Does Student Residence Influence Physical Activity at UW-Stout

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Abstract

The University of Wisconsin-Stout’s campus is divided into two sections: North Campus and South Campus. North Campus is comprised of Student Health Services, four active residence halls, a dining facility, and 24-hour fitness center. South Campus, also known as the main campus, is comprised of thirteen residence halls, nine academic buildings, the student center, a five-story library, and the Johnson Fieldhouse, which is home to the sports and wellness facility. The purpose of this research was to determine whether or not a student’s major, residence location on-campus, and involvement impacts overall health, nutrition, and physical activity.

A random survey of UW-Stout students was conducted to determine if students’ residence influenced physical activity. Undergraduate and graduate students who lived in the residence halls on-campus, and off-campus at the University of Wisconsin-Stout were surveyed. The findings did not support the original hypothesis that students who lived on North Campus had more accessibility to or utilized the fitness center despite the further distance to travel towards South Campus. Therefore, students on North Campus engaged in more physical activity. However, the survey results showed that participants did not partake in health and wellness services due to having their own workout routine or lack of a workout partner.

Introduction

The University of Wisconsin-Stout is a prestigious polytechnic university providing students both nationally and internationally with a variety of relevant and interactive programs. The campus has been recognized for being located in one of the best small towns in America, achieves high employability rates for graduates, and provides faculty and staff who are experienced in their disciplines. As of 2013, 40% of UW-Stout students lived in campus owned/affiliated properties, while 60% lived off-campus. UW-Stout’s campus is divided into two sections. North Campus is comprised of Student Health Services, four active residence halls, a dining facility, and 24-hour fitness center. Transportation for North Campus students includes the option of riding on the free Stout Route shuttle, walking, biking, or driving to commute to campus. Students who live off-campus are likely to utilize mobile transportation whereas the students who live on main campus may not need to utilize any form of mobile transportation with the exception of walking due to the close proximity of all academic buildings and facilities. South Campus, also known as “Main Campus”, is comprised of thirteen residence halls, nine academic buildings, the Memorial Student Center, the Robert L. Swanson Learning Center & Library, and Johnson Fieldhouse housing Stout Adventures and our sports and wellness facilities. Stout Adventures is a facility on campus that has two 30 feet rock climbing walls, hosts camps and clinics, as well as outdoor sports & recreation equipment rental services. The purpose of this research is to determine whether or not a student’s major, residence location on-campus, and involvement on-campus impacts overall health, nutrition, and physical activity.

This study closely relates to the numerous research studies; Dussler, Dunn, Wang, Shelley II, and Whalen, (2005), Yilmaz (2014), Wagner, D.R., Christensen, S.V., Christensen, S., Blaney, P., Wengreen, H., & Heath, E.M., (2010) completed. They considered the factors influencing student behavior, nutrition, and decision making in connection to their overall health. Often times when a student leaves for college, it is their first attempt at establishing transitional independence. This independence allows for the ability to make educated decisions in regards to their overall nutrition, time-management, and dedication to remaining active in physical activities such as sports, fitness classes, or weight lifting.

The importance and overall goal of this study is to provide unique information specific to our university in order to provide departments such as University Housing, the Robert L. Swanson Learning Center & Library, and Student Health Services a deeper insight into their student’s habits and needs. Ideally, these departments would utilize the results from this study to implement changes that would assist students in maintaining physical well-being.

Literature Review

Personal, Health, Academic, and Environmental Predictors of Stress for Residence Hall Students

