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A Study of Campus Recreation Usage:
Developing Our Student Body into Well-Balanced Graduates

By

Carson Hardy

And

Garrett Hellman

An honor's thesis submitted in partial fulfillment
of the requirements for the degree of
Bachelor's Degree with Honors
Honors College
University of South Florida

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Eric Hunter, Director, Campus Recreation Department

Committee Members:

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Introduction

Over the past 8 months this study was designed, reviewed, implemented, and then the data were analyzed to determine how the University of South Florida (USF) and its Campus Recreation (CR) Department could attain a higher attendance percentage at its main facility with respect to its undergraduate students. To assist in drawing meaningful conclusions, the researchers used a similar study that had been previously conducted in 2008 by The Campus Recreation Department, so that cross referencing the data will in turn produce more important results. Although there was not an exact match of all data categories to the current study, her study is extremely relative for comparative purposes. She is also an acting committee member for the researchers and has been a great source of knowledge throughout the study. Dr. Herreid met with the researchers, Carson Hardy and Garrett Hellman, at the initiation of the process and throughout the process as well, in order to give advice and to ensure that the student researchers stayed on the right track.

The initial idea for the thesis came from the contributions of Georg Kleine, Ph.D and Eric Hunter. During their time at USF they have worked together on several occasions and found both Carson and Garrett qualified to work together on the project presented herein. With both students actively pursuing degrees in accounting at the University of South Florida, having similar interests in athletics, and having been frequenters of the USF Campus Recreational Center, both students decided to pursue their thesis topics in this general area. Dr. Kleine set up the initial meeting for the two students to meet with Mr. Hunter; and from there, they resolved that a joint-thesis would be beneficial to all parties involved.

The premise of the study is as described in the opening sentence, but it is much more entailed. The researchers prepared a survey that was dispersed to several thousand USF

undergraduate students. The goal was to get responses from as many students as possible and to determine the following items: if they live on or off campus; how often they have used the main Campus Recreation Center over the past year; what factors have kept them from utilizing the facility more often; ethnicity; their college within USF; gender; year in school; full or part time student status. The research committee members advised that data from at least 400 student participants would be needed in order to reach statistically significant conclusions. Every effort was made by the research team to ensure a high response rate. As a result of their diligent efforts, the researchers were able to gather survey data from 600 participants.

The research project as a whole began in October of 2010. It took until February of 2011 to get the survey finalized and sent out to students. The most effective method to get responses was determined to be sending the survey to professors across the university, for further dispersion to their students. The researchers reviewed the courses offered at USF during the Spring 2011 semester and selected the courses with the highest student enrollment so that they would have access to the largest possible sample of participants. Once a list of the courses had been compiled, the teachers were contacted and asked to forward the survey to their students in order to begin the data gathering process. At first, the researchers did not receive the expected number of responses from the targeted professors. In order to encourage a better response rate, Dean Silverman of USF's Honors College forwarded the electronic survey to the entire Honors College student population. After this additional dissemination strategy, the targeted number of surveys was attained. All of the data were gathered by March, it was further analyzed using SPSS, Microsoft Excel, and Google Documents. Data categories were further differentiated in order to provide the most meaningful data results.

Demographic Characteristics

602 responses were gathered in total. 381 respondents, or 63%, lived on campus, while 221, 37%, lived off campus. Nearly three-quarters of respondents were White, while 10% were Hispanic, 10% were Asian, and 5% were Black. 62% of respondents are students in the College of Arts and Sciences, with roughly 10% of students falling within each College of Business, Engineering, and Behavior and Communication Sciences. Fewer than two percent of responses came from either Public Health or Education. 389 students were female, or roughly 65%, while the other 35%, or 213 respondents, were male. The spread of responses from students in different years of school were fairly even, with 22% freshmen, 22% sophomores, 27% juniors, and 30% seniors. Full-time students made up 98% of all respondents.

Areas of Focus

There are several different components that will be discussed. The sections will consist of: the current data result, explanations and solutions for deterrents, analyses of demographic information with deterrents, frequency of Campus Recreation Facility usage, a logistic regression of all variables and their effect on usage, and 2008 comparison data. While these areas do not necessarily encapsulate all areas that warrant discussion, they are the ones that were hypothesized to have the greatest impact on the increased usage of the USF Campus Recreation Center by undergraduate students at the USF Tampa campus.

Current Survey Results

When students were surveyed in the Spring semester of 2011, many responses were given to the question of “Which of the following factors kept you from visiting Campus Recreation Center more often?” The provided options, of which multiple answers could be selected, were as

follows: Parking; Equipment Availability; Lack of Certain Types of Equipment; Use of Another Gym; Lack of Athletics' Courses; Operating Hours; and Other, with the option to fill in their own response. The following figure shows the deterrents selected (or manually entered under "Other") by the surveyed students (see Figure 1).

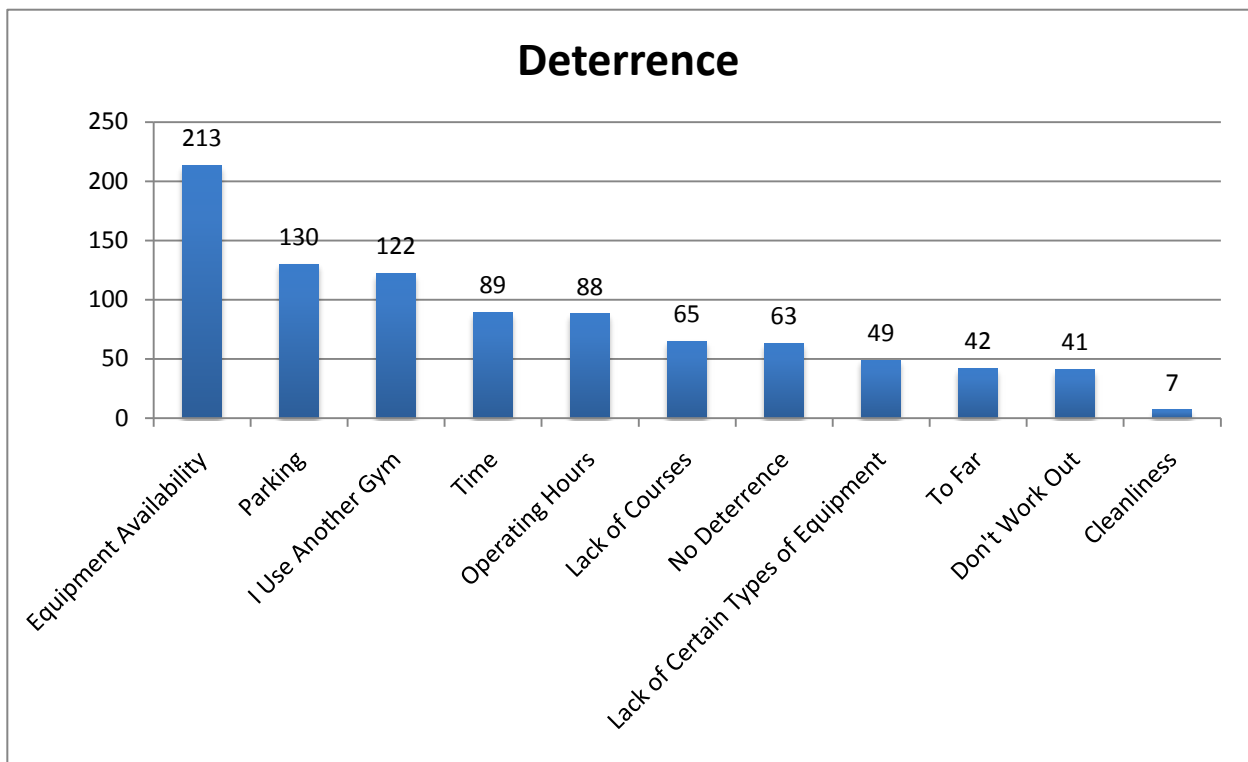


Figure 1. Number of Surveyed Students Choosing Each Deterrent (N=602)

Figure 1 presents the total number of students surveyed that selected each deterrent. This information should be referred to frequently throughout the next sections, in which many of these deterrents will be analyzed and potential methods to decrease these numbers will be given.

Additionally for reference, use Figure 2 below. This graph presents the deterrents in percentage format, where each deterrent is shown, along with the percentage of students who felt it was a hindrance from using the Campus Recreation Center more often.

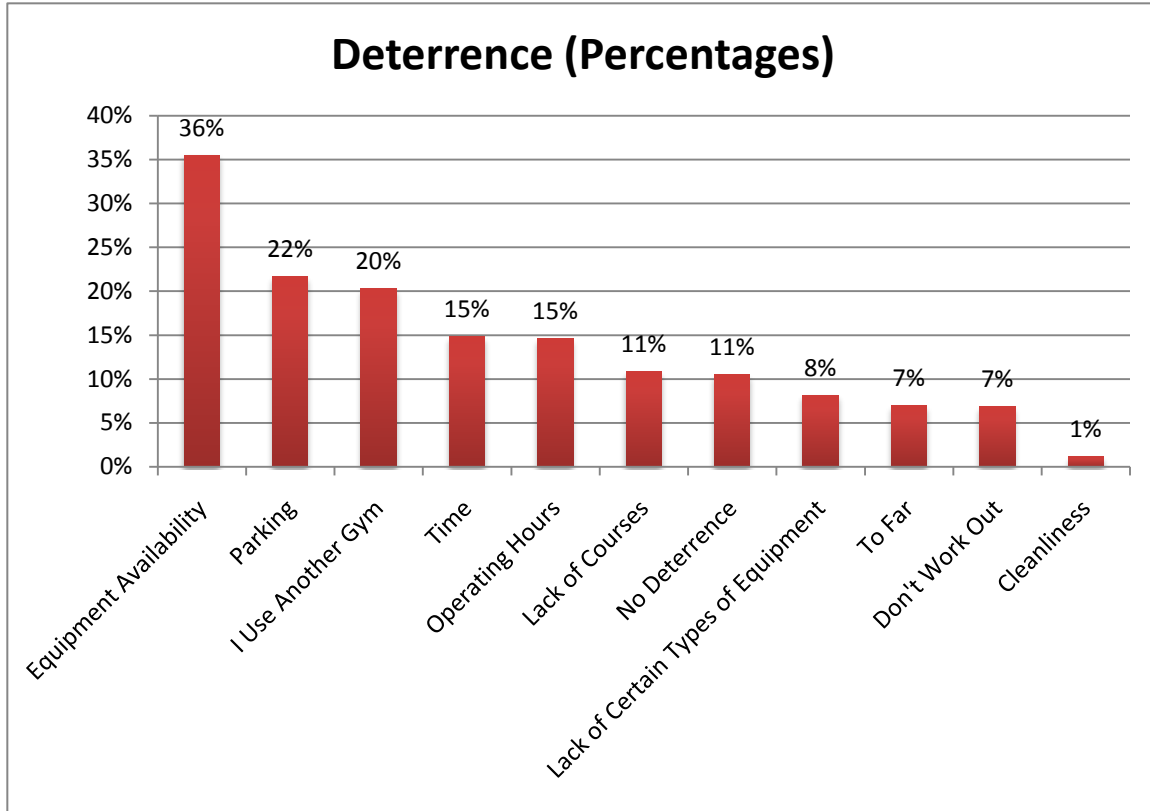


Figure 2. Deterrents as a Percentage of the Surveyed Students (N=602)

Explanations and Solutions for Deterrents

Equipment Availability

The most popular answer selected from the survey participants was Equipment Availability. Over a third of responders included this as a problem. Having a sufficient amount of equipment is a large task for a facility that is utilized by over 2000 student users per day. The main factor that will alleviate this problem is the expansion to the facility that is currently under way. When renovations are completed, the updated facility will be able to serve 3000 students each day. The upgrade will include the addition of many workout machines, such as treadmills and elliptical machines, which are in high demand. Also, the amount of area that is available for those particular machines in the gym will be increased, therefore creating a less-crowded

environment, even with the same number of users. As the number of student users increases due to the expansion and additional workout equipment, similar issues may arise. These needs are to be anticipated and are signs that meeting the demand of such a large and dynamic group is difficult to do without an unlimited budget.

