#### Got Swipes? Students' Motivations for Using the Wellness Center

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#### **Executive Summary**

In the fall of 2018, students in the Sociology/Anthropology 371 course conducted research on student attitudes and experiences regarding wellness and the Wellness Center at St. Olaf College. We sent an anonymous online survey to 1,200 non-first-year students and received 308 responses, a 25.7% response rate. Our sample reflects many demographics of the student body, and it matches the general rule of thumb for a sample of a population of approximately 2,200 students (non-first-years).

Prior studies are somewhat limited because college and university wellness centers and programs are a relatively recent development. However, many prior studies explore corporate wellness programs and employees' extrinsic and intrinsic motivations for utilizing these programs. Previous studies have found that employees are more likely to engage in wellness-related behaviors if they feel valued by their employer or feel that they are already healthy. From our review of scholarly literature, we identified two main research questions: which extrinsic motivations prompt students to go to the Wellness Center and which intrinsic motivations prompt students to go to the Wellness Center?

The most important results of our research are as follows:

- The most common extrinsic motivation for attending Wellness Center presentations and events was the requirement of wellness swipes for students in Studies of Physical Movement (SPM) classes.
- Interest in topic was not as common of a motivator as compared to the SPM requirement for attending Wellness Center presentations.
- A large majority of students were interested in learning about financial wellness.
- Students who were interested in learning about sexual health were more likely to use the Wellness Center.
- Our findings indicate the promise of using mobile applications to promote the Wellness Center and wellness information.

Based on our research, we offer four recommendations:

- 1. Collaborate with the appropriate offices to reserve seats for underclass students in SPM classes to ensure that they are required to attend wellness presentations and therefore interact with the Wellness Center earlier in their college careers.
- 2. Develop presentations and events related to financial wellness and/or create new peer educator positions focused on financial wellness.
- 3. Promote the free services and resources the Wellness Center offers other than sexual health since students may associate the Wellness Center with sexual health.
- 4. Research and promote apps related to budgeting and finances, sleep tracking, and menstruation/ovulation tracking for student use.

#### **Background and Literature Review**

Our research examines how St. Olaf College students interact with the Wellness Center, which is located in the student center and is staffed by students called "peer educators." The Wellness Center and peer educators promote wellness information on campus by offering free resources and supplies (chap stick, condoms, tampons, etc.), as well as through educational programming on four categories (called "pillars") of wellness: mental health, physical health, sexual health, and health related to alcohol and other drugs. Educational programs are open to all students, but are generally frequented by students taking Studies of Physical Movement (SPM) classes for their General Education Requirements, which require students to get a certain number of "wellness swipes." Swipes are obtained by attending wellness presentations and having a peer educator swipe student IDs to ensure that students receive credit for their attendance.

Wellness has been formally defined as "a lifestyle or a preventative approach to maintaining good mental and physical health" (Stvilia and Choi 2015: 201). When discussing health, professionals and individuals tend to focus on diseases, illnesses, and deficits, but when discussing wellness, professionals and individuals promote well-being throughout the life course, rather than just when ill. Although defined above as only pertaining to mental and physical health, wellness is commonly thought of as holistic and can apply to many aspects of a person's life, including mental, physical, and sexual health, as well as health related to alcohol and other drugs (Mergens 2018).

Recently, research on wellness centers in the United States has increased, although this research has mainly focused on the physical aspect of wellness, and wellness programs at workplaces (Brown, Fry, Huddleston 2012; Brinthaupt, Kang, and Anshel 2013; Hill-Mey et al. 2013). There is limited research on college campus wellness centers, especially on college students' needs and motivations regarding their use of these centers. Our research addresses this gap in the literature by exploring college students' motivations for engaging with the St. Olaf College Wellness Center.

