this particular study, several outcomes can be applied to improve student constraints and SRC visitation. This study has found that there was no difference in the average number of self-reported visits between genders. With that information, practitioners can infer that neither male nor female students are more constrained than the other.

In relation to the participation constraints assessed in this study, the most prominent constraint (not having enough free time) should be addressed by SRC managers with innovative and convenient strategies. A marketing campaign to educate students on the most crowded time of the day can provide an opportunity to students to modify and adapt their schedule. Ideally, this information can educate students to help them make better time management decisions in order to participate at the SRC.

Several other constraint items can provide necessary information to help improve SRC participation. First, results suggest that students would be “more likely to participate if they had a friend to exercise with”. One potential remedy to this issue would be to create a workout buddy program for students. This program can be used to assign similar individuals with the same workout patterns and goals in order to improve their participation. Another constraint that ranked highly was “I would exercise more if I knew how to lift weights safely”. Several strategies are available including fitness and equipment orientations and an increased marketing of personal training programs. This

could also be addressed by creating video tutorials for student to watch in the free weight area and/or prior to visiting the SRC.

Female students were much more likely to visit the SRC if they knew how to lift weights safely. In order to address this concern with female students, campus recreation administrators should consider incorporating more strength training exercises into group fitness classes as they are mostly attended by female students. As female students continue to attend these fitness classes, they are likely to become more comfortable with strength training through their participation. In contrast to males, female students were more likely to visit the recreation center if they had a friend to exercise with. Although group fitness is successful in addressing this common constraint, professionals should also consider developing an educational program for female students that want to become more familiar with traditional weight lifting.

The majority of respondents reported that they found the fitness center to be intimidating. As discussed in the introduction and discussion portion of this study, previous research concluded that professionals should consider “softening” the appearance of the SRC and adjusting the layout of various fitness equipment. Campus recreation departments would be wise to develop a focus group for non-participants in order to understand their recreation preferences and to develop new programs for this population. Many survey respondents also identified that they were more likely to visit the SRC if they knew which time of day was least crowded. This problem can be alleviated through an educational campaign to educate students on the busiest times in the facility. Potential opportunities include a mobile application, facility webcams, and social media or other marketing tools to share the level of crowding within the facility.

- There is not a significant difference between male and female student's constraints to use the SRC.
- The most common constraint was not having enough time.
 - Managers should consider better educating students on the most crowded times
- Students are more likely to visit as often as they would like if they have a friend to go with.
 - Programmers could design a workout buddy program and possibly link this to existing leisure skills courses that are offered for credit.
- Students would use the facility more if they understood how to use the equipment better. This is especially true for female students.
 - Providing easily accessible instruction on how to use equipment properly through programming, staffing or even online videos could increase visitation.
 - Providing leisure skills course that educate students how to properly use equipment is another way to disseminate this information.

Figure 1. Practitioner Implications

Recommendations for Future Research

This study provides additional support that students face specific and different constraints in their participation at SRCs. Future research should address constraints to specific programs offered through SRCs that were not assessed in this study. Another recommendation of future research would include a review of potential facility improvement projects and how these improvements may benefit student participation.

Furthermore, this study is easily replicable within other institutions and facilities. Replication of this study is strongly encouraged. Practitioners should ensure that they have access to the necessary contact information for participants in order to effectively distribute the survey tool to their desired population.

A final recommendation from this study is that future research seeks to better understand the non-users of SRCs. Although this research examined the constraints of students that participated at least once, non-users are likely to be the most constrained, and in this case least understood. While this was a function of the sampling

for this study, we strongly recommend that future research seek to better understand the non-users of SRCs.

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