Lack of Parking

The second most chosen response was a lack of parking. This has continued to be a university-wide issue. Without a significant increase in parking garages, there simply is not enough space on campus to accommodate all commuters. This issue is just as pertinent to users of the USF Campus Recreational Center. The Sun Dome parking lot, adjacent to the main Campus Recreation Center additionally serves as the main parking area for many students and employees who commute daily to the USF Tampa Campus. Additionally, the Sun Dome Parking Lot is currently under construction, creating an even greater constraint to the number of vehicles able to park. The University of South Florida administration knows this is an on-going battle and has constructed parking garages across campus to combat this problem. The addition of a garage near the Campus Recreational Center would definitely help alleviate this issue. However, since the University of South Florida has a limited budget and a large amount of funds have already been allocated to the cost of the Campus Recreation Center upgrades and expansions, adding an additional garage may not be feasible at this time.

Another point to consider is that with the expansion of USF Campus Recreational Center over the coming months, over 1000 more users per day are expected. It can be assumed that not all of these new users will be driving to the Campus Recreational Center. However many of them will be, and having enough parking spaces for them will pose a problem.

Use of a Different Gym

Over 17% of responders listed that they use a different gym other than the USF Campus Recreational Center. The survey asked for information on what type of facility was being used other than the Tampa Campus Recreation Center. While many students opted not to include the name of the other gym they use, the researchers were able to ascertain that approximately 25% of respondents are paying for an additional gym membership. Possible solutions include ensuring that students are aware they already pay for use of the Campus Recreational Center and that the use of these facilities can provide them with an expanded university experience. Currently, all Tampa campus students are required to pay \$10.00 as an athletics fee per term whether they use the facilities or not. In addition, students pay an additional \$7.00 fee for activities and services. These fees provide students with the ability to use the USF Campus Recreation Center which includes not only the use of the gym and equipment, but also participation in intramural sports, use of the Riverfront Park, lap pools, racquetball courts, tennis courts, indoor basketball courts, etc. However if a student then chooses to spend additional money every month for a membership to a different gym, they are increasing their expenses unnecessarily. As college students, “frugal” is often a term used to describe the average student and paying an additional \$10-\$20 per month for gym membership could be considered excessive. Students could be provided with a sample scenario that \$20 per month equates to \$240 per year or nearly \$1000 over a four-year college career. Translating this cost into terms that a college student can relate to better (i.e. car payments, months of rent, gas tanks, or beer) may help increase the impact on their decision of whether or not to pay for additional non-campus gym fees. Furthermore, students could be made aware that greater student use of the facilities would encourage the university administration to consider further allocation of funds for additional athletic improvements.

Additionally it was determined that many students used gyms within their apartment complex. Persuading these users to use the campus facilities will be difficult, since they have easy access to the apartment complex facilities as opposed to driving to campus and having to find a parking place. Two factors that may sway some of these students to use the Campus Recreational Center are the availability of a wide variety of workout courses and the quantity, quality, and diversity of athletic training equipment. Highlighting and advertising the variety of group fitness courses and specialty classes offered at the USF Campus Recreational Center, for example, spin classes, Zumba classes, Tai Chi classes, and yoga classes, could be used to draw a more diverse group of users. The USF Campus Recreational Center has a wide variety of courses available every day and a heated, indoor lap pool. These are options that very few apartment complexes have. The USF Campus Recreational Center far supersedes what is available at most apartment complexes due to their lack of space to accommodate classes and additional machines, limited funding, and limited security. All of these factors should be presented to increase student awareness of their options.

Insufficient Operating Hours

Nearly 15% of respondents mentioned that the operating hours hindered them from using the facilities more often. While the current hours span a large chunk of the day, there were numerous suggestions of being open later into the evening and/or 24 hours a day. While being open 24 hours a day does not seem necessary, perhaps by staying open later than 11 p.m. higher attendance can be achieved. Many students are in class until after 9 p.m. and the thought of rushing to workout may not sound appealing. If given the option to workout until midnight or 1 a.m., they may be more inclined to do so.

Many students have the most free-time on the weekends, so extending hours on Saturdays and Sundays could be a worthy experiment. The current weekend hours are for only eight hours per day. If free time is at a surplus for many students on these days, extending hours should be considered. On Saturdays the gym closes at 5 p.m. and does not open on Sundays until 1 p.m. Some prime hours of usage are being lost with the current hours of operation.

Additionally, group meetings often occur later in the evening and take away free time that could be spent in the gym. One recommendation may be to offer an experimental “24/7” week, to estimate the actual usage if the gym were to operate with an expanded hour schedule. The facility has been open overnight before, but it’s hard to tell if the results of increased attendance can be sustained. That is why a longer period of time, such as the week suggested above, may help determine whether more operating hours would truly be effective in increasing usage.

If the 24/7 access results in a substantial increase in the usage of the USF Campus Recreational Center there may be ways to change the overall operation of the facility. Many local gyms and apartment complex gyms abide by this 24/7 access and do so with the addition of a card swipe or pass-code entry system. A double door entry system could be used as the new entry into the Campus Recreational Center in order to provide 24/7 access to certain portions of the gym.

Lack of Free Time

Around 13% of the participants surveyed mentioned that they do not have enough free time to work out. While this is apparently true for many students, the idea that students cannot spare an hour or so per week to promote self-health is a myth that needs to be debunked. There is the obvious need of exercise for many reasons, and the USF Campus Recreational Center does

an outstanding job of promoting self-health and awareness of the need to be healthy and stay active. What the Rec. center may be able to do is to outline workouts that are tailored to meet the needs of those who cannot spend an hour in the gym multiple times every week. Short, rigorous workouts that increase heart rate and burn calories can be finished in approximately 20 minutes. It would be beneficial to have outlines for a few such workouts available for students who cannot spend a lot of time at the gym and/or do not know what to do during a short workout.

Additionally, many students may not know about the locker rooms and showers. Quite a few respondents mentioned that they didn't want to workout prior to class to avoid being hot and sweaty in class. By making more students aware of the free showers, they may be more inclined to workout before class and/or simply take a quick shower after their workout.

Lack of Workout Course Availability

There were 70 respondents, over 10%, who included in their response that a lack of workout courses, or lack of availability of such courses, dissuaded them from using the Campus Recreational Center more often. Classes are currently offered seven days a week and about half of them have attendance caps. The main concern from these students seemed to be the variety of available classes. A wide variety of course types already exist, but there are a couple of areas that have not been fully exposed. One of these is the martial arts component. Martial arts is a great way to stay active and is often considered to be a very fun way to push one's self physically and mentally. Promoting overall self-health could be assisted by the inclusion of martial arts courses. Additionally, aquatics courses are currently not being offered. As mentioned in the section on *Use of a Different Gym*, the lap pool is a great tool for anyone looking for a different way to exert themselves. By offering classes involving aquatics, more students may begin to use and become aware of this great resource that Campus Recreational Center provides.

Also courses are not offered at all hours of the day. A number of respondents indicated that because of other obligations throughout the day, that workout courses later in the evening would encourage them to attend more. This is something the USF Campus Recreational Center is already considering, but implementation will definitely yield results.

Insufficient Supply of Certain Equipment

Just fewer than 10% of those surveyed mentioned that the facility lacks certain types of equipment or that the supply of certain types of equipment is not sufficient. With the expansion of facilities, hopefully much of this problem will be alleviated. While details on which types of equipment people would like to see more of was not captured, Campus Recreation Center employees would be able to respond to the question of which machines and equipment get used the most frequently. Elliptical machines and treadmills likely rank toward the top of the list.

Too Far from the Dormitory

Many on-campus residents, oftentimes freshmen, living in residence halls on the opposite side of campus find it inconvenient to travel across campus to reach the nearest gym. There is a separate gym available to on-campus students living on the northeast side of campus, but not for those living on the southwestern side of campus. Perhaps the construction of a gym near the Juniper-Poplar Dorms and Magnolia Residence Complex would draw more of these students. While this is a major budgetary concern, and is likely not feasible now, it is something to consider down the road. With over 1500 students residing in the residence halls, giving them a more convenient place to workout would definitely draw more users. As building a new facility will take time and money, a more economical solution could be to promote the use of the Bull Runner transportation services for Juniper-Poplar and Magnolia students to travel to Campus Recreational Center. Currently there are no buses that run from those residence halls to the

facilities. The only way to get there now by bus is to complete at least one transfer each way. This is definitely an encumbrance to students living on the southwest side of campus.

Lack of Privacy/Self-Consciousness

A small number of students, mostly female, mentioned becoming self-conscious and uncomfortable when in the facility. This is a natural reaction, and it is suspected that many students feel this way when they are unsure of how to work equipment, just beginning to workout, or feel self-conscious about their body. This is a completely normal feeling, and one that surely deters many potential users. There are a few suggestions for Campus Recreational Center to consider regarding this problem. First, the already existent Fitness Orientation classes may not be common knowledge to many students. Perhaps an email at the beginning of the semester or an advertisement in Note-a-Bull news would spark a few more students to become interested in how to work many of the machines, thus become more relaxed when using the facilities.

Also, with the expansion of the Campus Recreational Center taking place over the coming months, perhaps an area could be designated for “new-users”. This would be an area where more experienced users would not be allowed and would make for a more comfortable environment for those who are uneasy when around more practiced users. This is a similar strategy to the one that the fitness center “Shapes” has taken which draws many customers similar to those the Campus Recreational Center is looking to encourage to use their facilities. This area may not need to be reserved for inexperienced users all day every day but perhaps for designated hours. This may also help promote kinship amongst new users and promote repeat visits to the facility.

Gym is Too Crowded

The final area that the survey gave insight about was the fact that the gym is crowded at certain times of the day. This goes hand in hand with the most-selected deterrent of unavailable equipment. Initially these concerns should be alleviated by the expansion project that is currently underway. Having a larger workout area will inevitably make the facility less crowded. However, the expansion is expected to increase attendance by 50%, from 2000 users per day to 3000 users per day. So while initially it may not seem as busy, it may get more crowded as time passes. This is where the addition of operating hours (as mentioned previously) could come into play.

Charts and Analyses from Current Survey

Analyses of Demographic Information with Deterrents

The following subsections will detail an analysis of deterrents and how they relate to different demographic data.

Deterrent Frequency Based on Year in College

The first variable to be compared with deterrents is students' year in college. Figure 3: Years vs. Deterrents shown below illustrates the percentage of each deterrent selected by students at each grade level. The biggest difference is parking, which rose every year, with the largest jump from freshman to sophomore year. Most of this difference can likely be explained by the large number of freshman students who live on campus, and therefore do not have the same parking options as students who live off campus. Students stated they used a different gym at a similar rate, with more students answering this as the year got higher. This likely stems from both the increasing number of students moving off campus after freshman year, and the mandate

that USF freshmen must live on campus if they live outside of Hillsborough, Pasco, or Pinellas counties.

