Assessing the Impact of New Student Campus Recreation Centers

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The student recreation center (SRC) at many colleges and universities has evolved from being a place to lift weights and take aerobics classes to becoming a high-powered recruitment tool (Colleges use recreation, 2002). The present study included the development of an instrument to assess the use and impact of SRCs. Students (N = 655; users = 537, nonusers = 118) were surveyed about their use of and satisfaction with their university’s newly constructed SRC. The overall findings revealed that a majority of SRC users were male (54.9%), felt more at home on campus since the construction of the SRC (61.2%), and felt that the SRC had increased their exercise frequency (79.9%). Forty percent of users adopted regular physical

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activity after the construction of the SRC. Non-users were primarily female (59.3%), had never visited the SRC (49.6%), and did not participate in any physical extracurricular activities (78.0%). Future SRC research should explore exercise patterns more thoroughly and link facility use to additional social and academic developmental outcomes.

In the last two decades, student recreation centers (SRCs) have become state-of-the-art recruitment tools (Colleges use recreation, 2002; Recreation on campus, 1985) and significant contributors to college and university students’ academic performance (e.g., Belch, Gebel, & Maas, 2001; Noeldner, 2001). Since the mid-1980s, campus recreation has faced a shift in students’ expectations for the type and quality of recreational facilities available. It has been noted that, “... student life beyond the academic environment is also important ... [and based on this] many institutions are beginning to take responsibility for the quality of life on campus” (Recreation on campus, 1985, p. 16). Even more recently, Chickering and Reisser (1996) have validated the long-standing value extracurricular activities can have in the life of the developing college student. Today’s SRC can easily meet the characteristics of a “community” described by Chickering and Reisser, by including: (a) the encouragement of regular interactions between students, (b) the availability to participate in collaborative problem solving, (c) group diversity, and (d) the provision of a reference group where membership is clear and structured (p. 202). By fostering a sense of community with others at the SRC, students can develop group membership benefits that may help ease the transition into young adulthood, including how to deal with life away from home, newly acquired individual autonomy, and support from others similar to themselves.

A recent survey of collegiate recreation providers showed that fitness centers are booming and that accommodating user demand is one of the biggest challenges facing administrators (Patton, 1999). In response to heightened student expectations and the need to stay competitive in recruiting students, colleges and universities have begun developing facilities that promote a variety of recreation opportunities in addition to the traditionally available intramural activities. Part of this expansion has included increased opportunities for partic-
ipation in adventure and challenge experiences (e.g., rock climbing),
individual fitness development (e.g., personal trainers), group-activity
classes (e.g., spinning and tai chi) and family-based services (e.g.,
childcare) (Reisberg, 2001). Individuals trained in fitness evaluations,
fitness planning, and personal training usually staff these centers.
Some SRCs also offer students access to electronic mechanisms to
track their fitness progress as well as a myriad of other “bells and whis-
tles” like massages, juice bars, and water slides (Reisberg).

These significant and varied improvements have not come without
expense. Depending on enrollment, schools can spend anywhere from
$20 to $100 million on new SRCs (Colleges use recreation, 2002).
Since the 1980s, students and parents have been funding SRC expan-
sions by adding fees to tuition, often in the amount of $100 or more
per semester per student (Recreation on campus, 1985; Reisberg,
2001). The benefits in these cases may outweigh the costs. These
attractive new facilities, in addition to being a powerful recruiting tool,
can also facilitate the adoption of healthy lifestyles at a time when
many young adults become sedentary (Reisberg). The possibility of
enticing young adults to be more active is important, particularly in
light of the risk for young people to become less active as they grow
older (U.S. Department of Health and Human Services [USDHHS],
2000).

The Age of Accountability

With increased investment of resources, university administrators
have become highly interested in both the economic and educational
contributions SRCs make toward students’ higher education experi-
ences. These relatively new accountability expectations range from
head counts and usage patterns to academic benefits and retention
rates (e.g., Belch, Gebel, & Maas, 2001; Noeldner, 2001). Several
studies have reported positive impact from recreational programs on
factors such as leadership and degree attainment (Astin, 1993), the
role of community membership offered by the SRC in retention
(Wade, 1991), and students’ selection of and persistence at an institu-
tion (Belch, Gebel, & Maas, 2001; Bryant, Banta, & Bradley, 1995).
This research provides support for the value of campus recreation, and
more specifically in the quality of both the SRC and the programming available at such facilities.

However, little empirical research has assessed the impact of these facilities on campus climate and student activity patterns. Possible explanations for the absence of these evaluations include uncertainty surrounding what should be measured, a lack of qualified evaluators, and a lack of adequate resources (Weese, 1997). Although SRC-specific research is limited, other community-based physical activity interventions are receiving more attention in the literature. Research has begun to document the cost-effectiveness of building different types of recreational facilities with convenient access to a large portion of the local population. Several authors have documented, for example, the positive impact of facility construction on physical activity rates in the community, particularly with walking trails (Brownson, Baker, Housemann, Brennan, & Bacak, 2001; Moore & Graeffe, 1994). This line of research suggests that if multipurpose facilities are built with convenient access to community members, they may significantly impact the adoption of activity in sedentary adults and potentially increase the amount of physical activity in habitually active adults (Troped et al., 2001). While walking trails and SRCs are different types of recreational facilities, both have the potential to impact physical activity rates in their respective environments and both represent large investments of financial resources. Thus, with the increased investment in recreational facilities and programming, there is a growing demand for outcome assessment (Todaro, 1993; Weese, 1997). One of the most tangible and powerful effects of building SRCs may include an impact on physical activity patterns in the surrounding university community.

The benefits of regular physical activity on many physical and mental health-related outcomes have been well documented in the literature (Biddle, Sallis, & Cavill, 1998; National Institutes of Health [NIH] Consensus Conference, 1996). Recent evidence from national-level data suggest that physical activity rates in the United States have not improved over the last 20 years despite considerable investment in educational programming and informational interventions (Buckworth, 2000; Dishman, 1994; USDHHS, 2000). Unfortunately, little research has been conducted to examine the impact of community-based interventions in the college environment (Bernuth & Cox,
2002; Noeldner, 2001; Ragheb & McKinney, 1993); yet this remains a critical period when many adults develop or abandon their physical activity patterns. Data from the National Institutes for Health (NIH Consensus Conference, 1996) suggest sedentary behavior increases across adolescence and that physical activity rates dip after the transitions from high school to college and from college to work. SRCs have the potential to facilitate the adoption and maintenance of regular physical activity patterns in college students. Through regular assessment, SRC staff members can better understand student activity patterns, preferences, and needs. Subsequently, SRC staff members can use this information to develop more effective programming and services to facilitate the adoption and maintenance process.