Dussler, Dunn, Wang, Shelley II, and Whalen (2005) identified numerous factors and outcomes that can result from stress living off-campus in comparison to the residence halls on campus. Findings included that women and United States (US) citizens experienced greater stress than did men and non-US citizens, respectively. Frequency of chronic illness, depression, anxiety disorder, seasonal affective disorder, mononucleosis, and sleep difficulties were significant stress predictors. Although alcohol use was a positive predictor, drug use was a negative predictor of stress. Both a conflict and a satisfactory relationship with a roommate, as well as a conflict with a faculty or staff member, were also significant predictors of stress. (Dussler, et al, 2005)
Dusslelier’s 76-item survey consisted of 2 sections and was more extensive and personal. The first section consisted of 40 residence hall feedback questions, which aimed to target the student’s thoughts and attitudes towards life in their residence halls. The second section of questions focused on the extent to which students’ perceived health and personal issues in their own lives. The final qualitative question they asked students about was the “1 item . . . [they feel] causes . . . the greatest stress during the semester”. (Dusslelier et al, 18)

Highlights of Dusslelier et al. provided the researchers with the following breakdown of information for key stressors within the residence halls at their specific university:

<table>
<thead>
<tr>
<th>Key Stressors</th>
<th>Percentage of Students identifying stressor</th>
<th>Increase or Decrease in students’ Stress level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater concern for a troubled friend or family member and perceived conflict with faculty/staff</td>
<td>12.9%</td>
<td>+67.4%</td>
</tr>
<tr>
<td>High alcohol frequency</td>
<td>33.1%</td>
<td>+67.1%</td>
</tr>
<tr>
<td>Self-reported sleeping difficulties</td>
<td>37%</td>
<td>+67.4%</td>
</tr>
<tr>
<td>High drug use</td>
<td>3.7%</td>
<td>-67%</td>
</tr>
<tr>
<td>Police action</td>
<td>10.3%</td>
<td>-67.4%</td>
</tr>
</tbody>
</table>

Three demographic variables were significant in the model. Women (85.3%) and US citizens (66%) reported more frequent stress than did men (52.3%) and non-US citizens (14.3%), respectively. Also, students with more fall semester hours reported more frequent stress.

The Correlation between Nutrition and University Student’s Self-Efficacy

Yilmaz (2014) investigated the correlation between student’s daily eating habits and their self-efficacy using the “Health Perception of Self-Efficacy Scale.” This scale asked participants a series of questions with response choices being numbered between one and four (one being low and four being high). Subjects needed to select the response that closely related to what they felt was their own self-efficacy. The intent was to obtain data demonstrating the student’s dietary habits and sociodemographic characteristics. Participants in this study consisted of a variety of students and faculty at Nidge University in Turkey. Yilmaz observed 332 female and 325 male students at Faculty of Arts and Sciences, School of Physical Education and Sport (PES), Vocational High School, Faculty of Education, Faculty of Social Sciences and the Faculty of Engineering.

Yilmaz (2014) found that there was a significant difference in self-efficacy between genders, with males having higher levels. They also analyzed the impact alcohol consumption and individual smoking habits have on self-efficacy levels. There were a variety of factors that influenced a significant change in student self-efficacy. Higher self-efficacy was found in relation to student participation in sports, students who ate at least three meals per day, consumption of alcohol only one-time per week, and when students paid attention to their nutrition. Lower levels or decreases in self-efficacy occurred when students smoked.

Alcohol-Impaired Driving Behavior and Sensation-Seeking Disposition in a College Population Receiving Routine Care at Campus Health Services Centers

Balousek, Fleming, Mundt, Wilson, and Zakletskaia (2008) created this study with an aim to investigate the effect that sensation-seeking behavior in college students had on self-reported alcohol-impaired driving. The investigation adjusted the demographic information of participants based on their residence and drinking locations. Participants were all college students over the age of 18. Balousek et al. (2008) found that sensation seeking remains a statistically significant independent predictor of alcohol-impaired driving behavior.” The results from this study found that older, white, sensation-seeking college students living off-campus were at the highest risk for alcohol-impaired behaviors while driving.

Weight and Body Composition Change during the First Year of College: A Study of Traditional Residence Hall Freshman

Blaney, Christensen, Christensen, Wagner, Wengreen, and Heath
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(2010) with the Health, Physical Education and Recreation Department and the Nutrition and Food Sciences Department investigated the changes in weight and body composition of first-year students living in the residence halls of Utah State University.