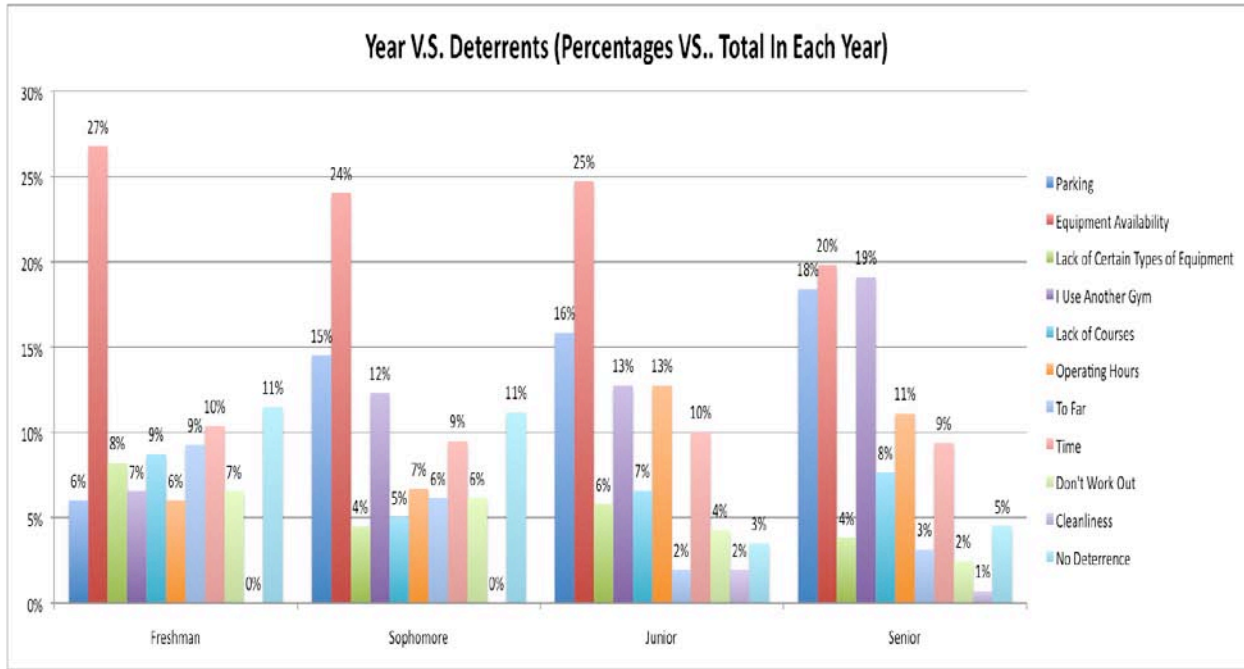


Figure 3. Years vs. Deterrents (Percentages vs. Total for Each Year in College) (N=602)

Deterrent Frequency Based on Gender

Figure 4: Gender vs. Deterrent shows the percentage of males and females who selected each deterrent. While most deterrent factors show a similar response from male and female users, a couple of the deterrents stand out.

First, three times as many females as males stated a lack of workout courses impeded them from using the facilities more often. The Campus Recreation Center administration has already made it a goal to increase male attendance to equate to 20% of the overall attendance figures. This correlation is discussed further in the *Gender vs. Usage* section. It was proposed that female survey participants do not attend as regularly as males because they are more

interested in workout courses, many of which do not meet daily and are not offered frequently enough to keep up with demand.

Additionally, twice as many females as males said that they did not have enough free time to workout as often as they would like. Reasons for this anomaly were not captured by this survey.

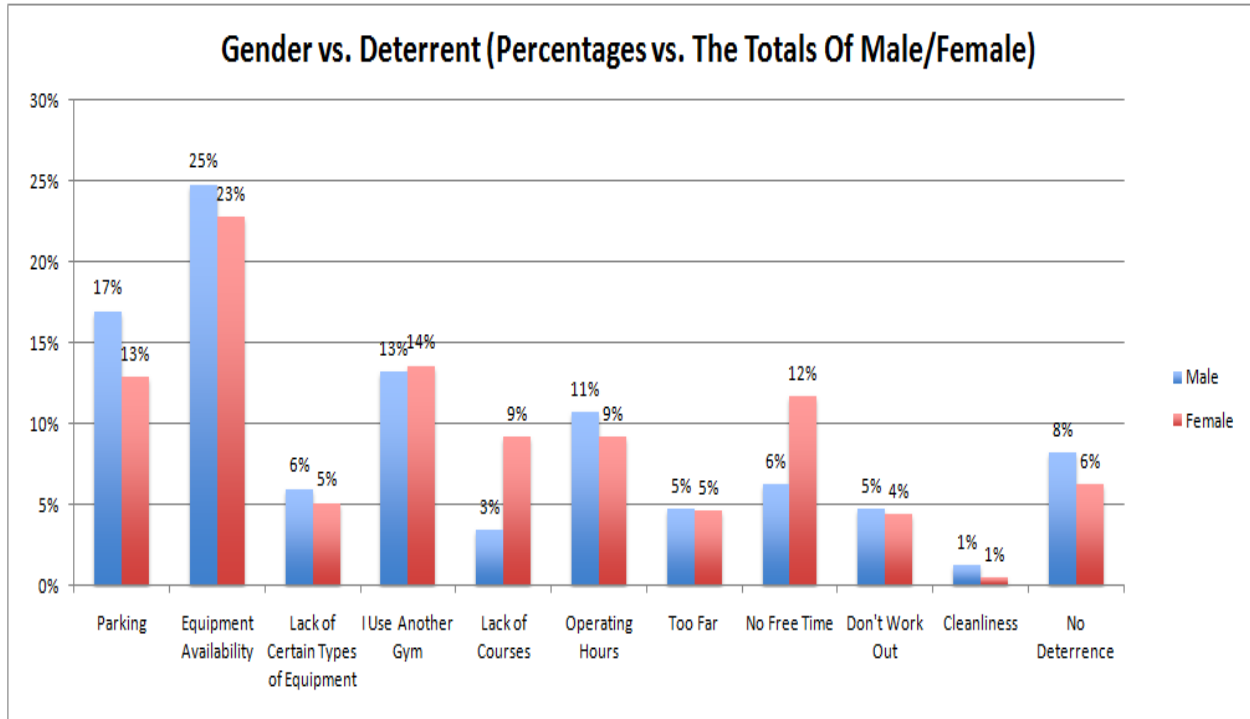


Figure 4. Gender vs. Deterrent (Percentages vs. the Totals of Male/Female) (N=602)

Deterrent Frequency Based on On/Off Campus Residency

The next criterion that was compared to deterrents was whether the student lives on or off campus. Figure 5: On/Off Campus vs. Deterrent shown below presents the deterrents and how often on- and off-campus students selected them as reasons for under-attendance of the USF Campus Recreation Center.

A couple of the discrepancies seen in the chart can be easily explained. To begin with, the reason three times as many off-campus students chose “Parking” as a deterrent, is because nearly all on-campus students use alternate forms of transportation to get to the USF Campus Recreation Center, and most off-campus students drive themselves. Also, nearly three times as many off-campus students stated that they use a different gym from the Campus Recreation Center. For most on-campus students, the Campus Recreation Center is the most convenient facility to attend; whereas for off-campus students, there are many gyms that may be closer to their homes or included in their residential complex (See *Use of Another Gym* above). Also, three times as many on-campus students as off-campus students stated that they have no deterrents to using Campus Recreational Center. This discrepancy likely stems predominately from the aforementioned two reasons: parking being unnecessary and not using a different gym.

However, many on-campus students said that the facility is too far from their dormitory. On-campus residents are given permission to only park near the dormitories. Therefore those students living in Juniper-Poplar Dormitories or in Magnolia Residences have to walk, bike, bus, or use transportation that is not as convenient as driving. This is discussed further in the subsection *Too Far from the Dormitory* under “Explanations and Solutions for Deterrents.”

The same ratio exists for students who “Don’t Work Out.” This variance is not uncovered by this study, and it would take further research to make a reasonable conclusion.

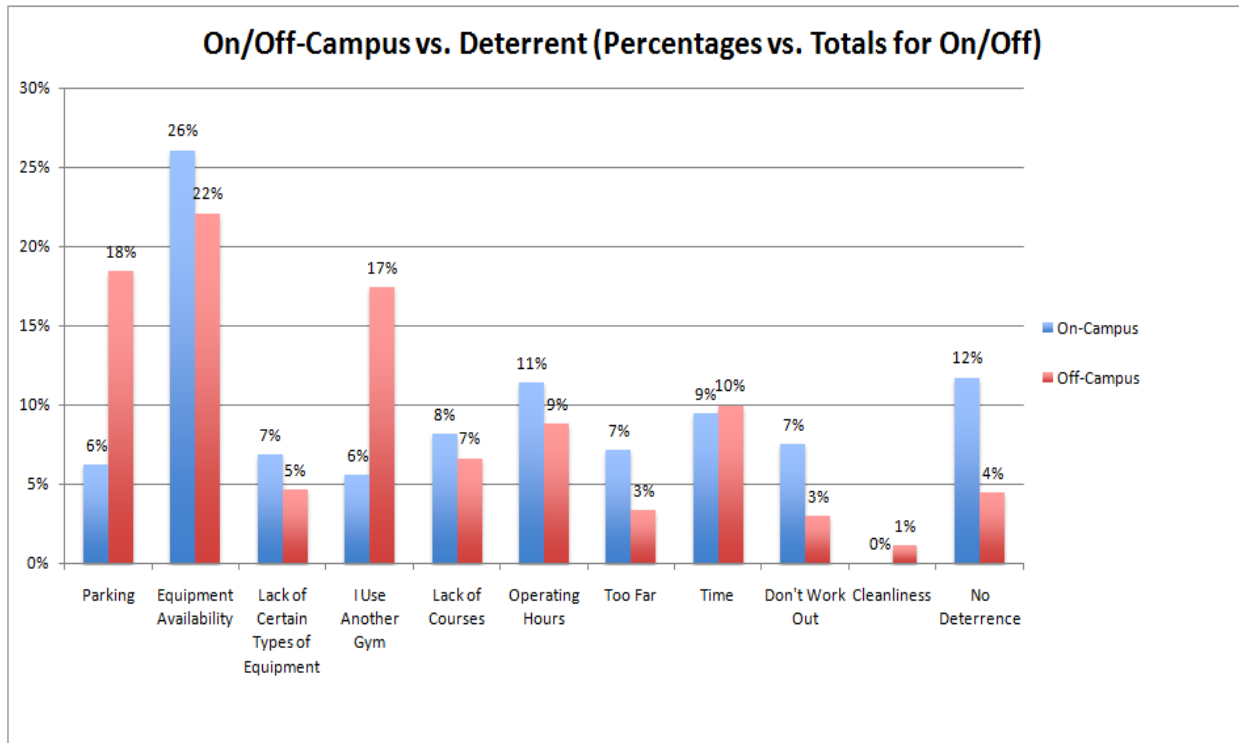


Figure 5: On/Off-Campus vs. Deterrent (Percentages vs. Totals for On/Off) (N=602)

Deterrent Frequency Based on Ethnicity

Ethnicity was a factor that had little impact on variation in deterrents. What this tells us is that USF Campus Recreation Center should not put forth too much effort into assessing why persons of different races do not use the facilities. However, ethnicity did show value in its comparison to usage, which will be discussed later in the paper.