#### **Corporate Wellness**

In the 1970s, much of the financial responsibility for healthcare changed from the government to the employer and, therefore, employers created workplace wellness programs as a way to reduce health care costs (Reardon 1998). The workplace has also been an ideal place for wellness programs because of preexisting modes of communication, worksite culture and support, and because most employed Americans spend over 40 hours a week at work (Hill-Mey, et al. 2013). However, Mattke et al. (2013) found that only half of employers actually evaluate wellness programs' reduction of healthcare costs formally. Despite this, employers still stated that reduction of healthcare costs was a key reason for developing and maintaining wellness programs. Additionally, employers have stated that workplace wellness programs and centers improve the health and well-being of employees and make their company competitive among other companies (Mattke et al. 2013). If employees are healthier, they tend to be more efficient workers and absenteeism (sick days) will decrease. Additionally, presenteeism (employee is present but, because of illness or other medical conditions, they are not fully functioning) also decreases.

#### **Motivations for Wellness-Related Behaviors**

Extrinsic Motivations

A few of the studies on workplace wellness programs examine employees' motivations for improving their health and wellness, categorizing motivations as extrinsic (related to a force outside oneself) or intrinsic (stemming from within oneself). The primary extrinsic motivations for employees included financial rewards, such as cash or health insurance premium surcharges,

gift cards, gym discounts, and novelty items, such as t-shirts (Hill-Mey et al. 2013). United States businesses and institutions have partnered with health insurance companies to reduce premium prices for employees who incorporate wellness-related behavior into their lives.

Additionally, the University of Utah examined the effectiveness of various extrinsic motivations through a study of a worksite health promotion program in which employees were offered different incentives in order to promote lifestyle changes (Hill-Mey et al. 2013). The wellness program offered a reduction of \$40 on the employee insurance premium, access to different activities and facilities, and personal coaching and information through WebMD. The majority of participants (60%) said that the monetary incentive was the main reason that they chose to participate while another 15% said that it played a decisive factor (Hill-Mey et al. 2013). These results suggest that, in our capitalistic society, monetary rewards are some of the most influential extrinsic motivators. Although these studies were conducted with employees and workplace wellness centers, college students may also be motivated by financial rewards and novelty items.

Furthermore, the extent to which employers place importance on health, wellness, and their employees may motivate employees to engage in wellness-related behaviors. A survey of employees at a corporate wellness center found that employees who feel valued by their employers are more motivated to engage in wellness behaviors (Brown, Fry, and Huddleston 2012). Therefore, we hypothesized that St. Olaf students who believe that St. Olaf values them and their health will be more likely to use the Wellness Center.

#### Intrinsic Motivations

Research studies of corporate and workplace wellness programs have shown that individuals are more likely to use wellness-related resources if they have an intrinsic (internal) motivation to do so (Brinthaupt, Kang, and Anshel 2013). According to prior studies, an individual's perception of their surrounding environment and their own health greatly influence their intrinsic motivation.

An individual's environment is known to have an effect on their internal self, including their feelings of safety, comfort, and purpose. A survey of employees using a corporate wellness center showed that individuals' perceptions of the wellness center environment affects how employees view the time they spend there (Brown, Fry, and Huddleston 2012). Based on this study, we hypothesized that students who perceive the Wellness Center as welcoming will be more likely to use its services. Furthermore, an individual's feelings about their own health can impact their motivations to seek out wellness-related information. Individuals who think of themselves as healthy are more likely to seek wellness-related information, while those who think of themselves as ill or having high health risks are less likely to do so (Bernhardt et al. 2010). Therefore, we hypothesized that students who rate themselves as healthy will be more likely to use the Wellness Center.

A prominent hindrance to the development of intrinsic motivation is a lack of perceived personal need for wellness-related resources. Zivin et al. (2009) found that even if students screened positive for mental health problems, there was a high degree of lack of perceived need for related services, and by extension, a lack of service use (medication and therapy). In other words, although individuals perhaps needed therapy and/or medication, they did not seek it out because they believed they did not need it. Additionally, another study found that individuals who are unaware of the long-term consequences of unhealthy behavior are less likely to access wellness resources (Brinthaupt, Kang, and Anshel 2013).

#### No Effect on Motivations

While the research discussed above focuses on factors that impact motivations, other research focuses on activities and interventions that do not have an impact on motivations. Esslinger, Grimes, and Pyle (2016) conducted a study in which one section of a personal wellness college class went to weekly lectures and engaged in required physical activity, while the other section (the control group) only attended the lecture part of class. This study found that the *requirement* of physical exercise neither increased nor decreased students' attitudes toward physical exercise, or their motivation to exercise. Additionally, the researchers recommended exploring how recommending, rather than requiring, physical exercise affects long-term wellness-behaviors. This study suggests that course requirements may not actually promote increased long-term physical exercise.