The present study involved the development and implementation of a survey designed to assess the impact of a new SRC on a large mid-Atlantic university. Therefore, the purposes of this study were to: (a) compare demographic profiles of SRC users and nonusers in one newly constructed SRC in the mid-Atlantic area, and (b) evaluate the impact of the same facility on the perceived physical activity rates among active and previously sedentary college students.

**Methods**

The research team received internal funding from their academic unit to support half of this exploratory project's expenses, and the SRC budget supplied the second half. Institutional Review Board guidelines were followed in the selection of participants and the collection and analysis of all data.

**Participants**

Primarily undergraduate students at a large mid-Atlantic university (approximately 23,000 students; 87% Caucasian, 49% female) comprised the population for the current research project. The final sample included 655 students ranging in age from 18 to 45 ($M = 21.42; SD = 3.6$), with 537 SRC users and 118 nonusers. For this study, nonusers were defined as individuals having made three or fewer visits to the SRC since its opening (approximately nine months before the assessment). The demographic characteristics of this sample closely resembled the university population (see Table 1).
Table 1
Demographic Information for Users, Nonusers, and Entire Institution

<table>
<thead>
<tr>
<th>Category</th>
<th>Users (%)</th>
<th>Nonusers (%)</th>
<th>Institution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>55.1</td>
<td>39.8</td>
<td>50.7</td>
</tr>
<tr>
<td>Female</td>
<td>43.0</td>
<td>59.3</td>
<td>49.3</td>
</tr>
<tr>
<td><strong>Race (Caucasian)</strong></td>
<td>85.0</td>
<td>87.2</td>
<td>87.0</td>
</tr>
<tr>
<td><strong>International student</strong></td>
<td>5.5</td>
<td>3.4</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Class status:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First year</td>
<td>21.5</td>
<td>19.5</td>
<td>17.6</td>
</tr>
<tr>
<td>Second year</td>
<td>24.1</td>
<td>24.6</td>
<td>16.2</td>
</tr>
<tr>
<td>Third year</td>
<td>17.3</td>
<td>16.9</td>
<td>14.6</td>
</tr>
<tr>
<td>Fourth year</td>
<td>20.1</td>
<td>28.8</td>
<td>20.4</td>
</tr>
<tr>
<td>Graduate/Professional</td>
<td>16.9</td>
<td>10.2</td>
<td>29.7</td>
</tr>
<tr>
<td><strong>GPA:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All participants</td>
<td>3.18</td>
<td>3.23</td>
<td>N/A</td>
</tr>
<tr>
<td>Undergraduates only</td>
<td>3.11</td>
<td>3.19</td>
<td>2.76</td>
</tr>
</tbody>
</table>

Instrument Development
Two surveys were developed for this project; one to assess SRC users and one for nonusers. The user's survey was developed, refined, and finalized before construction of the nonuser's survey began. Survey items were developed and formatting was completed in congruence with established survey design protocols (see Dillman, 2000; Fink & Kosecoff, 1998; Fowler, 1993). During the initial phase of item devel-
development, the research team collaborated with the SRC director and staff to ensure that the user's survey covered all areas of interest in appropriate detail. The user's survey included items covering student demographics, usage patterns, user satisfaction, facility climate, exercise knowledge, health behaviors, sociocultural factors, and programming issues. The exercise knowledge items were selected from the FitSmart test, which is an established, valid, and reliable test representing general fitness and wellness knowledge (Zhu, Safrit, & Cohen, 1999). To create the nonusers form, the nonapplicable items (i.e., frequency of use, preferred equipment, and means of transportation) were removed from the users form, and items related to barriers to service use and exercise were added.

**Pilot Testing**

As recommended by Fink and Kosecoff (1998) a small group of undergraduate students (n = 18) participated in pilot testing the survey instruments to provide feedback on the clarity, completeness, and ease of responding to all items. This pilot procedure resulted in a refined format and changes to the structure of several questions to improve ease of completion. Final versions of the user's and nonuser's survey are provided in Appendixes A and B.

**Sampling**

**Determining Sample Size**

Based on the average number of students using the SRC per day (1,500–3,000), the research team determined that a random sample of approximately 400 users and 150 nonusers would be necessary to accurately represent these populations (Krejcie & Morgan, 1970). These figures were based on speculation about the percentage of nonusers on campus (25%), although sampling methods for SRC-users were nonrandom.

**Sampling Methods**

Two methods of sampling were used to access the population of users. First, three high-volume time periods (7–9am, 11am–2pm, and 4–8 pm) were selected for survey administration. Four hundred students were surveyed inside the SRC during these time periods on two weekdays and one weekend day during a typical week in the semester. This convenience method provided the opportunity for current users of the
facility with various exercise patterns to be included in the sample. Less than 10% of the students approached to participate refused to do so during on-site data collection.

Second, consistent with Weese’s (1997) recommendation, required general education (or cluster) classes were randomly sampled to access nonusers as well as those users who were not in the SRC facility during the days and times when data were collected at the SRC. A random numbers table was used to select 15 general education classes offered during the semester of data collection. Care was taken to ensure that the sampled classes were evenly distributed across the clusters of liberal arts, social sciences, and hard science courses and that all students had an equal chance of taking the class. If multiple sections of a class existed, one section with approximately 30–50 students enrolled was randomly selected from each list. Of the initial 15 contacts through email, 7 professors agreed to participate. This sampling method resulted in the addition of 36 nonusers and 137 users. Due to the limited number of participants in cluster classes that met the strict nonuser criteria, the remaining nonuser sample ($n = 82$) was obtained during the summer session. The remaining convenience sample was achieved in several ways by accessing students at the main library, the campus student center, and recruiting from cluster classes taught over the summer session that were again randomly selected from the course offering book.

Procedure

Prior to data collection, each survey was coded with a unique identifying number to ensure anonymity of results as well as to link scanned and open-ended responses. All participants were provided with a brief cover letter outlining the general purpose of the study before being asked to participate.