Frequency of Campus Recreation Facility Usage

In this section the analysis of facility usage data is presented and discussed, see Figure 6: Frequency of Campus Recreation Center Usage shown below. The overall percentages of different usage levels, for all respondents to the survey are depicted using a pie graph. The largest section, 41%, represents students who never utilized the Campus Recreational Center, or

went less than a few times and never went back. This trend was noted throughout the additional analyses sections. Only 1 in 20, 5%, students stated that they use the facility on a daily basis, but over half of the population, 59%, used the facilities at least a few times per month. The Figure 6: Frequency of Campus Recreation Center Usage pie graph is a good reference tool of deviations for additional groups that will be discussed in the next few sections. By simply taking a percentage from a future exhibit, and subtracting it from the number shown here, a difference can be attained.

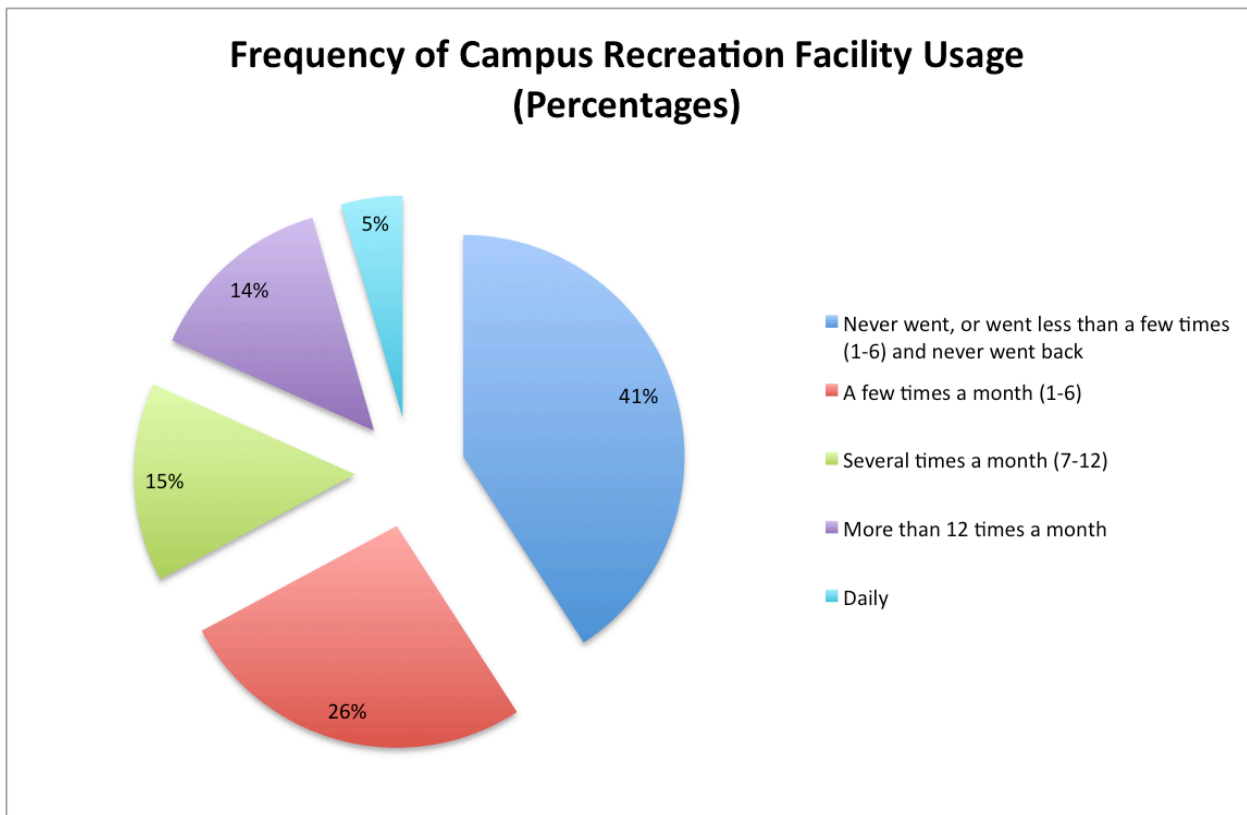


Figure 6. Frequency of Campus Recreation Facility Usage (Percentages) (N=602)

Year in College vs. Usage

Figure 7: Year in College vs. Usage shown below depicts the usage of the USF Campus Recreation Center by students based on status in school (Freshman, Sophomore, Junior, or Senior). We limited our study to only undergraduate students, because the trends for graduate students show that they are more often non-traditional students, and therefore the data is not as reliable as it is for undergraduate students.

We can see that for each year in college the largest sector consists of students who never used the facility or went less than a few times and never went back. This will continue to be a trend with many of the variables when compared to usage. However, the trend here seems to be that except for the transition from freshman to sophomore, more students stop using the Campus Recreation Center, as they progress through college. This could be due to busier schedules and the trend that more students move off campus as they progress through college. In a future section it will be shown that many more off-campus students fail to use the facilities than those living on-campus.

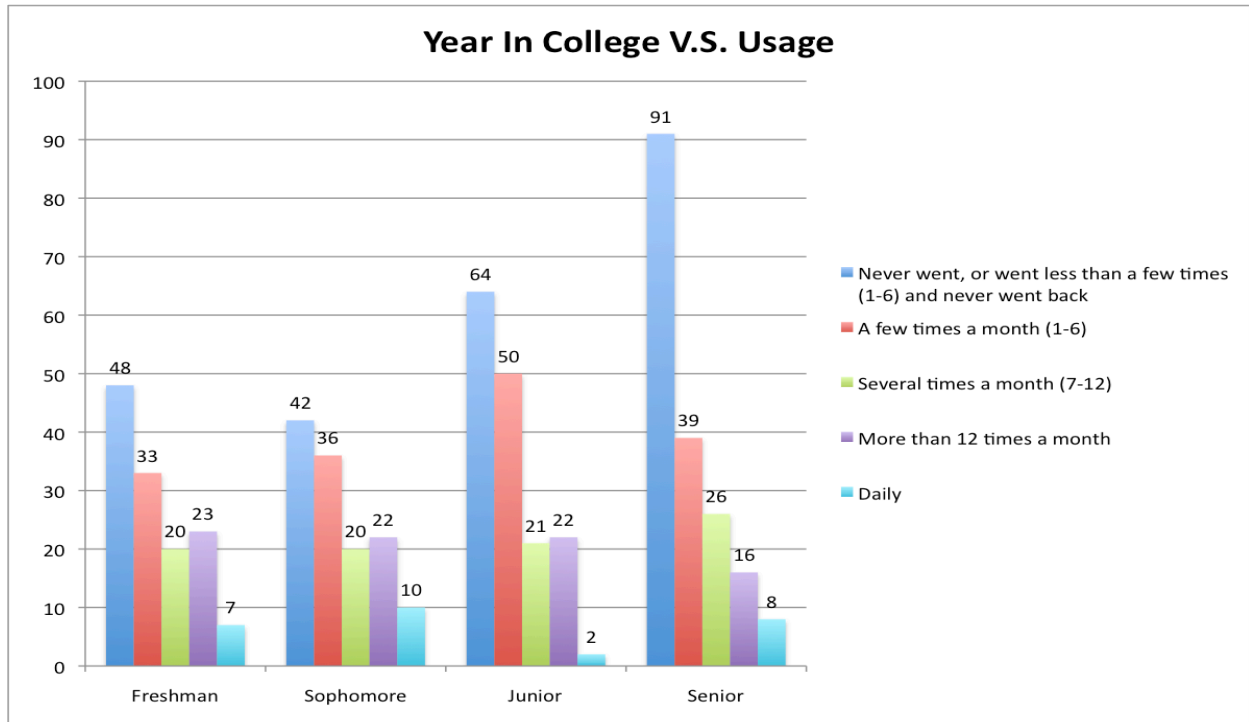


Figure 7. Year in College vs. Usage (Percentages) (N=602)

Gender vs. Usage

Figures 8 and 9 below depict the usage of the USF Campus Recreation Center by both males and females, as a representation of the entire USF Tampa campus population. It can be seen that the largest percentage of usage type for each gender is that of students who never used the gym or went a few times and never returned. Although this is probably an area that the USF Campus Recreation Center management has already concluded upon, it is an area that can definitely be considered for improvement. Without initiating more classes or some sort of workout regiment that requires regular use of the gym, these percentages may fall even lower. However, as the facility expands in size in the coming months, this may persuade some users to attend more often. By lowering the overall deterrent levels, the USF Campus Recreation Center would most likely see a shift in percentages toward more overall usage.

Another interesting point to depict is that 8% of males said they use the facility daily, but only 3% of females made this assertion. This may correlate to the fact that three times as many females said that limited course offerings were a usage deterrent; and since currently the Campus Recreation Center does not offer a large variety of courses that appeal to females on a daily basis, it would be expected that the percentage of females who attend on a daily basis would be low. Along the same lines, twice as many females stated they did not have enough free time to use the gym, so this could be another contributing factor as to why so few females use the gym on a daily basis.

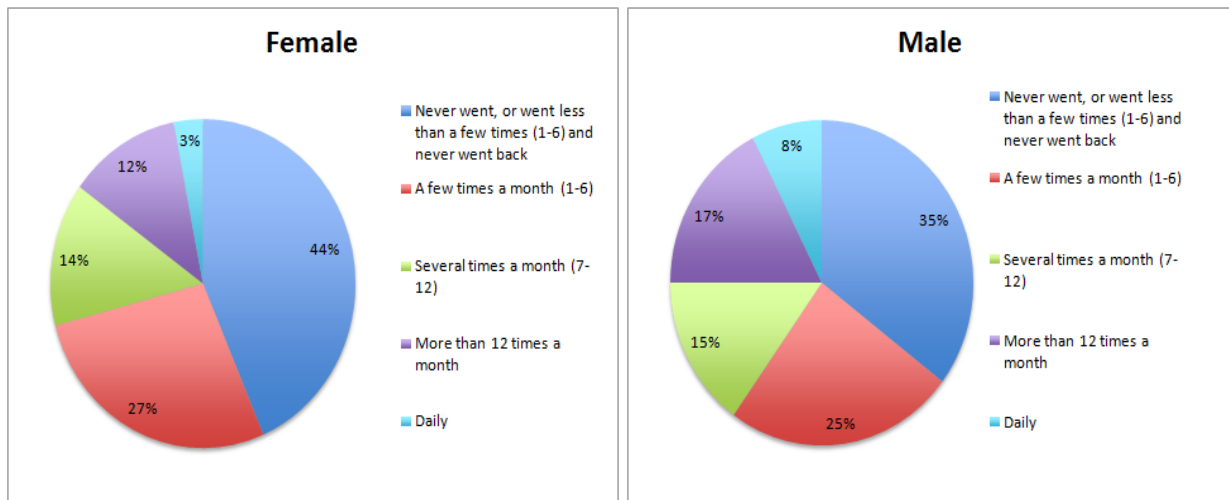


Figure 8 & 9. Usage of the USF Campus Recreation Center by Gender (Males N=211 and Females N=391)

Table 1: Cross Tabulation for Gender vs. Usage contains the cross tabulation raw data of students who use/do not use USF Campus Recreation Center according to gender. For instance, the number 74 represents males who do not use Campus Recreation Center and 357 represents the number of females who do use the Campus Recreation Center. Using the data from Figures 8 and 9, the researchers utilized the SPSS software to perform Pearson Chi-Square test for Gender

vs. Usage. Table 2: Chi-Square Test for Gender vs. Usage below contains the results of this analysis. While Table 1 does not include attendance percentages for anything more than the group of students who filled out the survey, it was proven through the Chi-Square test data recorded in Table 2 that gender is statistically significant factor in the study ($p < .039$). When the p -score is less than .05 that variable is considered to be significant to the research.