A study of new ways of motivating college students to engage in wellness-related behaviors found similar results. Muñoz et al. (2014) studied text messages as a method of health promotion. Acknowledging that cell phones are an extremely popular way for college students to communicate and obtain knowledge, Munoz et al. (2014) saw cellphones as an opportunity to encourage students to engage in wellness-related practices. Researchers measured the number of steps students took daily as a way to measure physical exercise. They found that receiving health promotion text messages did not greatly affect the number of steps students took daily. This suggests that the texts did not have a significant impact on students' motivations to engage in wellness and health-related practices, as measured by number of steps.

#### **Mobile Wellness Applications**

Recent research expands on college students' cell phone usage and wellness by examining how college students use mobile wellness applications to access wellness and health information. Stvilia and Choi (2015) found that 54% of students surveyed used calorie/activity trackers and 42% of students used running trackers. We believe that, since students are using these types of wellness applications, they may be interested in learning about physical wellness. Inspired by this study, our research explores whether St. Olaf College students use or are interested in using mobile wellness applications, which the St. Olaf Wellness Center could develop or promote.

Unfortunately, most of the prior literature on wellness centers focuses on physical health which, while necessary, ignores other important aspects of health and wellness, such as mental, sexual, and chemical health. Our study of the St. Olaf College Wellness Center offers a more holistic approach to understanding how college students are motivated to engage in wellness-related behaviors.

#### St. Olaf College Wellness Center

Since the Wellness Center uses the "four pillars" mentioned above, it is important to reflect on the mental, physical, sexual, and chemical health of St. Olaf college students and college students in the United States in general. Rosenthal and Wilson (2008) found that around 74% of United States college students had moderate levels of mental distress levels, but 90% of students reported never having used counseling for emotional problems. At St. Olaf College, a recent study found that 93.7% of students reported feeling overwhelmed and 44.8% reported feeling so depressed that it was difficult to function at some point(s) in the past year (American College Health Association, "St. Olaf," 2018).

Additionally, we can compare the physical, sexual, and chemical health of St. Olaf College students and the wider United States college student population. For physical health, the American College of Sports Medicine and American Heart Association recommend moderate-

intensity cardio/aerobic exercise for at least 30 minutes on five or more days per week or vigorous-intensity cardio/aerobic exercise for at least 20 minutes on three or more days per week. At St. Olaf, 49.1% of students reported meeting this requirement (American College Health Association, "St. Olaf," 2018). For sexual health, 16.6% of sexually active St. Olaf college students reported that they or their partner used emergency contraception within the last 12 months. Similarly, the American College Health Association reports that 16.9% of sexually active United States college students reported that they or their partner used emergency contraception within the last 12 months (American College Health Association, "Executive Summary," 2018). For chemical health, about 60% of United States college students reported drinking alcohol in the 30 days prior to the study (American College Health Association, "Executive Summary," 2018; National Institute on Alcohol Abuse and Alcoholism 2015). Additionally, about 21% used marijuana in the past month (Bauer-Wolf 2018). Similarly, at St. Olaf, 68.5% of students used alcohol and 19.7% used marijuana in the 30 days prior to the study (American College Health Association, "St. Olaf," 2018).

The St. Olaf College Wellness Center is uniquely positioned to help improve the wellness and wellness education of students on campus. According to an end-of-year report produced by the Wellness Center, during the 2017-2018 academic year, only 27 students had a one-on-one session with a peer educator, but the Wellness Center distributed 4,979 condoms and 1,300 chap sticks (Mergens 2018). The Wellness Center conducted 114 presentations: 37 on physical health, 25 on sexual health, 24 on mental health, 14 on alcohol and other drugs, and 14 on other topics. Additionally, 1,203 individual students attended wellness presentations; since St. Olaf had a student population of 3,035 students in the fall of 2017, about 39.6% of students attended presentations. Our research expands on this end of year study from the Wellness Center in order to provide recommendations to the Wellness Center for better accomplishing its mission. While many students attended presentations and received free resources, only a relative few met individually with a peer educator, suggesting that the Wellness Center can better promote the services it offers beyond presentations and free resources.