On-Site Data Collection

Data collection was completed by pairs of trained students and supervised by members of the research team. Tables and chairs were provided in the entrance area of the SRC to facilitate ease of data collection. Participants were required to be full-time students who had not yet completed the survey. All participants completed the paper-and-pencil survey by responding to the multiple-choice items on a com-
puter scan sheet and filling in open-ended items directly on the survey. Upon completing the user's survey, participants received a bottle of water or a sports drink as an incentive. Total time of administration for on-site data collection from each participant was approximately 15 minutes.

Off-Site Data Collection
Additional surveys were gathered in classroom settings and from students entering or exiting the campus center or library. The research team member read a brief script and then asked if students would be willing to participate and if they had completed the survey before. The vast majority of classes surveyed had less than five students who fit into the nonuser's category. Less than 10% of students in these settings refused to participate. Total time for off-site data collection ranged from 15–25 minutes per participant.

Data Analysis
All scan sheets (NCS, form 4521) were examined for completion and to remove stray marks before being entered into the reader (SR-600, Scanning Systems) and saved as an SPSS file. Open-ended responses were added to this file. The first set of analyses used the entire data set to compare user and nonuser characteristics. The second set focused exclusively on SRC users to more fully understand differences between new and previously active exercisers. As suggested by Bruning and Kintz (1997), effect size estimates for chi-square analyses are reported as phi for 2x2 models and contingency coefficients (CC) for larger chi-square models.

Results
The information presented in Table 1 reveals a nonuser sample with more females and fewer international students than the user sample and the entire university, suggesting that this subsample may not be representative of the university population. The user and nonuser groups differed significantly by gender ($\chi^2 = 10.56$, $df = 3$, $N = 664$, $p = .014$, $\phi = .13$) with more males being classified as users and more females classified as nonusers. The user (85.0%), nonuser (87.2%), and entire university (87.0%) proportions of Caucasian students were very similar. The proportion of undergraduates surveyed (users =
83.0%, nonusers = 89.8%) was somewhat greater than the proportion of undergraduates enrolled in the entire university (70.3%).

User vs. Nonuser Samples

Independent \( t \) test results revealed a nonsignificant difference in self-reported GPA between users and nonusers. Both users (3.11) and nonusers' (3.19) undergraduate GPAs were higher than the institution-wide undergraduate GPA (2.76). As shown in Table 2, significantly \( (p < .05) \) more users lived on campus \( (\phi = .14) \), were non-smokers \( (\phi = .20) \), had been high school athletes \( (\phi = .26) \), and currently categorized themselves as regular exercisers \( (\phi = .47) \) when compared to nonusers. There were no significant group differences relative to exercise knowledge scores (mean score out of 7 possible points: users = 4.37, nonusers = 4.46) or level of participation in intramural activities (users = 32.2%, nonusers = 21.2%).

Table 2
A Comparison of User and Nonuser Characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>Users (%)</th>
<th>Nonusers (%)</th>
<th>Effect Size ( (\phi) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live on campus</td>
<td>34.0</td>
<td>18.8</td>
<td>.14</td>
</tr>
<tr>
<td>Nonsmokers</td>
<td>68.8</td>
<td>47.5</td>
<td>.20</td>
</tr>
<tr>
<td>High school athletes</td>
<td>78.9</td>
<td>53.4</td>
<td>.26</td>
</tr>
<tr>
<td>Regular exercisers</td>
<td>88.2</td>
<td>40.5</td>
<td>.47</td>
</tr>
<tr>
<td>Intramural participants</td>
<td>32.2</td>
<td>21.2</td>
<td>NS</td>
</tr>
</tbody>
</table>

NS = nonsignificant
Regarding barriers to exercise, nonusers reported that lack of time (77.1%) and feeling too tired (72.0%) at least sometimes interfered with or prevented them from exercising. Similarly, nonusers also cited other time commitments (53.4%) and inconvenience (20.7%) as reasons they did not use the SRC. The least salient barriers for the subsample of nonusers were the exercise atmosphere (i.e., one in which they did not feel comfortable) and the need for childcare, which were rated as “never” or “rarely” relevant to nonusers (89.8% and 82.9%, respectively). The three main factors motivating SRC users were: (a) to stay in shape, (b) fat loss, and (c) self-esteem.

Impact of the SRC on Physical Activity Rates 
Among SRC Users ($n = 537$)

All users were asked, “Did you exercise regularly (3 or more times per week) before using the Student Recreation Center?” Two hundred seventeen (40.4%) of the SRC users responded ‘No’ to this question and were therefore classified as ‘new exercisers.’ The remaining 320 participants who answered ‘Yes’ were considered ‘habitually active’ exercisers. To provide additional support to these classifications, participants were asked to classify themselves along the stages of change using a single item (Prochaska & DiClemente, 1992). These stages included precontemplation (not thinking about adopting regular exercise), contemplation (thinking of starting regular exercise in the next six months), action (started regularly exercising in the last six months), and maintenance (regularly exercising for more than six months). As expected, considerably more new exercisers placed themselves in contemplation (12.1%) and action (59.5%), while the majority of habitual exercisers placed themselves in maintenance (73.2%).

Comparing New and Habitual Exercisers

Two-way chi square analyses were used to determine differences between exercise groups across gender, race, school year, and living status (i.e., on-campus vs. off-campus). These analyses used a Bonferroni adjusted significance level of $p < .005 (.05/10)$ to reduce the chance of Type I error given multiple analyses. An independent t test also compared the groups on a brief measure of fitness knowledge. The only near significant difference ($p = .011$) that emerged from these preliminary analyses was that women comprised a greater proportion of new exercisers (50.5%) compared to habitually active exercisers.
This suggests that, aside from slight gender differences, those SRC users who have recently adopted physical activity and those who regularly exercised before the completion of the SRC share similar demographic profiles.

Motivational patterns between groups were also compared, including items addressing: (a) motivation to improve personal bests, (b) motivation to compete with others, (c) the influence of feeling good about themselves, and (d) the influence of receiving positive feedback. Chi-square analyses revealed no significant differences between groups, suggesting that new exercisers and habitually active exercisers share similar motives for exercise. Additionally, on a single item with anchors of ‘not at all motivated’ to ‘very motivated,’ groups expressed similar levels of motivation to continue as 70% of habitual exercisers and 66% of new exercisers reported that they were ‘very motivated’ to continue using the SRC on a regular basis.