The methodology required the researchers to track body weight, body mass index (BMI), waist circumference, and body fat percentage. Their sample included both male and female students who responded to a physical activity questionnaire. Participants were measured at the beginning of their first year (September), the end of their first semester (December), and once again at the end of the spring semester (April).

The authors found that over the 7-month period, there was an increase in individual weight, body mass index, and waist circumference. No change was reported in either males or females in regards to individual body fat percentage. There was a correlation between caloric intake and its effect on body weight, body mass index, and body fat percentage. Changes in body fat percentages could be closely related to the amount of time spent on physical activities. Ultimately, the weight gain of freshman at Utah State University was less than 15 pounds.

Understanding Weight Management Perceptions in First-Year College Students Using the Health Belief Model

Das and Evans (2014) examined the perceptions, challenges and beliefs of first-year university students on their personal weight-management. In order to determine those three components, the authors studied the relationship between the three components and the student’s individual self-efficacy by utilizing the Health Belief Model. This 1950s based model was used to assist in collecting data that focused on the attitudes and beliefs of participants in order to better explain, predict, and understand their personal health behaviors. Factors that they considered when completing this study included challenges such as freedom of choice in regards to lifestyle, varying social environments, daily schedules, as well as the overall transition from living at home to living on a university campus. They also considered the dietary and nutritional choices that students made during their first-year of college.

The authors suggested that since physical activity and dietary patterns may be altered during the college experience, college students gain weight during their collegiate years. (Das et al, 2014) Their findings determined that:

- Benefits to weight management include opportunities to bond with others, social engagement, and the ability to manage stress effectively.
- Men viewed weight management as important when securing a career and finances.
- Women viewed weight management as important and as an aid in their ability to multi-task.

Methodology

A hypothesis was made that students who live on North Campus lead a healthier lifestyle overall due to the accessibility of the 24-hour fitness center. The means for collecting data from subjects was an online Qualtrics survey which was sent out via-email to a random sample of 200 students. The research asked: Are students who live off-campus or on North Campus healthier than the students who live on South Campus? The facilities and materials utilized for this study included University Recreation (UREC), Student Health Services to obtain more health/physical activity related information, and the Planning, Assessment, Research, and Quality (PARQ) office on campus to organize an IRB form. An extensive literature review completed to guide and compare with other research, as cited above.

Participants

The subjects for this study were undergraduate and graduate students who live in the residence halls on-campus, or off-campus housing at the UW-Stout. Participants ranged in age from 18–30 years of age, freshman to graduate level, 28 majors, and varying genders.

Survey

In order to gain IRB approval, Human Subjects training was required and documentation of completion needed to be submitted to the PARQ office. An IRB request was submitted, and approved for a random sample of 250 participants, of which 58 responses were recorded.

The online multiple-choice Qualtrics survey that was emailed to participants on April 14th, 2015 consisted of 12 questions. Questions asked about general demographic information such as age, student classification, major, and whether or not they lived on-campus. Other information obtained from the survey included information about transportation, meals, eating habits, and reasons for either participating or not participating in on-campus health, wellness, and fitness services. Follow-up reminders were sent out bi-weekly until May 7th, 2015.

Findings

The purpose of this study was to provide both current and prospective students with information regarding influences on overall physical activ-
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Participants in this study responded to questions about their age, gender, eating habits, commitment to physical activity, modes of transportation on campus, majors, and student classification.

Figure 1 represents the gender of participants in this investigation. Based on 57 responses, 37% identified as males, 60% as female, and 2% as transgender or gender non-conforming.

Figure 2 represents the percentage of students who identify within specific age groups. Based on 57 responses, 65%, the majority of participants in the study were between the ages of 18 and 21, 28% were between the ages of 22 and 24, 5% were between the ages of 25 and 29, and 2% of participants were over 30 years of age.