While the studies mentioned above have been able to identify a few key motivators, as well as factors that do not affect motivations, it is imperative to explore other aspects that prompt students to interact with various types of wellness. Our research focuses on extrinsic and intrinsic motivations for college students to access the Wellness Center. Additionally, our research examines whether St. Olaf students use or are interested in using mobile applications to access wellness information.

#### **Research Methods**

This study was part of a larger research project conducted at St. Olaf College, a small liberal arts institution located in the upper Midwest of the United States. The major project examined a range of factors related to students' use of the campus Wellness Center. Our specific focus was *extrinsic and intrinsic motivations* of students to interact with the Wellness Center. We conducted a focus group and designed an online survey in order to gain an understanding of students' motivations. Randomly selected sophomores, juniors, and seniors at St. Olaf College received an invitation to take the online survey in November 2018 and had one week to complete it. In order to motivate students to take the survey, we advertised that students who completed the survey would be eligible for a raffle of six gift cards.

#### **Focus Group**

We conducted a focus group that allowed students in their sophomore, junior, and senior years to discuss their interactions with and perceptions of the Wellness Center. Seven students participated, providing us with insights on how students mainly interact with the Wellness Center

because of the SPM General Education requirement and how students primarily perceive the Wellness Center as a place on campus to get free supplies or support related to sexual health (condoms, conversations with peer educators about birth control, etc.). Based on analysis of our focus group results and our literature review, we designed survey questions to further explore students' motivations for using the Wellness Center. (Our focus group notes are included in Appendix A.)

#### **Online Survey**

Variables

First, our survey asked students about their *usage of the Wellness Center*. We asked students if they had ever used the following Wellness Center services (students could check all that apply): free supplies, website, attending a wellness swiped event for an SPM class, attending a wellness swiped event but not for an SPM class, visiting the Wellness Center to get wellness-related information, visiting the Wellness Center simply to use the space, one-on-one meeting with a peer educator, and reading a toilet talk flyer. This variable used a nominal level of measurement. We created an index by giving a value of 1 to each type of service used and summing students' responses to understand how many types of Wellness Center services students have used. (A copy of our survey questions is included in Appendix B.)

Additionally, students were asked about their usage of these same services during fall 2018 using a ratio variable. For this question, students were asked how many times they had used each service this semester: 0 times this semester (unaware of this service), 0 times this semester (aware of this service), 1 time this semester, 2 times this semester, and 3 or more times this semester. We also created an index of this information in order to understand how frequently students have used these services during fall 2018.

Based on our literature review, we looked at students' extrinsic and intrinsic motivations for using and interacting with the Wellness Center. For each survey question, the independent variable was the motivation for interacting with the Wellness Center and the dependent variable was Wellness Center use and interaction. For example, Bernhardt et al. (2010) found that people who believed they were healthy were more motivated to seek wellness-related information. Therefore, one of our survey questions asked about how students would rate their current and ideal physical and mental health. Students were asked to rate their current physical health, ideal physical health, current mental health, and ideal mental health on a Likert scale of poor, fair, good, very good, and excellent, so this variable has an ordinal level of measurement. In this case, the independent variable (the cause) was how students view their health, while the dependent variable (the effect) was Wellness Center use and interaction.

One of our questions asked students to indicate *which wellness areas they would like to learn more about*. Students could select all that apply of the possible wellness topics: physical health, mental health, sexual health, financial wellness, and health related to alcohol and other drugs. We included the "four pillars" that the Wellness Center uses, as well as the category "financial wellness," since our client (the director of the Wellness Center) wished to learn if students were interested in learning about this aspect of wellness. Additionally, there was a follow-up openended question where students could indicate other areas of wellness that they wanted to learn about. These variables were nominal.

Another question asked students their *reasons for attending wellness presentations*. Respondents could select all that apply: required for an SPM class, required for an academic class, presented in a student's residence hall, a friend was presenting, a friend asked the student to attend with them, presentation was a collaboration between the Wellness Center and

an organization the student is interested/involved in, and student was interested in the topic. These variables were also nominal, and we included a follow up open-ended question for students to write other reasons for attending presentations.