**Exercise Frequency**

A significantly larger proportion of habitual exercisers reported using the SRC four times or more per week, while the new exercisers were more likely to report attending three times or less per week ($\chi^2(3) = 20.3$, $p < .001$, $CC = .19$). A larger percentage of new exercisers (79.3%) reported that their frequency of exercise had increased since they began using the SRC compared to 55.8% of the habitually active exercisers ($\chi^2(4) = 79.1$, $p < .001$, $CC = .36$; see Table 3). Finally, 368 participants (69%) reported that they would use exercise adherence consulting if it were made available at the SRC, suggesting that students would respond positively to a service designed to foster maintenance of exercise behaviors.

**Discussion**

The present study was partially designed to provide information about the characteristics of users and nonusers of one large, mid-Atlantic university’s SRC. The findings do provide some interesting relationships with previous research. Regarding the exercise patterns of nonusers in the present study, it was reported that lack of time (77.1%) and feeling too tired (72.0%) at least sometimes interfered with or prevented them from exercising. Similarly, nonusers cited
other time commitments (53.4%) and inconvenience (20.7%) as the reasons they did not use the SRC. Both of these issues could be viewed as support for the finding that significantly more users than nonusers lived on campus. If students have very little free time in which to be active, it is logical that they would be less likely to go out of their way to be physically active, particularly if they do not highly prioritize physical activity.

The three main factors motivating exercise by SRC users were to stay in shape, to lose fat, and to build self-esteem. Relative to the reasons cited for nonuse, one might suggest that SRC users managed to find the time to gain what they perceived to be important benefits of physical activity, while nonusers did not pursue physical activity due to perceived time constraints. However, providing childcare or altering the atmosphere within the SRC to accommodate all shapes and sizes of exercisers is not warranted due to low percentages of nonusers who reported these barriers. It is recommended that creative means be used to attract nonusers such as offering free classes at the SRC on stress reduction, hosting social events, and providing on-site services for academic improvement such as test taking strategies (Watson, Ayers, Zizzi, & Naoi, Submitted). Additionally, for off-campus students, providing alternative forms of transportation to the SRC may increase the convenience of facility use.

### Table 3
Self-Reported Change in Physical Activity Frequency Since Using SRC

<table>
<thead>
<tr>
<th>Change in Physical Activity Pattern</th>
<th>Decreased a great deal</th>
<th>Decreased slightly</th>
<th>No change</th>
<th>Increased slightly</th>
<th>Increased a great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitually Active (n = 320)</td>
<td>6 (1.9%)</td>
<td>34 (10.7%)</td>
<td>101 (31.7%)</td>
<td>125 (39.2%)</td>
<td>53 (16.6%)</td>
</tr>
<tr>
<td>New Exerciser (n = 217)</td>
<td>6 (2.8%)</td>
<td>11 (5.1%)</td>
<td>28 (12.9%)</td>
<td>61 (28.1%)</td>
<td>111 (51.2%)</td>
</tr>
</tbody>
</table>

\[ \chi^2(4) = 79.05, p < .001, CC = .36 \]
In the present study, no significant difference was found between users’ and nonusers’ academic performance. This finding differs from Belch, Gebel, and Maas’ (2001) report, and from the Bernuth and Cox (2002) study, the latter of which actually found an inverse relationship between SRC use and academic performance. While the present study accessed GPA information by participant self-report, Belch and associates used an institutional database for those data. The present finding was, however, similar to Noeldner's (2001) self-report finding relative to academic standing. One point of interest relative to GPA is that the undergraduate users and nonusers in the present study had higher GPAs than the overall institutional average undergraduate GPA. This finding may be partially explained by the mere presence of the respondents in class or at the SRC as compared to those students less active in campus life. If students attend class or visit the SRC, it may be suggested that they are more involved in campus life and may be more concerned about academic performance. To access the students who are less active in campus life, alternative sampling procedures are recommended in future research.

Impact of the SRC on Physical Activity Rates

The current study also provides support for the belief that new SRCs may encourage previously sedentary students to adopt regular physical activity patterns. In this sample, approximately 40% of SRC users surveyed were not exercising regularly prior to construction of the facility. Habitually active students also reported a slight increase in their frequency of physical activity while attending the SRC. These results provide additional support to findings related to the impact of the physical environment on community physical activity rates (Brownson et al., 2001; Moore & Graeffe, 1994; Troped et al., 2001), thus lending credence to the motto “if you build it, they will come.”

There are several potential reasons for the impact this SRC had on physical activity adoption rates in the community. First, the new facility was built in a central campus location with easy access to a large proportion of the students who live on campus. Additionally, a mass transit system is available to bring students within walking distance of the SRC from distant parts of campus and the surrounding community. This convenient location is coupled with the flexible schedules of college students that often allow them to select one of several optimal
times to participate in physical activity. Convenience is commonly cited as a facilitative factor for the adoption and maintenance of physical activity (Buckworth, 2000). Second, this facility represents a tremendous improvement over previous facilities on campus with regard to size, type and quality of equipment, and hours of operation. This increase in the availability of recreational choices may have contributed to students’ motivation to use the facility. Third, attendance at the SRC is affordable for nearly all students since payments are built directly into mandatory student fees. This factor may have been particularly salient in the present study because prior to completion of the SRC, students were required to purchase a gym membership at local health clubs if they wanted access to weight training rooms, cardiovascular equipment, and swimming pools in one facility. Finally, it is possible that the SRC provided a healthy socializing option for the students as an alternative to the party or dorm scenes. Future research should determine students’ preferences for different socializing opportunities and their perceived impact of these options on developmental outcomes such as quality of campus life, academic performance, and health.

Little or no differences emerged between the habitual exercisers and new exercisers on factors related to age, gender, and other demographic characteristics. These two groups also did not report different sources of motivation for using the SRC, although it should be noted that each motive was estimated from a single survey item. Thus, conclusions that can be drawn regarding the impact of these similarities between groups in motivational patterns are limited. The results did provide evidence that the array of services, equipment, and programming available at the SRC are meeting the needs of a representative sample of the student population. Since this facility is successfully attracting new and habitual exercisers from several demographic groups, additional effort is warranted in helping students maintain these behaviors over time.