Table 1

Cross Tabulation for Gender vs. Usage

		Usage		Total
Gender		.00 (No)	1.00 (Yes)	
0 = male	0	74	137	211
1 = female	1	171	220	391
Total		245	357	602

Table 2

Chi-Square Test for Gender vs. Usage

	Value	df	p -score
Pearson Chi-Square	4.261a	1	.039*

* $p < .05$

On/Off Campus vs. Usage

Figures 10, 11, and 12: On-campus vs. Off-campus Usage visually illustrates the usage of USF Campus Recreation Center, in percentages, for students living on and off campus. The most apparent difference is the large number of off-campus students who never went or went a few

times and never went back. Nearly half of the off-campus population falls under this category, while only just over a quarter of on-campus students selected this option. After drilling down and using Figure 5 for the section “On/Off-Campus vs. Deterrents,” a few probable reasons for this discrepancy became apparent. First, nearly 1 in 5 (20%) of off-campus students listed parking as an issue. The added task of finding a parking space surely deters more than a few students from attending Campus Recreation Center on a regular basis. This goes hand in hand with the fact that 17% of off-campus students use another gym, which can again be seen in Figure 5. While the issue of off-campus students using another gym is a major one, a significant contributing factor stems from the lack of parking availability. There are no other deterrents that differ greatly between on and off-campus students; so a lack of parking, along with the obvious factor that off-campus students are in close proximity to the facility, are probable factors which contribute to the overall non-use of the Campus Recreation Center by off-campus students.

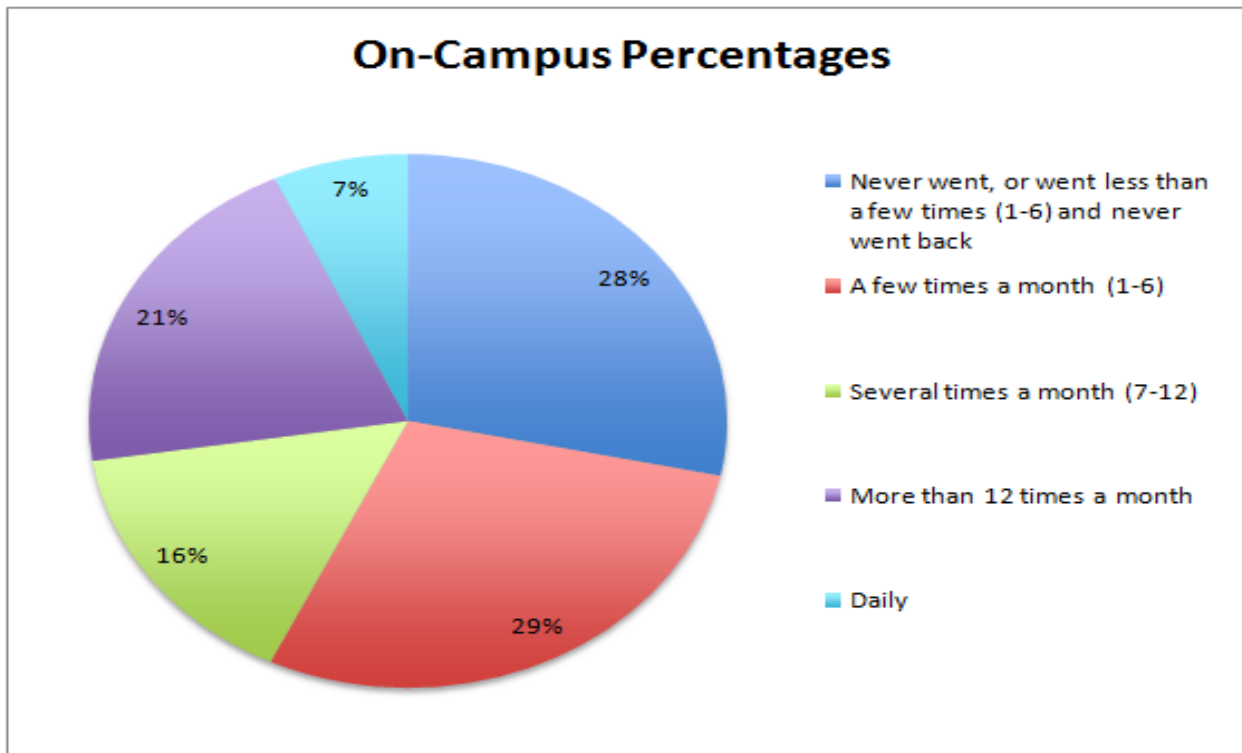


Figure 10. On-Campus Usage by Percentage (N=221)

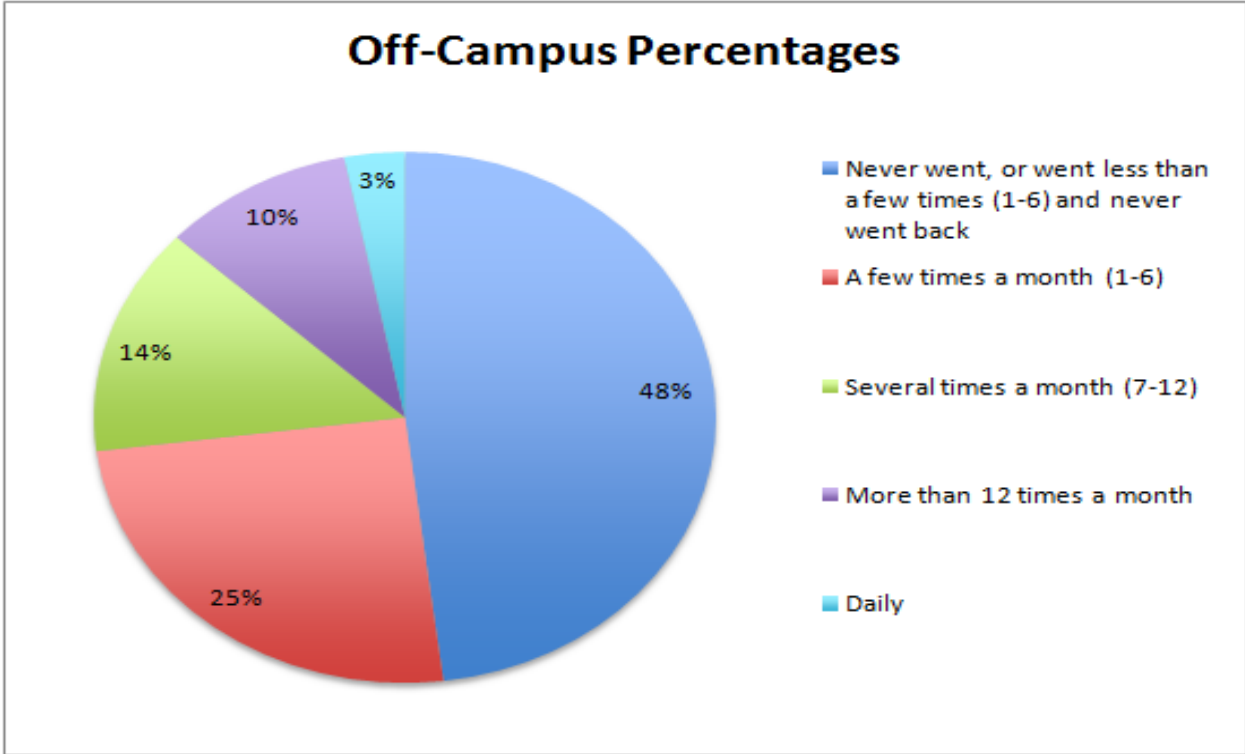


Figure 11. Off-Campus Usage by Percentage (N=381)

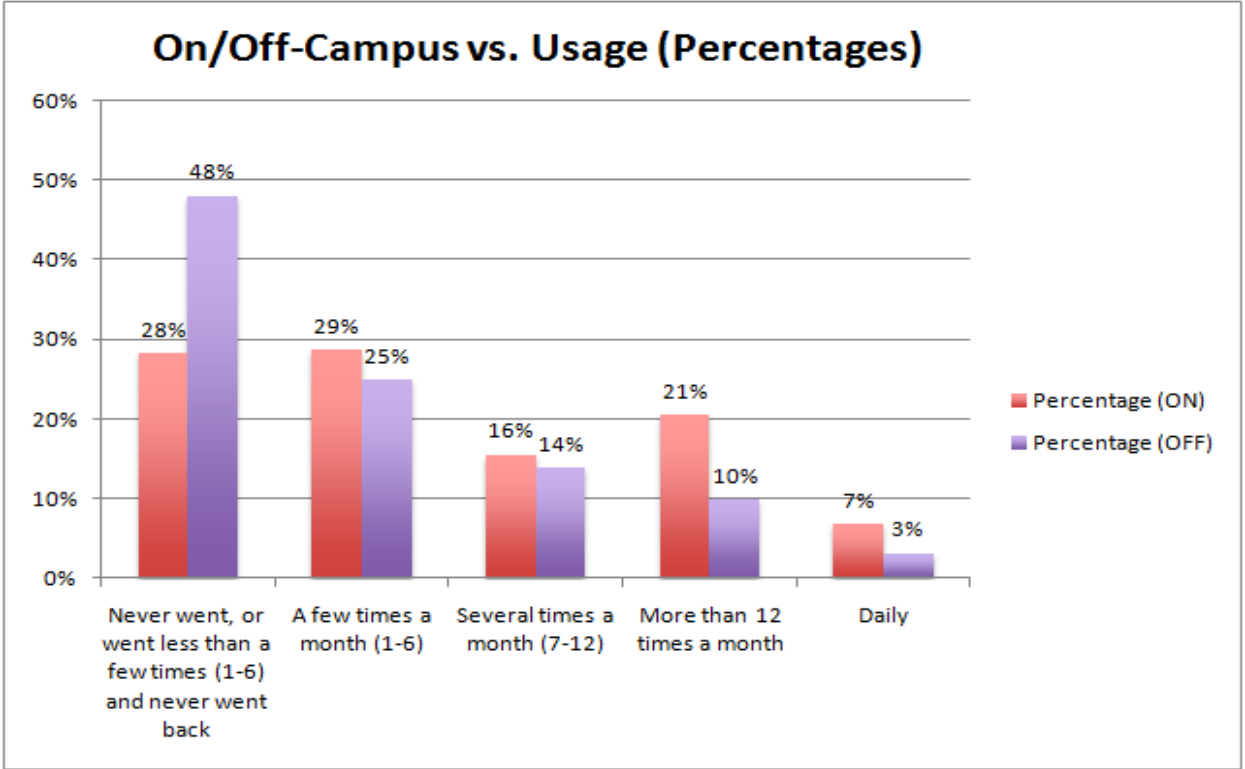


Figure 12. On/Off-Campus vs. Usage by Percentage (N=602)

Similar to Gender vs. Usage, the researchers found the variable of where a student lives (on/off-campus) to be statistically significant as well. This information is shown in the tables below, created with SPSS. Table 3: Cross Tabulation for On/Off-Campus vs. Usage represents the overall results from the survey, with usage = 0 meaning no usage, and usage = 1 meaning the student does use Campus Recreation Center. Table 4: Chi-Square Test for On/Off-Campus vs. Usage assesses the *p*-score for on/off-campus vs. usage. As seen here, the *p*-score is once again less than .05, supporting the premise that whether a student lives on or off campus is significant in the study of usage of the USF Campus Recreation Center.