Figure 3 represents student residence at the University of Wisconsin–Stout. Based on 57 participant responses, 14% lived on north campus, 42% lived off-campus, and 44% lived on south campus. This small piece of information is important because the majority of results are based around these totals. The difference in the number of participants who reside in each group ultimately goes against the originally stated hypothesis. It is difficult to determine whether or not students who live on north campus are in fact healthier overall in comparison to the others.

Figure 4 represents the percentage of student participation in health & wellness services on-campus based on 58 responses. Thirty-six of participants 62% in this study do not participate in health & wellness services on-campus while twenty-two students 38% do. Participation in health & wellness services includes utilization of the on-campus gyms, indoor swimming pool, intramurals/athletics, and group fitness.

Figure 5 represents the number of hours spent per week participating in health, wellness, and fitness services at the University of Wisconsin–Stout. The results suggested that the majority 50% spent between three-to-five hours per week. Approximately 22% of subjects partook in zero-to-two hours of work out time at the health, wellness, and fitness facilities. Surprisingly, 17% of respondents participated in 12 or more hours of physical activity at the campus facilities and 11% spent six-to-eight hours. There were no respondents for the nine-to-eleven option.
Figure 6 represents the participants’ reasons for working out on-campus. The results suggested that the majority of participants work out in order to feel better and also because they find the activity of working out calming and relaxing. This piece of information is interesting because their reasons for not working out – which can be found in figure 7 – suggest that the reason they do not work out can be attributed to a lack of a workout partner.

Figure 7 represents the reasons for not working out on-campus. According to the 34 respondents for this question, the top three reasons for not working out on campus include having their own workout routine 44%, lack of a workout partner 41%, and schedule conflicts 32%.

Discussion

The original hypothesis for this investigation suggested that students who lived on the University of Wisconsin – Stout’s North Campus were more physically active than those students who lived on South Campus or outside of housing provided by the university. However, only eight of the 58 respondents lived on North Campus, yielding such a small sample that few conclusions could be drawn. The majority of students did not participate in the health and wellness services provided by the university.

According to the data collected from the study, 62% of students do not participate in the health & wellness services provided by the university. The data claims that the reason the participants do not partake in on-campus health & wellness services is due to primarily having their own work-out routine that they follow or due to the lack of a work-out partner. This response accounted for 41% of the participants. Another factor that influenced physical activity according to the study was schedule conflicts which accounted for 32% of participants. Identifying the reasons for those schedule conflicts (classes, work, involvement, etc.) may assist in providing and maintaining health, wellness, and fitness services on campus. Those who do workout on campus stated that the reasons they do are to maintain overall health 89% and to feel better 83%. This relationship between physical and emotional responses to physical activity and experience are supported by the study completed by Das and Evans (2014). Das and Evans’ study took place at a Southern university, but the need for social engagement and interaction amongst students when it comes to participating in health, wellness, and fitness programs and overall physical activity has proven to be vital on our
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mid-sized Midwestern campus as well. The emotional component to this study suggest that the reason students who do participate in physical activity, do so because they find it calming and relaxing 44%, and they also feel better about themselves overall 83%.

Twenty-two students who indicated that they did participate in physical activities on-campus, say they do so because they want to maintain overall health (16 students), they feel better (15 students), and they find the activities calm and relaxing (5 students).

Yilmaz's (2014) study of self-efficacy identified that students that have higher self-efficacy participated in sports/intramurals and paid attention to nutrition. Although this survey did not directly ask these questions, a limited number of students (5) indicated participation in athletics or intramural sports. However, sixteen of the twenty-two students that did participate in physical activities on campus indicated they did so because they wanted to maintain overall health suggesting these students might have a higher self-efficacy. Based on the data collected from this study, and Yilmaz's study, maintaining a positive outlook on student involvement and encouraging new students to participate in the UW-Stout “Pick One” campaign may increase overall self-efficacy in health and wellness. The purpose of this campaign is to encourage students to select at least one student organization, club, sports, etc. to be a part of. This study could encourage participation in health, wellness, and fitness courses as well as, promoting intramural sports and overall physical activity.