Strategies for Maintaining Usage Patterns
Since the data on usage patterns reflects only users of the SRC, there may be a bias in this subsample towards maintaining an active, healthy lifestyle. Of these new and habitual exercisers, 69% reported that they would take advantage of exercise adherence counseling if it
were made available. This result suggests that many respondents were interested in receiving direct assistance in maintaining their exercise programs, which is often a more difficult task than adopting exercise (Buckworth, 2000; Dishman, 1994). Considerable research has been conducted in the area of exercise behavior change and the majority of recent reports suggest that exercisers progress through a set of identifiable stages before reaching the maintenance stage when they have integrated exercise as part of their lives (Prochaska & DiClemente, 1992; Prochaska et al., 1994). The utility of this model lies in its ability to differentiate between the motivational and behavioral needs of sedentary people (in precontemplation), new exercisers (in the adoption stage) and habitual exercisers (in the maintenance stage). If additional research confirms the high level of interest in exercise adherence services in the current sample, recreation staff and administrators may want to consider supporting the development of standardized assessment and adherence services to increase the likelihood of students maintaining healthy, active lifestyles while in college. These services typically include assessments of barriers to exercise, exercise self-efficacy, and stage of change while teaching skills in goal setting, self-monitoring, and reinforcement (American College of Sports Medicine [ACSM], 2000). Students or professionals trained in applied exercise psychology would likely be the most qualified to provide such assessments and interventions.

Limitations

In interpreting these findings, it is important to mention the sampling limitations associated with the present study. Due to the use of volunteer participants, accurate inferences would be difficult to establish although attempts were made to maximize sample diversity. In particular, the nonuser sample may not be representative of the university population. Next, the difficulty of finding nonusers was surprising. Future research studies may consider adopting multiple methods of data collection (e.g., telephone, mail, in-person, and web-based surveys) to reduce sampling bias and difficulty with student populations. Finally, the effect sizes of the results in the current study are mostly low to moderate and thus replication is warranted before firm conclusions can be reached.
Summary and Future Directions

If students can successfully establish regular exercise patterns while in college and receive assistance maintaining this behavior, their lifelong personal health and surrounding community health rates may be greatly impacted (NIH Consensus Conference, 1996). Data from the current survey suggest that building new SRCs may positively impact physical activity patterns in college students in the first year after facility construction. While these results are promising, the data do not account for the long-term maintenance of physically active lifestyles. Considering that a majority of participants expressed a desire for help in this area, evaluations of the impact of exercise adherence programming in this setting are warranted. The current project was also limited in scope because we did not explore additional physical activity patterns outside of the SRC. Future research related to the impact of campus recreation centers should document exercise patterns more thoroughly by including data on mode and intensity of exercise to determine how closely participants are meeting national health guidelines for physical activity (American Council on Exercise, 2002; ACSM, 2000). To meet this goal, future assessment projects at SRCs may want to use pedometers or other methods to track the quantity and quality of physical activity in a representative sample of SRC users. Subsequently, these activity patterns could be linked with other developmental outcomes such as academic progress, social relationships, and career development. While the conclusions drawn from the present survey represent only one university, the results may be useful to recreational staff members and sport science researchers in facility planning, assessment, and outcome evaluation. A continued commitment to the assessment of recreational facility impact in college students may eventually provide evidence for a cost-benefit analysis of the considerable resources invested.
Appendix A: SRC User’s Survey

Directions: Please respond to the following questions by filling in the appropriate bubbles on the included scantron form. There will be some questions throughout this survey where you will be asked to write on the survey form itself.

1. During an average week, how many times do you visit the Student Recreation Center?
   A. 0-1
   B. 2-3
   C. 4-5
   D. 6+

2. During which of the following time periods do you USUALLY visit the Student Recreation Center?
   A. Morning (6-10am)
   B. Mid-day (10am-2pm)
   C. Afternoon (2-6pm)
   D. Evening (6-10pm)

3. If available at the Student Recreation Center, would you be willing to take advantage of individualized services to help you exercise more consistently?
   A. Yes
   B. No

4. Was the Student Recreation Center a factor in your decision to attend WVU?
   A. Yes
   B. No

5. How much of a factor was the Student Recreation Center in your decision to attend WVU?
   A. Small
   B. Medium
   C. Large
   D. Not Applicable (answered “no” to question #4)
6. Do you believe that the equipment at the Student Recreation Center is of good quality?
A. Yes
B. No

7. How often are you able to use the equipment that you want to use, when you want to use it?
A. Never
B. Occasionally
C. Frequently
D. Always

8. Have you participated in any of the fee-based physical activity programs offered at the Student Recreation Center (e.g., spinning, aerobics, yoga, martial arts, etc.)?
A. Yes
B. No

9. Do you believe that the instructors of these programs encouraged comparisons AGAINST YOURSELF for improvement?
A. Yes
B. No
C. Not Applicable (I have not taken part in these programs)

10. Do you believe that the instructors of these programs encouraged comparisons BETWEEN PEOPLE?
A. Yes
B. No
C. Not Applicable (I have not taken part in these programs)

11. During which of the following time periods would you be most likely to take part in a Student Recreation Center PHYSICAL ACTIVITY PROGRAM?
A. Morning (6-10am)
B. Mid-day (10am-2pm)
C. Afternoon (2-6pm)
D. Evening (6-10pm)
12. During which of the following time periods would you be most likely to take part in a Student Recreation Center LECTURE OR LAB ACTIVITY (e.g., nutrition or stress management class)?
   A. Morning (6-10am)
   B. Mid-day (10am-2pm)
   C. Afternoon (2-6pm)
   D. Evening (6-10pm)

13. When exercising, how often do you try to COMPETE WITH THOSE PEOPLE EXERCISING AROUND YOU (e.g., lift more weights, ride the bike longer, etc)?
   A. Never
   B. Occasionally
   C. Frequently
   D. Always

14. When exercising, how often do you try to IMPROVE YOUR OWN personal bests or health/conditioning?
   A. Never
   B. Occasionally
   C. Frequently
   D. Always

15. Do you believe that the climate created by the Student Recreation Center creates an emphasis on appearance (e.g., needing to look good)?
   A. Yes
   B. No

16. How often is your willingness to exercise affected by your desire to FEEL GOOD ABOUT YOURSELF?
   A. Never
   B. Occasionally
   C. Frequently
   D. Always
17. How often is your motivation to exercise affected by your desire to RECEIVE POSITIVE FEEDBACK?
   A. Never
   B. Occasionally
   C. Frequently
   D. Always