Table 3

Cross Tabulation for On/Off-Campus vs. Usage

		.00 (No)	1.00 (Yes)	
Campus (yes/no)	No	183	198	381
	Yes	62	159	221
Total		245	357	602

Table 4

Chi-Square Test for On/Off-Campus vs. Usage

	Value	df	<i>p</i> -score
Pearson Chi-Square	23.129a	1	.000*

**p* < .05

Ethnicity vs. Usage

The survey asked students to list their predominant ethnic background, which was then used to determine usage by ethnicity. The results can be seen in Figure 13: Ethnicity vs. Usage by Percentage.

The data for one ethnicity, Black students, stands out from the data of other groups. The data revealed that Black students are significantly more likely to use the gym with some frequency. Just fewer than 75% of all Black students use the gym at least a few times a month. This number can be compared to 60% of White students and 54% for both Hispanic and Asian students. This discrepancy could come from the habits of different ethnic groups. While this study is not comprehensive enough to determine with any accuracy the reasons for such discrepancies, this could be a great area for further research.

It is also worth noting that the “other” category for ethnicity, which includes Indian, Middle-Eastern, Native American, and Pacific Islander, had the highest percentage of daily users, at 11%. Other than Asian students, at 7% daily use, no other group topped 4%. Again, this study is not in-depth enough to elicit factors for this, but it may be worth delving into in the future.

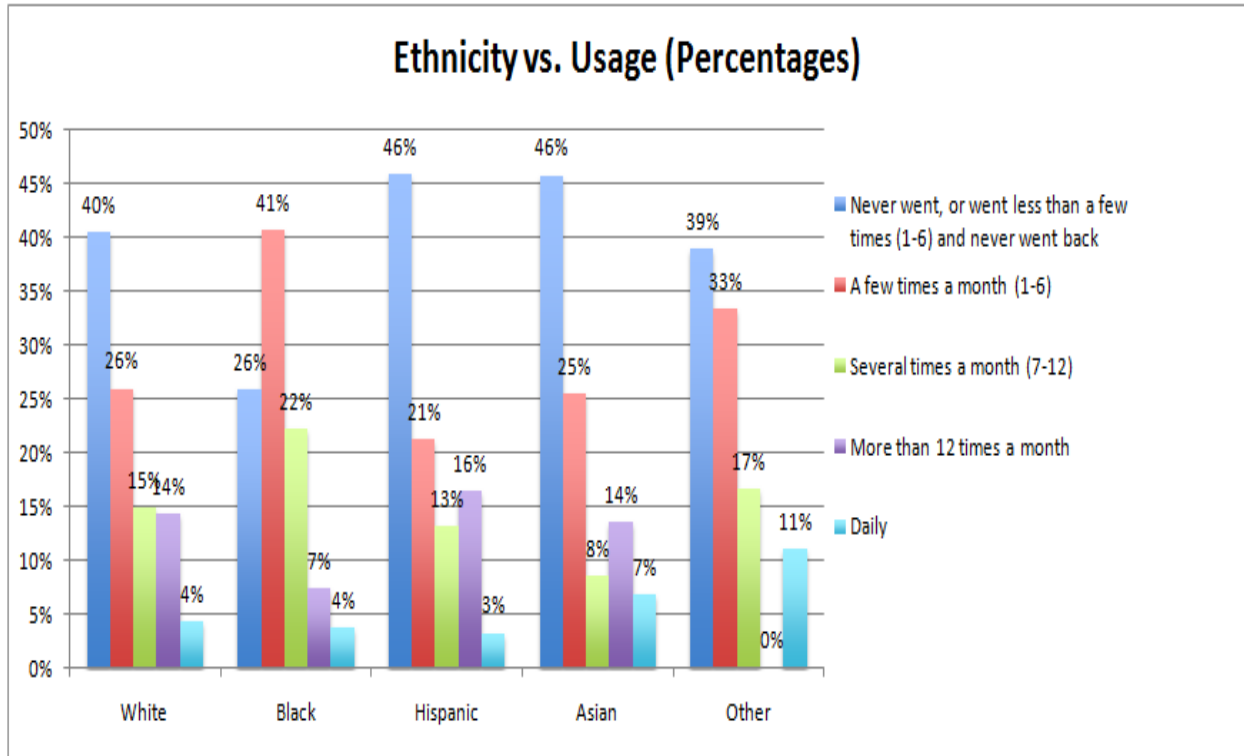


Figure 13. Ethnicity vs. Usage by Percentage

A Logistic Regression of all Variables and Their Effect on Usage

After looking at all of the above data and measuring all five categorical variables of ethnicity, college, gender, year in school, and on/off-campus residency in SPSS, a logistic regression analysis was performed. This statistical analysis can confirm the researchers' conclusion from Chi-Square tests that only gender and on/off campus residency were true predictors of Campus Recreation Center usage. The following three tables depict this confirmation.

Table 5: Omnibus Tests of Model Coefficients is that the conglomerate significance (or the overall p -score) for the entire model is equal to .000, which is less than .05. This depicts that the overall model will predict usage. Table 6: Hosmer and Lemeshow Test also verifies that the model will be valuable in predicting.

Table 5

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	29.785	5	.000
	Block	29.785	5	.000
	Model	29.785	5	.000

Table 6

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5.854	8	.664

Table 7: Linear Regression of Variables in the Equation is the most important statistical analysis and the one that shows the combination of all variables and their individual significances in predicting usage. As expected from the initial Chi-Square tests for all variables, the two variables that are useful in predicting are gender and on/off-campus residency.

These two variables should therefore be the ones that are most scrutinized. Discrepancies for these groups of users should be analyzed and further delved into by revisiting the sections of this paper on Gender and On/Off-Campus vs. Usage.

Table 7

Linear Regression of Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Ethnicity	.019	.078	.060	1	.806	1.019	.875	1.187
	College	.076	.064	1.382	1	.240	1.078	.951	1.223
	Gender (Y/N)	-.464	.183	6.410	1	.011	.629	.439	.901
	Level	-.039	.092	.177	1	.674	.962	.803	1.152
	Campus (On/Off)	-.823	.220	14.020	1	.000	.439	.286	.676
	Constant	1.04	.291	12.815	1	.000	2.836		

2008 Comparison Data

As explained earlier we will be using the data gathered by The Campus Recreation department, USF's Director of Assessment for Student Affairs so that cross referencing the data will in turn produce more significant results (See Figures 14 and 15). Though not all of the data

categories are available for cross referencing, a sufficient amount of data are available so the researchers can make inferences as to possible suggestions for increasing the USF Campus Recreation Center’s usage. The data that are available for comparison between results are: on/off-campus, usage, and deterrents. These are in essence the three top priorities of this thesis, since the goal is to in turn be able to make suggestions on possible ways to alleviate the deterrents and increase usage by both on/off-campus students.

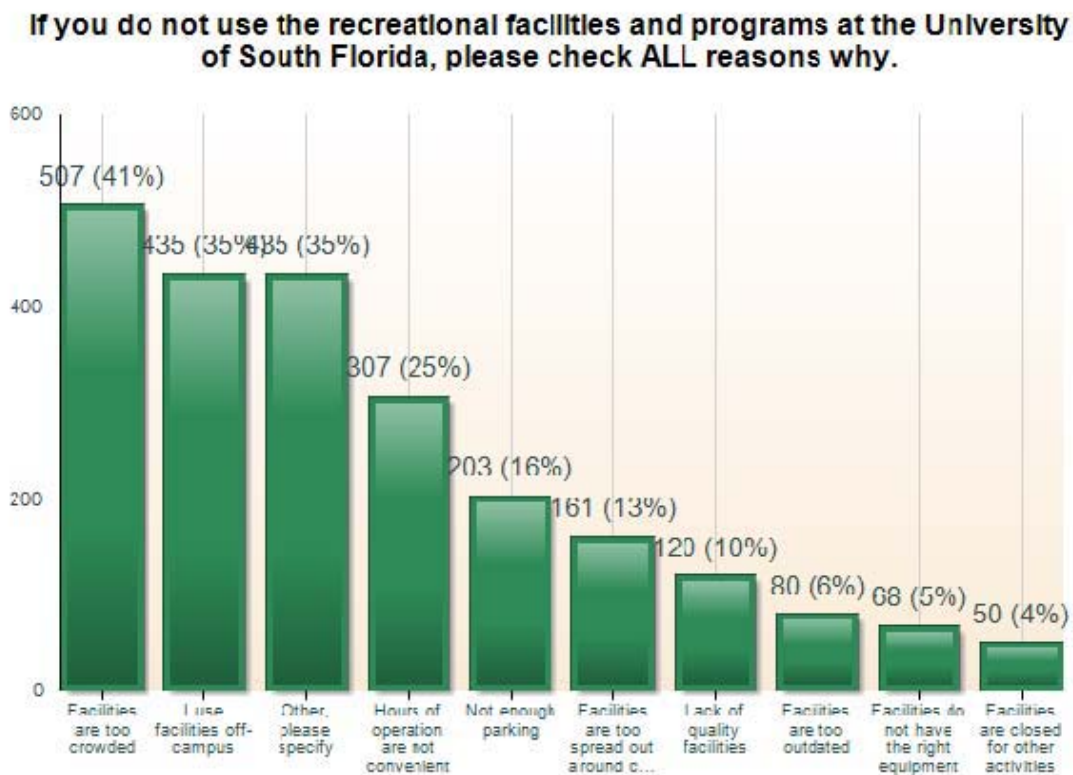


Figure 14. 2008 Deterrents

When comparing the usage results from the current (2011) survey and usage results from the 2008 survey, the 2008 data showed different results in reference to usage (See Figure 15). The most recent survey found 41% of students never used the gym, or used it less than a few times and never returned. The 2008 data revealed that the largest portion of students went several

times a week (51%). So when comparing these two data sets, the usage differences between the two surveys should be considered.

Which ONE of the following statements best describes how often you are currently using recreational facilities and programs offered at the University of South Florida?