Based on the literature, we also asked students about their *use of cell phone apps*, using an ordinal level of measurement. Students were asked about the following types of apps: calorie or nutrition trackers, exercise, running, or activity trackers, yoga or mindfulness apps, sleep pattern trackers, alcohol/drug use trackers, menstruation or ovulation trackers, and budget or expense trackers. For each type of app, students were asked to choose one of the following statements: I have USED this type of app this semester, I have USED this type of app in the past but not this semester, I haven't used this type of app but I am INTERESTED in using it, I have NOT used this type of app and I am NOT interested in using it, and not applicable. Additionally, students had the opportunity to share other app categories that they were interested in or use in a follow-up open-ended question.

Additionally, we asked respondents to rate how *welcoming they feel the Wellness Center is.* The response categories were very welcoming, somewhat welcoming, a little welcoming, not at all welcoming, and not applicable (I have never been to the Wellness Center office.). This variable was nominal. We also asked about the extent that students believe *St. Olaf cares about their physical health, mental health, sexual health, and health related to alcohol and other drugs.* For each of these types of health, respondents could select: to a large extent, to a moderate extent, to a slight extent, and not at all. These questions were ordinal measures. Additionally, we constructed an index for all types of health that St. Olaf could care about. This index of St. Olaf cares provided us with a single number that represents the mean, or the arithmetic average, of the extent that students think that St. Olaf cares about their health.

We explored bivariate relationships between the above motivations, Wellness Center usage, and student demographics. For demographics, we asked students their *year in school, international student status, gender, racial/ethnic identity, and sexual orientation.* We also asked *how many hours they work for pay* and about their *current and ideal health.* For year in school, students could choose sophomore, junior, senior, or other. We also asked if they were an international student, to which they could respond yes or no. Gender, race/ethnicity, and sexual orientation were asked using open-ended questions, so students could self-identify. For work, students were asked to choose among the following of how many hours per week they work for pay: 0 hours, 1-5 hours, 6-10 hours, 11-15 hours, and 16 or more hours. Additionally, they were asked if they work on campus, off campus, or both on and off campus. Lastly, we asked students to rate their current physical health, ideal physical health, current mental health, and ideal mental health on a Likert scale of excellent, very good, good, fair, and poor (ordinal level of measurement).

#### Validity and Reliability

We worked to achieve content and face validity. According to Neuman (2012), content validity refers to survey questions measuring all of the dimensions of a concept. We used data from our focus group and our literature review to achieve content validity. Through this process, we conceptualized our concepts of extrinsic and intrinsic motivations for interacting with the Wellness Center. Afterwards, we followed Neuman's recommendation of collaborating with other researchers and professionals. Our team and our professor agreed that our survey questions completely and accurately measured each concept. We also achieved face validity, a type of validity in which measurements are revised and approved by other researchers and experts. Our professor and peer researchers agreed that our measures matched our conceptual definitions and could adequately measure motivations.

To achieve reliability, our group designed the survey questions carefully. Reliability refers to the stability, or the ability of a measure to receive the same results multiple times when using a random sample (Neuman 2012). In order to obtain reliability, we clearly conceptualized our concepts by repeating the steps of conceptualization and operationalization. We also used clear, concise, and precise writing in all of our questions. Therefore, we avoided common survey mistakes, such as jargon and double-barreled questions. Also, our response categories were exhaustive and mutually exclusive. Furthermore, the researchers in our class had an opportunity to examine our questions individually in a pre-test and provide useful feedback to our research team.

### Sampling

St. Olaf College has over 3,000 students. Our target population, drawn from a list of students from the Registrar, was all full-time students, excluding first year students, students studying abroad, students already surveyed by another class this semester, students involved with our research project, and past and current peer educators at the Wellness Center. First years had only been on campus for ten weeks before our survey was released and therefore may have skewed our results since they would not have had a reasonable amount of time to interact with the Wellness Center. Additionally, student researchers and past and current Peer Educators were excluded because their familiarity with the Wellness Center could bias their survey responses. These and the other exclusions mentioned above left about 1,600 students for sampling.