18. Does the Student Recreation Center's environment allow less fit individuals to feel comfortable exercising alongside more fit individuals?
   A. Yes
   B. No

19. To what degree has the Student Recreation Center improved the quality of Student Life at WVU?
   A. Not at all
   B. A little
   C. Moderately
   D. Considerably

20. How do you normally work out at the Student Recreation Center?
   A. Alone
   B. With a partner
   C. With 2 other people
   D. With 3 or more other people

21. Did you exercise regularly (3 or more times per week) before using the Student Recreation Center?
   A. Yes
   B. No

22. How has your frequency of exercise changed since you began using the Student Recreation Center?
   A. Decreased a great deal
   B. Decreased slightly
   C. No Change
   D. Increased slightly
   E. Increased a great deal
23. Has your use of the Student Recreation Center helped you to feel more at home on the WVU campus?
   A. Yes
   B. No

24. Has your use of the Student Recreation Center helped you to make more friends?
   A. Yes
   B. No

25. How motivated are you to continue utilizing the Student Recreation Center on a consistent basis?
   A. Not at all
   B. Somewhat
   C. Very Much

26. Gender
   A. Female
   B. Male

27. Has the Student Recreation Center created an environment that allows you to feel comfortable exercising?
   A. Yes
   B. No
   What changes would help you feel more comfortable?
   ______________________________________________________

28. Race:
   A. African American
   B. Asian American
   C. Caucasian
   D. Hispanic American
   E. Other / International Student (please indicate):
   ______________________________________________________

29. Are you an International Student?
   A. Yes
   B. No
30. Class status:
   A. Freshman
   B. Sophomore
   C. Junior
   D. Senior
   E. Graduate / Professional

31. Enrollment status:
   A. Part time student
   B. Full time Student

32. Do you live on-campus?
   A. Yes
   B. No

   If “YES,” in which residence hall do you live?

33. How do you usually get to the Recreation Center?
   A. PRT
   B. Walk
   C. Bicycling
   D. My vehicle
   E. Ride with friends

34. Do you believe that there is adequate parking at the Student Recreation Center?
   A. Yes
   B. No
   C. Don’t Know (i.e., don’t drive to recreation center)

35. Do you have any chronic health concerns (e.g., heart problems, respiratory problems, etc.)?
   A. Yes
   B. No

   If “YES,” what are those concerns?

36. Which statement best describes your current smoking behavior?
   A. I have smoked at least one cigarette in the last 30 days
   B. I quit smoking more than one month ago
   C. I don’t smoke
37. Do you currently participate in any PHYSICAL EXTRA-CURRICULAR ACTIVITIES (e.g., intercollegiate athletics, intramurals, club teams)?
   A. Yes
   B. No
   If “YES,” what are those activities?

38. Do you currently participate in any NON-PHYSICAL EXTRA-CURRICULAR ACTIVITIES (e.g., student government, student clubs, work)?
   A. Yes
   B. No

39. Did you participate in high school athletics (including cheerleading)?
   A. Yes
   B. No

40. Have you read and accurately answered the questions so far?
   A. Not at all
   B. A little
   C. Moderately
   D. No
   E. Yes

41. Which of the following statements most closely reflects your exercising status?
   NOTE: Regular exercise = 3 or more times per week for 20 minutes or more each time.
   A. I currently do not exercise, and I do not intend to start exercising in the next 6 months.
   B. I currently do not exercise, but I am thinking about starting in the next 6 months.
   C. I currently exercise regularly, but I have only begun in the last 6 months.
   D. I currently exercise regularly, and I have done so for longer than 6 months.
Part II – Exercise Knowledge

Directions: Please answer the following seven questions to the best of your ability by filling in the appropriate bubbles on the scantron form.

42. What is the relationship between physical fitness and health?
   A. People who are moderately fit typically enjoy good health.
   B. The relationship is more important for children than adults.
   C. There is no relationship between physical fitness and health.
   D. Highly fit people are always healthier; people with poor fitness are always unhealthier.

43. Which of the following principles about physical fitness is the most accurate? It is
   A. maintained through heavy exercise.
   B. maintained through a person’s normal lifetime activities.
   C. a permanent quality which carries over from youth into adulthood.
   D. reversible and needs continuous exercise through moderate to vigorous activity.

44. After several months of endurance training, a person’s heart rate is expected to
   A. increase.
   B. decrease.
   C. become irregular.
   D. remain unchanged.

45. How frequently should flexibility exercises be performed for maximum benefit?
   A. Daily
   B. Every other day
   C. Twice a week
   D. Once a week

46. People who exercise for 6-8 weeks may actually gain weight because of increased
   A. appetite.
   B. body fat.
   C. muscle size.
   D. metabolism.
47. What two substances supply most of the body’s energy during vigorous physical activity?
   A. Proteins and fats
   B. Fats and vitamins
   C. Vitamins and proteins
   D. Carbohydrates and fats

48. What is the highest level of cholesterol recommended for young adults to avoid heart disease.
   A. 240
   B. 220
   C. 200
   D. 180

PART III – Fill in Answers
For the following items, please write your responses directly on this page. These items do not correspond to items on the scantron form.

49. GPA Spring 2001 ________ Please leave this question blank if you are a freshman

50. GPA Fall 2001 ________

51. Age in years: ________

52. Approximate height: ________ Feet ________ Inches

53. Approximate weight: ________ Pounds

54. Please mark the Student Recreation Center equipment/facilities that you use MOST OFTEN:
   (check all that apply)
   ____ Track
   ____ Squash
   ____ Whirlpool
   ____ Basketball
   ____ Volleyball
   ____ Badminton
   ____ Intramurals
55. Please rank order the THREE MOST IMPORTANT FACTORS that motivate you to utilize the Student Recreation Center (1=most motivating factor):
____ Friends
____ Fat loss
____ Intramurals
____ Self-Esteem
____ Environment
____ Muscle mass
____ Stay in Shape
____ Mood benefits
____ Meeting new people
____ Enjoyment of exercise
____ Availability of equipment
____ Other (please specify):