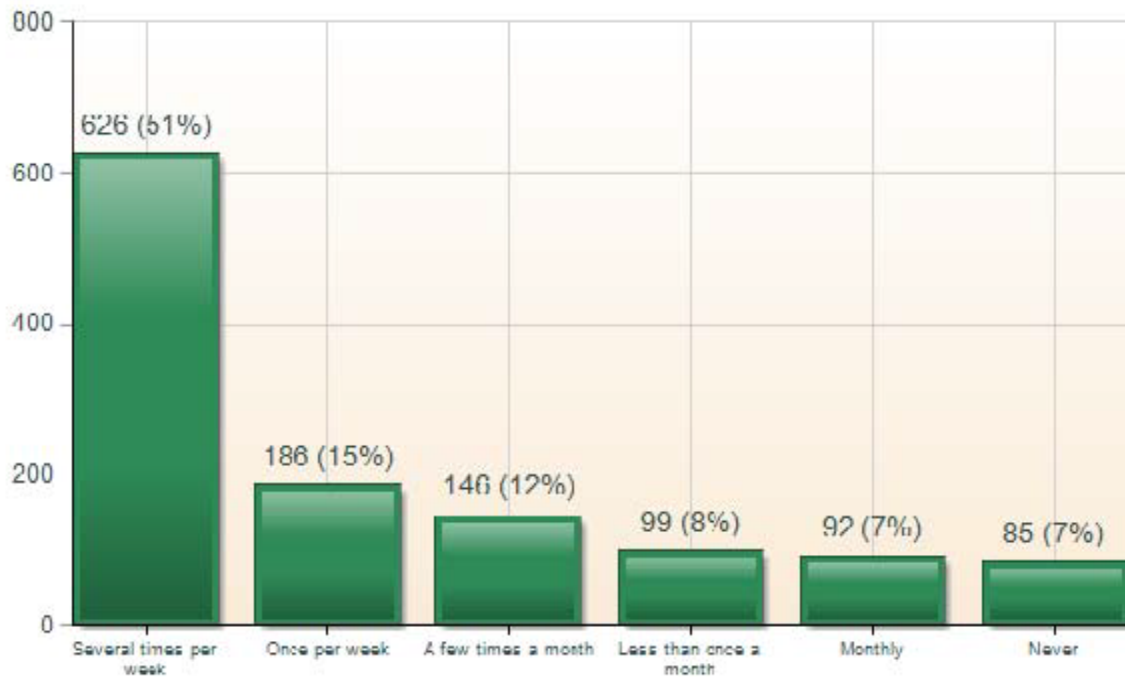


Figure 15. 2008 Usage

On/Off-Campus/Greek Housing

The 2008 study showed a greater number of off-campus students using the facility than students that live on-campus, in a residence hall, or Greek housing (See Figure 16). This information is needed to understand where the deterrents for this population originate. In comparison to the current research data discussed previously, we are able to show which deterrents are still a major contributing factor to user and non-user groups, since both have a high majority of off-campus users. Having a higher percentage of off-campus users does affect the

results but not necessarily in a negative way. Since a large number of the USF student population are commuter students, the current study's results are more representative of the general population and are more able to be generalized. In addition, having a study that represents that particular set of individuals will then help us ascertain the deterrents that affect a larger portion of non-users.

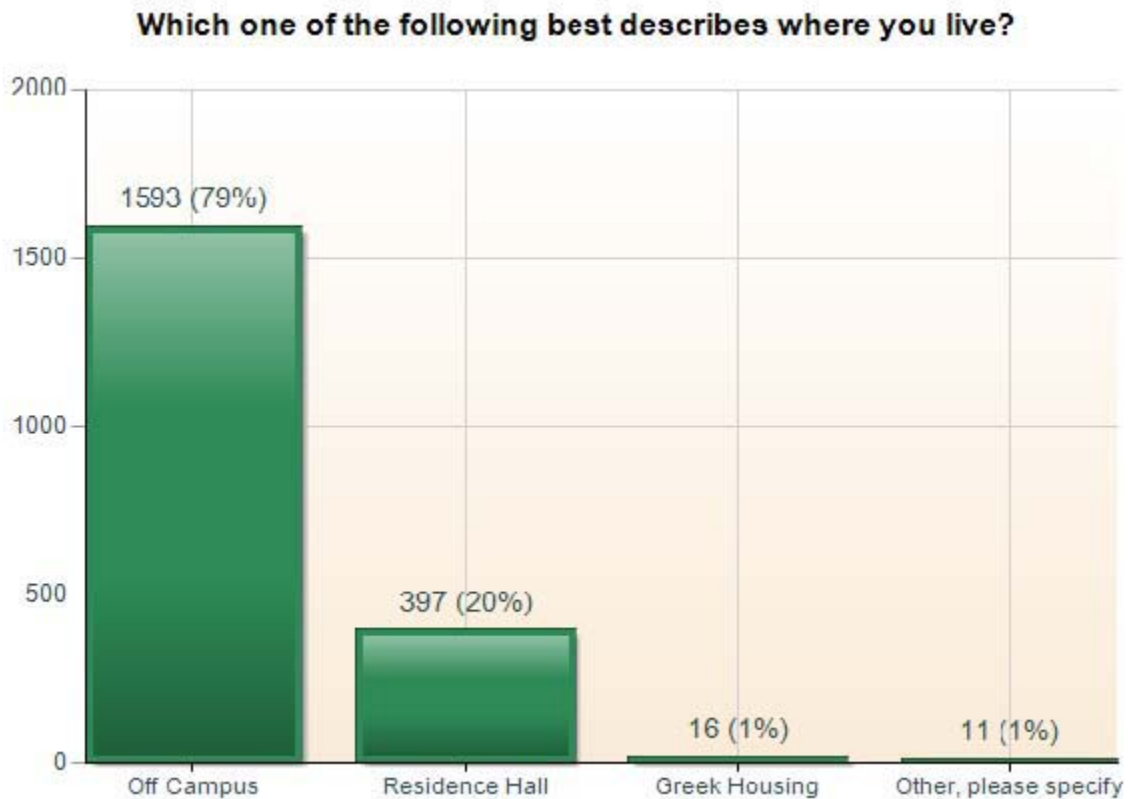


Figure 16. Where Do You Live? (2008 Data)

Equipment Availability

When reviewing both sets of deterrents from the 2008 and 2011 surveys and comparing the top reasons for why students are not using the facilities, several differences are notable. The differences are that the 2008 survey results found the crowdedness of the gym was the most

significant reason for non-usage, but the 2011 survey results showed that equipment availability was the primary deterrent. These two factors are related in that the more crowded the facility is the less available equipment becomes. As explained earlier, the new addition to the facility should eliminate a significant portion of this problem. While this is still a continuing deterrent for most students who use the gym, there is already a strategy in place to address this issue.

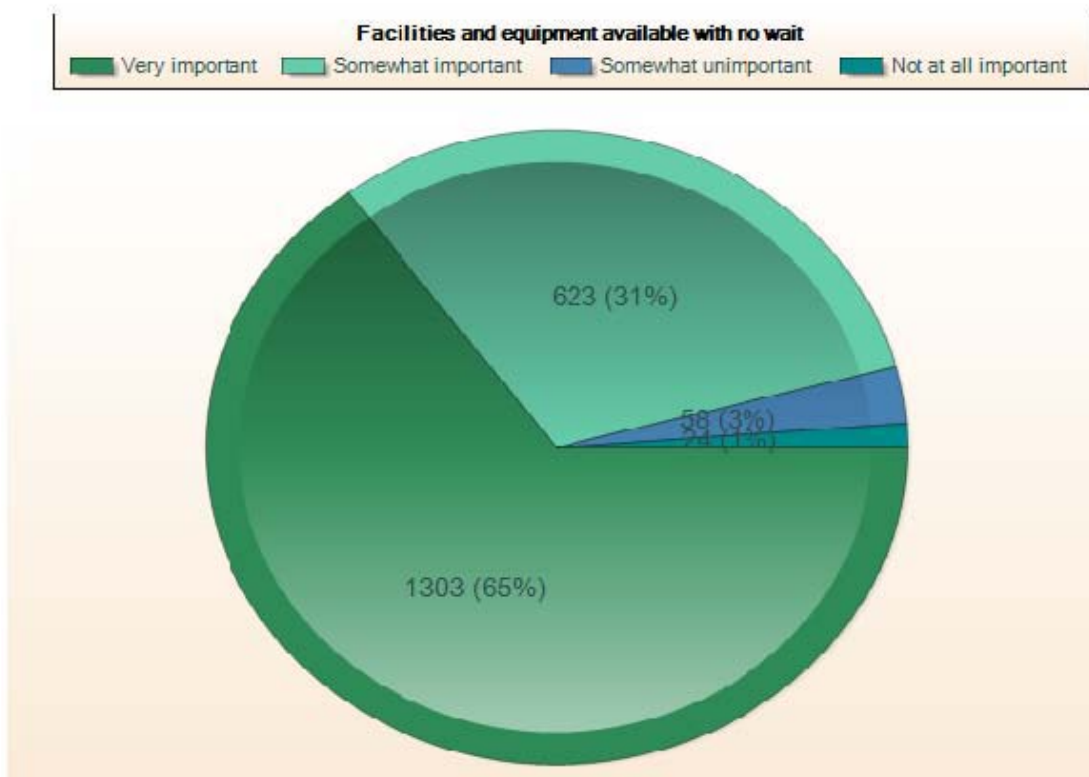


Figure 17. Facilities and Equipment With No Wait (2008 Data)

Parking

Parking was the second most selected reason by study participants in response to why he/she was not using the gym. Even though it was a more important deterrent in comparison to the 2008 data, it only incorporated a small 16% of the results falling below hours of operation and use of another facility (See Figure 18). This is understandable due to the added construction

of the USF Sun Dome taking place as well as the addition to the USF Campus Recreation Center limiting the amount of parking available to the individuals that want to use the facility. The 2008 data show that within the subgroup of individuals that had chosen parking as a deterrent, 43% agreed that it is very important and another 35% agreed that it was somewhat important. Thus there were a total of 78% of the students surveyed that believed parking was at least a somewhat important factor in contributing to their use of the facility. However, 22% of the 2011 study participants rated parking as being a deterrent, second only to availability at 36%. When comparing the two study results, parking can be seen as a reason why students would not want to attempt using the facilities especially since it can possibly take them a long time to either find a parking spot close or selecting an available parking spot that requires a long walk. A possible solution to this issue would be to add another parking garage where the current Sun Dome parking lot is located; this would add more parking for the USF Sun Dome, the USF College of Business, and the USF Campus Recreation Facility.

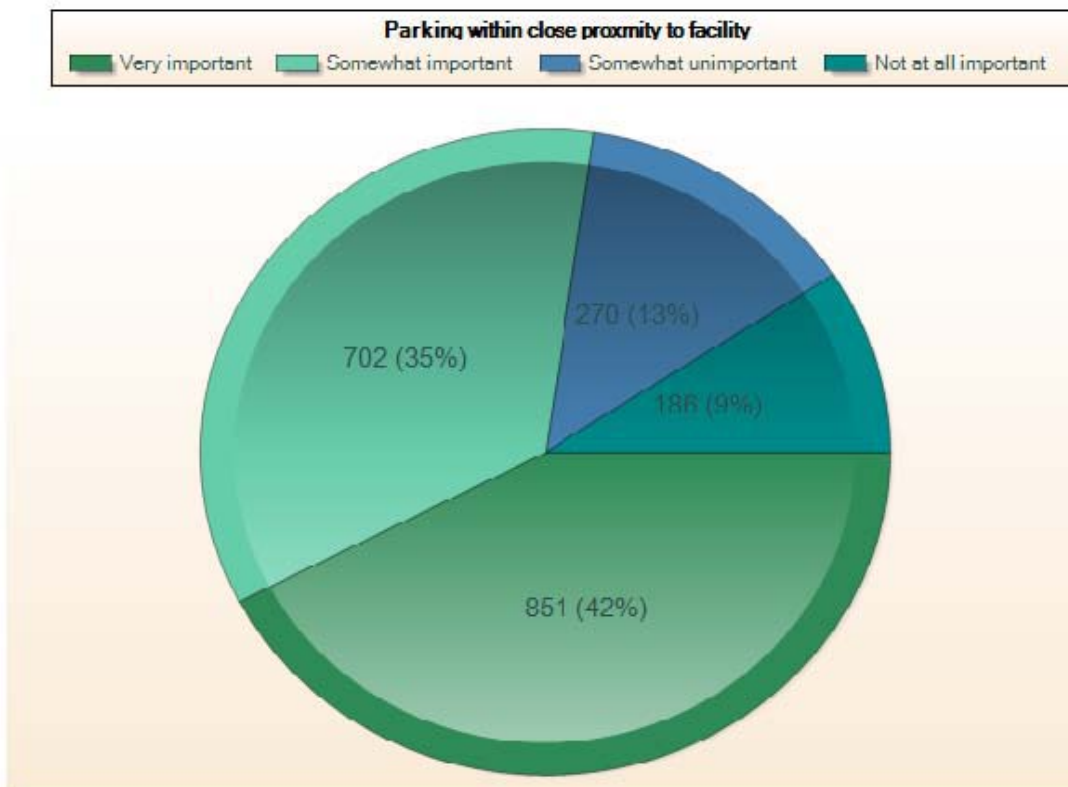


Figure 18. Parking Within Close Proximity to Facility (2008 Data)