We used simple, random sampling. Every student in our target population had an equal chance of being invited to complete the survey, and therefore our sample was most likely representative of the target population (Neuman 2012). When choosing a sample size, we used Neuman's proposal that the sample size should be 20% to 30% of the target population (2012:167). Ultimately, the director of St. Olaf College's Institutional Review Board did the sampling for the project. All sampling units were included in an email alias and we sent the survey to that alias. All responses and respondents were anonymous. During the week that the survey was open, we sent reminders and offered gift cards to motivate students to complete the survey. In total, we sent the survey to 1,200 students, and 308 students completed it. Therefore, our response rate was 25.7%.

As mentioned above, we asked our survey respondents to identify their race/ethnicity. In our sample, 0.4% (1) student identified as African, 2.3% (6) identified as African American/Black, 9.8% (26) identified as Asian/Asian American, 4.9% (13) identified as Latinx/Hispanic, 0.8% (2) identified as Middle Eastern, 0.4% (1) identified as Native American, 75.8% (201) identified as White/Caucasian, and 5.7% (15) identified as multi-racial/ethnic. In order to conduct statistical tests, it was necessary to combine categories of race/ethnicity to have enough students for each category. In this case, we categorized race/ethnicity as a binary: 24.2% (64) of students identified as students of color and 75.5% (201) identified as white students.

For gender, 71.4% (195) of students identified as female, 26.7% (73) identified as male, 0.4% (1) identified as female transgender, 0.4% (1) identified as male transgender, and 1.1% (3) identified as nonbinary. Similar to race/ethnicity, we categorized gender as a binary in order to conduct statistical analysis, leaving out the responses of transgender and nonbinary students when using gender as a variable: 72.8% (195) of students identified as female and 27.2% (73) of students identified as male. For sexual orientation, 0.8% (2) identified as asexual/demisexual, 10.2% (26) identified as bisexual, 3.9% (10) identified as gay/lesbian, 78.8% (201) identified as heterosexual/straight, 3.1% (8) identified as pansexual, 1.6% (4) identified as queer, and 1.6%

(4) identified as questioning or reported that they don't know their sexual orientation. Similarly, we categorized sexual orientation as a binary in order to conduct statistical analysis: 21.2% (54) of students identified as LGBTQ+ and 78.8% (201) identified as heterosexual.

For class year, 37.4% (104) of the survey respondents were sophomores, 31.7% (88) were juniors, 30.2% (84) were seniors. Furthermore, 0.7% (2) of students were not freshmen, sophomores, juniors, or seniors (perhaps they were fifth-year students) and these students were not included in statistical analysis of class year.

#### **Ethics**

In preparation for the project, all researchers completed the Collaborative Institutional Training Initiative (CITI) module for General Social and Behavioral Investigations. This module provided us with a basic understanding of research ethics and motivated us to consciously make efforts to maintain ethical practices. We considered common ethical concerns such as privacy, informed consent, and threatening questions. We received approval from the St. Olaf College Institutional Review Board (IRB) through our professor and we conducted the research under our professor's guidance. Our research was classified as a Type I project because participants were not exposed to more risks than they would likely experience in daily life, the project was not focused on vulnerable populations, only students were surveyed, and the results would be mainly read and used by St. Olaf College.

We were largely concerned with respecting the privacy of our participants. Therefore, respondents and their responses were anonymous, meaning that we did not know who the survey was sent to or who completed the survey, and we could not match results to specific individuals. We also informed our respondents about our research and obtained their consent to participate. Informed consent is essential since it allows respondents to make informed decisions about their participation (Neuman 2012). In order to obtain informed consent, we described the purpose and procedure of our research, guaranteed anonymity, included the contact information of the professor who oversaw our research, stated that the research was voluntary, and mentioned where students can find the results of our research. This information was included in the email that contained the link to the survey and was presented at the beginning of the survey.

Lastly, we wanted to respect the well-being of our participants, which made us carefully examine all potentially sensitive questions in the survey. After reviewing our questions, we do not believe that the questions on our survey were threatening (sensitive questions that make a respondent anxious about answering). If a participant did find a question threatening, though, they had been told that they could skip any question and had been assured that their participation and responses would be kept anonymous.