56. Please indicate the facilities/programs about which you were NOT aware of at the Student Recreation Center:
____ Personal training
____ Resource library
____ Wall climbing courses
____ Activity classes (fee-based)
____ Organized outdoor/adventure trips
____ Wellness lab (for fitness assessments)
____ Equipment rental (e.g., skis, snowboards, camping gear, etc.)
57. Please indicate the programs you would LIKE TO SEE OFFERED at the Student Recreation Center:
   ___ Tae Bo
   ___ Self-defense
   ___ Safe sex/STD
   ___ Time management
   ___ Smoking cessation
   ___ Stress management
   ___ Alcohol/Drug awareness
   ___ Nutrition/Weight control
   ___ Depression/Anxiety management
   ___ Other (please specify):

58. If you have taken part in fee-based programs, what programs have you taken part in?
   ___ Yoga
   ___ CycleFit I
   ___ Happy Hour
   ___ Interval Step
   ___ H2O Healthy
   ___ Beginner Step
   ___ ABS and Back
   ___ Personal Training
   ___ Deep Water Interval
   ___ Step and Muscle Conditioning
   ___ Extensive Fitness Assessment
   ___ Body Composition Assessment
   ___ Hi/Low and Muscle Conditioning
   ___ Kickboxing and Muscle Conditioning

59. If you have considered taking part in these programs, but have not yet done so, what factors have prevented you from doing so?
   ___ Money
   ___ Lack of time
   ___ Program quality
   ___ Services offered elsewhere
   ___ Program times are inconvenient
   ___ Other (please specify):
60. If you have smoked a cigarette in the past 30 days, please answer the following questions:

A. Are you a daily cigarette smoker? _____ Yes _____ No

B. On average, how many cigarettes a day do you smoke?

C. How many times have you tried to quit smoking? ________

1. When was your last quit attempt? ________________ (days / weeks / months) ago

2. Which of the following statements best describes your attitude toward changing your smoking right now? (mark one only)
   a. _____ I do not plan to quit smoking in the next 6 months.
   b. _____ I plan to quit smoking in the next 6 months.
   c. _____ I plan to quit within the next 30 days.
   d. _____ I quit less than six months ago.
   e. _____ I quit over six months ago.

D. Are you currently using any type of nicotine replacement or any other method to quit smoking? _____ Yes _____ No (check all that apply below)
   ___ Nicotine patch ___ Nicotine gum ___ Nasal spray
   ___ Zyban ___ Self-help group

   Last time you used any of these? ________________ (days / weeks / months) ago

61. Please rank order the THREE MOST IMPORTANT REASONS that you smoke (1 = most motivating factor; 2 = second most motivating factor; 3 = third most motivating factor):

____ It's habit
____ It helps me relax
____ My friends smoke
____ To cope with cravings
____ I enjoy the stimulation
____ It helps control my weight
____ I like to handle the cigarette
Please provide any other comments below that you would like to include related to your experience at the WVU Student Recreation Center:


Thanks for completing this survey!
Appendix B: SRC Nonuser’s Survey

Directions: Please respond to the following questions by filling in the appropriate bubbles on the included scantron form. There will be some questions throughout this survey where you will be asked to write on the survey form itself.

1. Was the development of the Student Recreation Center a factor in your decision to attend WVU?
   A. Yes
   B. No

2. How much of a factor was the Student Recreation Center in your decision?
   A. Small
   B. Medium
   C. Large
   D. Not Applicable (answered “no” to question #1)

3. If available at the Student Recreation Center, would you be willing to take advantage of individualized services to help you start an exercise program?
   A. Yes
   B. No

4. Do you believe that you have been made aware of all of the facilities/programs available at the Student Recreation Center?
   A. Yes
   B. No

5. From what source have you primarily gained information about the Student Recreation Center?
   A. Friends
   B. Television
   C. Pamphlets
   D. Newspaper
   E. Visit to the center
6. If you have CONSIDERED using the Student Recreation Center but have not yet, what is the primary reason?
   A. I don't have the money
   B. I have other time commitments
   C. There are services offered elsewhere
   D. It is inconvenient for me to use the Student Recreation Center
   E. I am not interested in exercising at the Student Recreation Center

7. If you were to use the Student Recreation Center, during which of the following time periods would you MOST LIKELY visit?
   A. Morning (6-10am)
   B. Mid-day (10am-2pm)
   C. Afternoon (2-6pm)
   D. Evening (6-10pm)

8. How many times have you been to the Student Recreation Center?
   A. Never
   B. One time
   C. Two times
   D. Three times
   E. More than three times

9. Not having someone to exercise with
   A. Never
   B. Rarely
   C. Sometimes
   D. Often
   E. Very often

10. Having other people discourage you from exercising

11. Feeling self-conscious about your looks

12. Being afraid of injury
13. Not having time

14. Feeling too tired

15. Not having a safe place to exercise

16. Caring for children

17. Have you participated in any of the fee-based physical activity programs offered at the Student Recreation Center (e.g., spinning, step aerobics, water aerobics, etc.)?
   A. Yes
   B. No

18. If you were to attend, during which of the following time periods would you be most likely to take part in a Student Recreation Center PHYSICAL ACTIVITY PROGRAM?
   A. Morning (6-10am)
   B. Mid-day (10am-2pm)
   C. Afternoon (2-6pm)
   D. Evening (6pm-midnight)
   E. Not applicable (I would not attend one of these programs)

19. If you were to attend, during which of the following time periods would you be most likely to take part in a Student Recreation Center LECTURE OR LAB ACTIVITY (e.g., nutrition or stress management class-no bold)?
   A. Morning (6-10am)
   B. Mid-day (10am-2pm)
   C. Afternoon (2-6pm)
   D. Evening (6pm-midnight)
   E. Not applicable (I would not attend one of these programs)

20. How often is your willingness to exercise affected by your desire to FEEL GOOD ABOUT YOURSELF?
   A. Never
   B. Occasionally
   C. Frequently
   D. Always
21. How often is your motivation to exercise affected by your desire to RECEIVE POSITIVE FEEDBACK?
   A. Never
   B. Occasionally
   C. Frequently
   D. Always

22. Gender
   A. Female
   B. Male

23. Has the Student Recreation Center created an environment that allows you to feel comfortable exercising?
   A. Yes
   B. No
   C. Not Sure (I have not been there)
   What changes would help you feel more comfortable?