When analyzing the data for primary modes of transportation, only 6% reported using the free campus shuttle that is provided to students. This is quite a low number for a service that is used by many. This low percentage could be related to the season of which the survey was sent out. Since the survey was given in the spring semester, it would make sense that more students walked to and from campus. Had the survey been sent out in the winter, students might think to use the shuttle more or to use their personal vehicles more. Another factor to consider would be the walking distance from student parking to the health, wellness, and fitness facilities.

**Limitation of Study**

The main limitation for this study would be the time of year in which participants are being surveyed. For this study in particular, data was collected between the last few weeks of April 2015 through the third week of May. Though the random sample called for 250 students, less than one-fourth of respondents actually participated in the survey. If the survey had been distributed sooner, the possibility for an increase in responses would have been likely. However, given the amount of time that was provided, the data collected was sufficient.

While completing this study, another limitation that occurred was a discrepancy with some of the response totals. There was an inconsistency in the total number of responses which signifies that students either opted out of certain questions for their own personal reasons, or the possibility of a user error. This also could lead to an assumption that students may or may not have accurately and truthfully responded to the survey.

Another limitation to this study was the overall representation of participants in relation to academic programs of study. Out of the 47 unique majors that UW-Stout offers on their campus, only 28 of them were represented by the student population during this study. The majority of the programs represented were affiliated with the College of Science, Technology, Engineering, and Mathematics, School of Hospitality Leadership, and the College of Education, Health, and Human Sciences. Having additional responses and being able to have a larger variety would have made a more effective comparison when evaluating the relationship between physical activity and academic majors.

**Recommendations for Future Research**

Future researchers could analyze the connection between the change of season and the overall culture of the campus. Would the percentages for the various modes of transportation differ had the participants been surveyed in the fall or winter? There is a chance that the behavioral response of an individual will be adjusted depending on the time of year it is. Is there a campus culture that supports bicycle use or participation in intramural activities or overall physical activity?

One could examine grade point average or finances, as well as an analysis of the annual peak hours for the various facilities across campus. Could these hours and overcrowding in the facilities play a role in the schedule conflicts that participants mentioned as a reason for not participating in health & wellness services on campus? Do the students spend a substantial amount of time studying which contributes to their inability to maintain and adhere to their physical activity regimen? Could it be that the students do not have enough time to participate in health, wellness, and fitness because they are spending their free time studying for classes?

Another aspect to consider is student employment and the effects that their work schedule may have on their physical activity. UW-Stout has a large array of student employment opportunities consisting of various titles, duties, and responsibilities on-campus and numerous off-campus. Depending on their weekly hours of employment, it could take away from time they would use to engage in physical activity.

Some options would be exploring food choices that students have and potentially reaching out to the university dietitian in order to identify choices students should be making when selecting their daily meals. University dining offers food options that can meet the needs of those who have
any dietary restrictions as well as food allergies such as vegetarian, vegan, gluten-free, as well as non-dairy products for those who might be lactose-intolerant. Monitoring participants’ alcohol and caloric intake, as well as their frequency of meals, could be helpful in identifying the impact nutrition can have on their physical activity at UW-Stout.

Asking participants to elaborate and identify the type of workouts they do for physical activity could possibly assist in helping University Recreation in determining the types of services they provide to students within their facilities. Participants in this study stated that the one reason they do not participate in health, wellness, and fitness services on campus is because they do not have a workout partner. Those who do participate in health, wellness, and fitness programs on campus also stated that they would work out more if they had someone to work out with. Future researchers may want to suggest that there is some form of pairing or sign-up procedure for those who are looking for a workout partner if their data provides similar results in their study.

This could be valuable information for future research in this area. This type of research is unique and no study like this has been completed at UW-Stout.

References


Zakletskaja, L., Munt, M., Balousek, S., Wilson, E., & Fleming, M. (2009). Alcohol-impaired driving behavior and sensation-seeking disposition in a college population receiving routine care at campus health services centers. Accident Analysis & Prevention, 380-38