#### **Results and Discussion**

#### **General Use of the Wellness Center**

Results

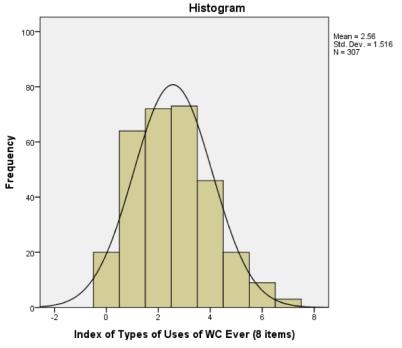
First, we examined how students use the Wellness Center by asking whether they had ever used any of eight Wellness Center services. As seen in Table 1, students most commonly read Toilet Talks, took free supplies from the Wellness Center, or attended Wellness Center events. Students were least likely to visit the Wellness Center for wellness-related information or use the space or meet with a peer educator individually.

Table 1. Use of Wellness Center Services – Ever (in descending order)

Type of Wellness Center Service	Percentage
Read a Toilet Talk flyer	87.0%
Visited the WC for free supplies (condoms, tampons, chap stick, etc.)	46.9%
Attended a WC swiped event for SPM credit	40.1%
Attended a WC swiped event NOT for SPM credit	34.5%
Used the WC website	23.1%
Visited the WC for wellness-related information	13.7%
Visited the WC to simply use the space	7.2%
Met for a one-on-one with a peer educator	3.6%

We created an index of the eight items of Wellness Center use (Figure 1). The mean was 2.56 with a standard deviation of 1.516, with the number of types of Wellness Center services ever used ranging from about 0 to 7. Therefore, on average, students have used between 2 and 3 different types of Wellness Center services during their time at St. Olaf College.

Figure 1. Index of Types of Use of the Wellness Center Ever



We tested our Wellness Center use index with year in school with an ANOVA test and found a significant interaction (F(3)=9.120, p=.000). Seniors had the highest average number of types

of Wellness Center use (m=3.06), followed by juniors (m=2.64), and then sophomores (m=2.06). Additionally, we used an independent samples t-test to compare use of the Wellness Center ever across sexual orientation and found a significant interaction (t(253)=2.291, p=.023). LGBTQ+ students had a higher average score of Wellness Center types of use (m=3.04) than heterosexual students (m=2.52). We also calculated a Spearman's rho correlation coefficient between hours of paid work per week and Wellness Center use and found a significant, weak, and positive relationship (rho (273)=.180, p=.003). Students who worked more hours per week were more likely to have used the Wellness Center for more types of services as compared to students who worked fewer hours.

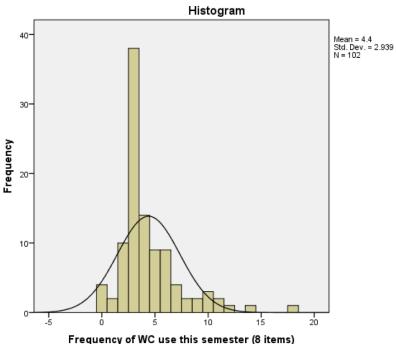
We also analyzed the frequency of using each of the eight Wellness Center services during the first ten weeks of the semester of our study (fall 2018). The most frequently used services during this time were Toilet Talks, using the website, attending presentations for an SPM requirement, and getting free supplies. The least frequently used services were visiting the Wellness Center for an individual conversation with a peer educator, visiting to use the space or get wellness-related information, and attending presentations but not for SPM credit (see Table 2).