24. Race:
   A. African American
   B. Asian American
   C. Caucasian
   D. Hispanic American
   E. Other (please indicate): ______________________________

25. Are you an International Student?
   A. Yes
   B. No

26. Class status:
   A. Freshman
   B. Sophomore
   C. Junior
   D. Senior
   E. Graduate / Professional
27. Do you live on-campus?
   A. Yes
   B. No
   If “YES,” in which residence hall do you live? ________________

28. Do you have any chronic health concerns (e.g., heart problems, respiratory problems, etc.)?
   A. Yes
   B. No
   If “YES,” what are those concerns? _________________________

29. Which statement best describes your current smoking behavior?
   A. I have smoked at least one cigarette in the last 30 days
   B. I quit smoking more than one month ago
   C. I do not smoke

30. Do you currently participate in any PHYSICAL EXTRA-CURRICULAR ACTIVITIES (e.g., intercollegiate athletics, intramurals, club teams)?
   A. Yes
   B. No
   If “YES,” what are those activities? _________________________

31. Do you currently participate in any NON-PHYSICAL EXTRA-CURRICULAR ACTIVITIES (e.g., student government, student clubs, work)?
   A. Yes
   B. No

32. Did you participate in high school athletics (including cheerleading)?
   A. Yes
   B. No

33. Have you read and accurately answered the questions so far?
   A. Not at all
   B. A little
   C. Moderately
   D. No
   E. Yes
34. Which of the following statement most closely reflects your exercising status?

NOTE: Regular exercise = 3 or more times per week for 20 minutes or more each time.

A. I currently do not exercise, and I do not intend to start exercising in the next 6 months.
B. I currently do not exercise, but I am thinking about starting in the next 6 months.
C. I currently exercise regularly, but I have only begun in the last 6 months.
D. I currently exercise regularly, and I have done so for longer than 6 months.

Part II – Exercise Knowledge

Directions: Please answer the following seven questions to the best of your ability by filling in the appropriate bubbles on the scantron form.

35. What is the relationship between physical fitness and health?

A. People who are moderately fit typically enjoy good health.
B. The relationship is more important for children than adults.
C. There is no relationship between physical fitness and health.
D. Highly fit people are always healthier; people with poor fitness are always unhealthier.

36. Which of the following principles about physical fitness is the most accurate? It is

A. maintained through heavy exercise.
B. maintained through a person’s normal lifetime activities.
C. a permanent quality, which carries over from youth into adulthood.
D. reversible and needs continuous exercise through moderate to vigorous activity.

37. After several months of endurance training, a person’s heart rate is expected to

A. increase.
B. decrease.
C. become irregular.
D. remain unchanged.
38. How frequently should flexibility exercises be performed for maximum benefit?
   A. Daily
   B. Every other day
   C. Twice a week
   D. Once a week

39. People who exercise for 6-8 weeks may actually gain weight because of increased
   A. appetite.
   B. body fat.
   C. muscle size.
   D. metabolism.

40. What two substances supply most of the body's energy during vigorous physical activity?
   A. Proteins and fats
   B. Fats and vitamins
   C. Vitamins and proteins
   D. Carbohydrates and fats

41. What is the highest level of cholesterol recommended for young adults to avoid heart disease.
   A. 240
   B. 220
   C. 200
   D. 180

PART III – Fill in Answers
For the following items, please write your responses directly on this page. These items do not correspond to items on the scantron form.

42. GPA Spring 2001 ________ Please leave this question blank if you are a freshman

43. GPA Fall 2001 ________

44. Age in years: ________
45. Approximate height: ________ Feet ________ Inches

46. Approximate weight: ________ Pounds

47. Please indicate the Student Recreation Center facilities/programs about which you were NOT aware:
   ___ Personal training
   ___ Resource library
   ___ Wall climbing courses
   ___ Activity classes (fee-based)
   ___ Organized outdoor/adventure trips
   ___ Wellness lab (for fitness assessments)
   ___ Equipment rental (e.g., skis, snowboards, camping gear, etc.)

48. Please indicate the Student Recreation Center programs you would LIKE TO SEE OFFERED:
   ___ Tae Bo
   ___ Self-defense
   ___ Safe sex/STD
   ___ Time management
   ___ Smoking cessation
   ___ Stress management
   ___ Alcohol/Drug awareness
   ___ Nutrition/Weight control
   ___ Depression/Anxiety management
   ___ Other (please specify):
       _______________________________________________________

49. If you have taken part in fee-based programs, what programs have you taken part in?
   ___ Yoga
   ___ CycleFit I
   ___ Happy Hour
   ___ Interval Step
   ___ H2O Healthy
   ___ Beginner Step
   ___ ABS and Back
   ___ Personal Training
   ___ Deep Water Interval
   ___ Step and Muscle Conditioning
50. If you have considered taking part in these programs, but have not yet done so, what factors have prevented you from doing so?
   ___ Money
   ___ Lack of time
   ___ Program quality
   ___ Services offered elsewhere
   ___ Program times are inconvenient
   ___ Other (please specify):
   ____________________________________________

51. If you have smoked a cigarette in the past 30 days, please answer the following questions:
   A. Are you a daily cigarette smoker?  _____ Yes  _____ No
   B. On average, how many cigarettes a day do you smoke?______
   C. How many times have you tried to quit smoking? _________
      1. When was your last quit attempt? ____________ (days / weeks / months) ago
      2. Which of the following statements best describes your attitude toward changing your smoking right now? (mark one only)
         a. _____ I do not plan to quit smoking in the next 6 months.
         b. _____ I plan to quit smoking in the next 6 months.
         c. _____ I plan to quit within the next 30 days.
         d. _____ I quit less than six months ago.
         e. _____ I quit over six months ago.
   D. Are you currently using any type of nicotine replacement or any other method to quit smoking? _____ Yes  _____ No (check all that apply below)
      ___ Nicotine patch  ___ Nicotine gum  ___ Nasal spray
      ___ Zyban  ___ Self-help group
      Last time you used any of these? ________________ (days / weeks / months) ago
52. Please rank order the THREE MOST IMPORTANT REASONS that you smoke (1=most motivating factor; 2=second most motivating factor; 3=third most motivating factor):
   ____ It's habit
   ____ It helps me relax
   ____ My friends smoke
   ____ To cope with cravings
   ____ I enjoy the stimulation
   ____ It helps control my weight
   ____ I like to handle the cigarette

Please provide any other comments below that you would like to include related to your experience at the WVU Student Recreation Center:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thanks for completing this survey!
References


Troped, P. J., Saunders, R. P., Pate, R. R., Reinner, B, Ureda, J. R., & Thompson, S. J. (2001). Associations between self-reported and