Gym

Another top deterrent is that students use other means of exercise such as just exercising outside or using another gym in the area. Using another gym includes but is not limited to local monthly payment gyms and gyms located at apartment complexes and city/county gyms. Looking at the current results, 20% of surveyed participants used another gym for means of working out as opposed to 35% in the 2008 study. Although there has been a decrease in selecting this as a deterrent, it is still an issue. Of the 35% that use off-campus gym facilities in the 2008 study, 56% of the participants used the facilities for individual forms of exercise as opposed to taking classes, etc. In comparison, there have been some improvements but this is still a major issue that should continue to be addressed. Possibly the best way to approach this

predicament, as previously stated, would be to explain to the students how much they are already paying in fees to use the facility. Another way to possibly affect this issue would be to focus on eliminating the other deterrents that would in turn be keeping individuals from using the USF Campus Recreation Center.

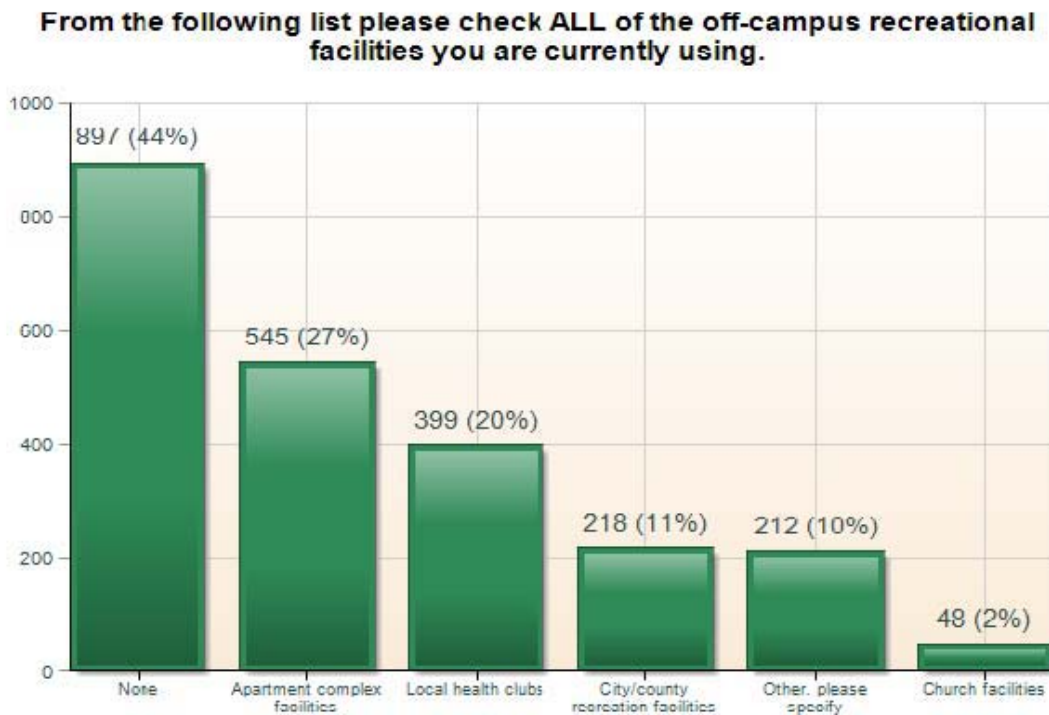


Figure 19. Off-Campus Recreation Center (2008 Data)

Hours

Another adverse issue that is at the top of the list when comparing the two studies is the facility's operating hours. The 2008 study showed that 25% of the surveyors selected operating hours; the 2011 study revealed only a 15% selection rate. Although if you consider that the equipment availability will be decreasing naturally due to the current improvements/expansions that are underway, these percentages then are related as one of the top factors influencing an individuals decision on whether or not to use the USF Campus Recreation Center. After

disaggregating the 25% of responders from the 2008 data, it was found that 75% said it was a very important aspect and another 21% said it was somewhat important. With such high percentages of responders thinking it is such an important factor, these data findings help to solidify the idea stated previously of adjusting the hours to either a 24/7 access or by making the facility open during extended hours during the week/weekends. Also, some individuals had listed that not only the hours being later as reasoning, but also that the courses offered needed to be available at later times in the day so that individuals that work long days will have a chance to participate.

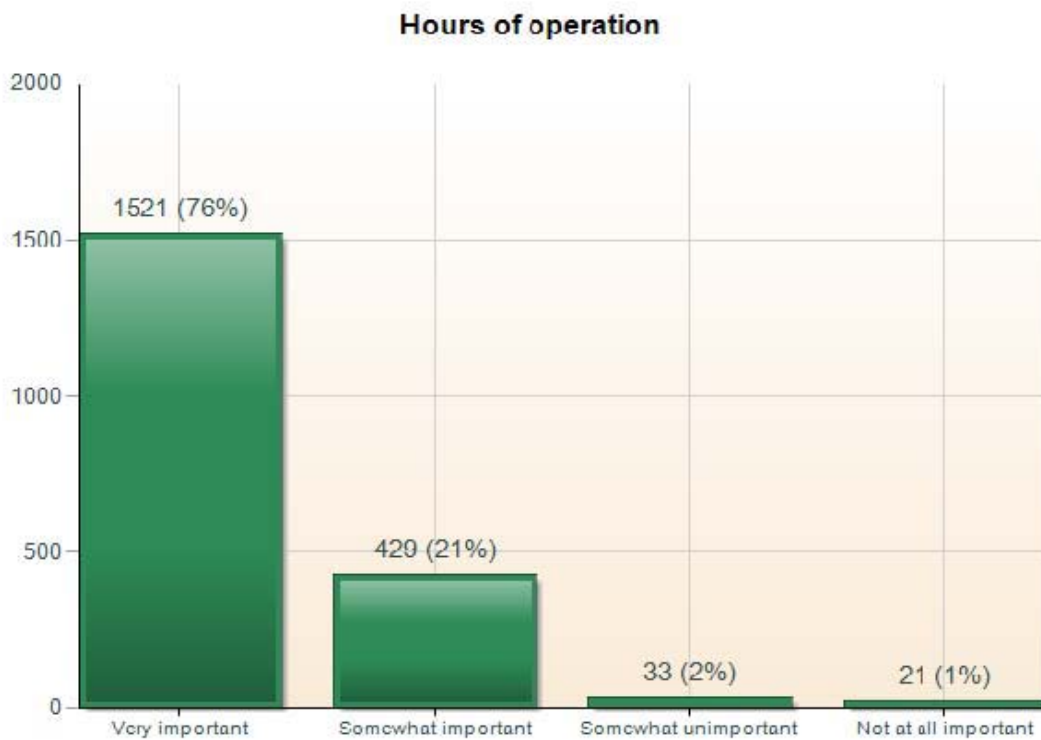


Figure 20. Hours of Operation (2008 Data)

Conclusion

All of the research described in this study was designed to reveal with supportive evidence the determining factors for usage and non-usage of the USF Campus Recreation Center. What has become apparent from statistical analyses, surveys, and past studies, is that two factors were statistically important to facility usage/non-usage. These two factors were whether a USF Tampa student lives on or off-campus and his or her gender. Over 70% of students who live on campus used the gym at least a few times per month, while just over 50% of off-campus residents attended at least a few times per month. Sixty-five percent of male students used the gym at least a few times per month; whereas, only 56% of female students used the gym at least this often. When Chi-Square tests were performed, it was confirmed that both of these factors are statistically significant to this study. Therefore, a logical usage solution strategy is to target off-campus students and females.

Suggested solutions to these problems have been previously discussed, but for summary purposes they are as follows:

- (1) To draw a larger percentage of non-residents, the parking problems need to be assessed. While it was assumed that building a parking garage may not be feasible in the short-run, this was something that could be considered as a long-term solution.
- (2) Additionally many off-campus students are using a different gym, of which many cost them additional out-of-pocket expenses. By better informing students that they already pay for the USF Campus Recreational Center, they may be persuaded to use the USF gym instead of paying additional money for another gym. For those students using another gym for free, such as a facility at an apartment complex, persuasion may come

through marketing of group workout courses, the lap pool, or the wide variety of equipment available.

(3) As mentioned in the previous paragraph, nearly 10% more of the males use the gym as compared to females. The USF Campus Recreation Center should take this information into consideration, because 57% of all students at USF Tampa are female (17,000 females). Suggestions for increasing female attendance included more workout courses (three times as many females requested additional courses than males), a private area for females who find themselves becoming self-conscious at the gym, increased awareness of facility orientation courses, and further study of why twice as many females as males lack enough free time to work out.

While gender and on/off campus residency proved to be the most important determinants of usage, others that were mentioned throughout the paper are also worthy of exploring. Student responses to the current survey showed that as students progressed in their school classification, e.g. freshmen to sophomore, that attendance dropped. Much of this may be explained by the trend for students to move off-campus, as they get older. Additionally, students tend to get busier and have less time to dedicate to personal fitness, as they get more involved in courses and extracurricular activities. Other determinants were listed throughout the paper and should be discussed further by the researchers and USF Campus Recreation Center staff.

This research study proved to be a great learning experience for both researchers. By working on this project, both students agreed that they have gained a great general overview perspective of the quantitative research survey process. To complete a project of this magnitude, it has taken the collaboration of many people, whose names need to be mentioned. Eric Hunter,

the Faculty Advisor for the project has been an outstanding resource for any questions regarding the USF Campus Recreation Center. His quick attention to any questions, along with the abundance of information provided, has been instrumental for this paper. Charlene Herreid, Ph.D., the Committee Member for the researchers has always been willing to answer any questions, especially those relating to the research process, where her expertise was essential to the core of the project. Georg Kleine, Ph.D. and Stuart Silverman, Ph.D of the Honors College were both readily available for feedback, and both proved vital to the work as a whole. Deborah Hellman, Ph.D., Adjunct Professor for USF College of Special Education, supplied her services as a reviewer. Jennifer Gangi, Ph. D. provided great assistance with SPSS software, developing and performing statistical analyses, and overall thesis preparation.

Future research to build off of this study will be very beneficial to the USF Campus Recreation Center Department in drawing more users to its facility. Many instances were mentioned throughout the paper where further analysis would be needed to explain anomalies. The researchers will remain available as a resource to anyone conducting future studies, to advise in which areas further research can be most applicable. Contact information for both researchers is as follows:

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