Table 2. Frequency of Use of Wellness Services during Fall 2018

Type of Service	0	1	2	3 or more
Read a Toilet Talk flyer	4.7%	4.7%	12.5%	78.0%
Visited the WC for free supplies (condoms, tampons, chap stick, etc.)	64.4%	15.9%	11.7%	8.0%
Attended a WC swiped event for SPM credit	72.9%	7.1%	6.8%	8.1%
Attended a WC swiped event NOT for SPM credit	83.1%	15.3%	0.8%	0.8%
Used the WC website	66.7%	15.5%	8.6%	9.2%
Visited the WC for wellness-related information	89.3%	7.5%	2.4%	0.8%
Met for a one-on-one with a peer educator	98.1%	0.9%	0.5%	0.5%
Visited the WC to simply use the space	90.8%	5.7%	1.7%	1.7%

As shown in Figure 2, we created an index of the frequency of use of the eight services during fall 2018. The mean was 4.4 with a standard deviation of 2.939, with the number of types of Wellness Center services ever used ranging from about 0 to 18. On average, during fall 2018, students used a little more than 4 different types of Wellness Center services.

Figure 2. Frequency of Wellness Center Use this Semester



rrequency of WC use this semester (8 items)

We conducted a chi-square test of independence (Cramer's V) and found that white students (54.0%) were more likely to have taken free supplies from the Wellness Center than students of color (28.7%) during fall 2018 ( $X^2(1)=12.247$ , p=.000). Using the same test, we also found that, during fall 2018, females were more likely to use the website (36.3%) than males (15.8%) ( $X^2(1)=5.571$ , p=.000). Additionally, during fall 2018, students of color were more likely to visit the Wellness Center for wellness information (19.2%) than white students (6.5%) ( $X^2(1)=7.398$ , p=.007). Lastly, LGBTQ+ students were more likely to meet with a peer educator individually (7.7%) than heterosexual students (0.0%) during fall 2018 ( $X^2(1)=10.876$ , p=.001).

We conducted a Mann-Whitney U test to compare the mean score of Wellness Center use in fall 2018 between females and males and found a significant difference between the two groups (U(87)=431.500, p=.003). Females had higher mean scores (m=4.78) than males (m=2.95). We used the same test and found a significant difference between international students' and domestic students' use of the Wellness Center during fall 2018 (U(88)=37.000, p=.006). International students had higher mean scores (m=10.75) than domestic students (m=4.12).

#### Discussion

Our univariate analysis of Wellness Center use ever during students' time at St. Olaf College found that they most commonly read Toilet Talks, took free supplies, and attended Wellness Center events. The least common ways that students used the Wellness Center were using the space, visiting the office to get wellness information, meeting with a peer educator, or using the website. On average, students used between two and three types of Wellness Center services. Seniors had the highest average for using different types of Wellness Center services. Additionally, LGBTQ+ students and students who worked more hours per week were more likely to use more types of Wellness Center services.

For using the Wellness Center in fall 2018, again students most commonly read Toilet Talks or took free supplies. Least commonly used services were using the space, meeting with a peer

educator, and attending presentations but not for SPM credit. On average, students used a little over four different types of Wellness Center services during fall 2018.

During fall 2018, females and international students were more likely to use the Wellness Center than males and domestic students, respectively. The discrepancy between international and domestic students' use of the Wellness Center may possibly be related to the fact that the Wellness Center office is next to the Center for Multicultural and International Engagement, where international students often hang out and visit to access resources. Additionally, white students were more likely to take free supplies from the Wellness Center than students of color. Conversely, students of color were more likely to visit the Wellness Center for wellness-related information than white students. Additionally, females were more likely to use the website than males. Lastly, some LGBTQ+ students met with peer educators individually, but heterosexual students did not: 7.7% of LGBTQ+ students met with a peer educator, but 0.0% of heterosexual students did.

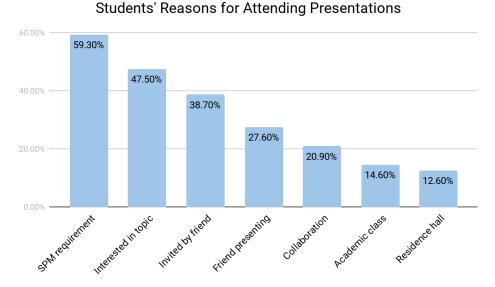
#### **Research Question 1: Extrinsic Motivations**

Which extrinsic motivations prompt students to go to the Wellness Center?

#### Univariate Analysis

Our univariate analysis examined various extrinsic motivations for student attendance at Wellness Center presentations and events. Analyzing students' self-reported reasons for attending presentations, we found that the majority of respondents (59.3%) said that they attended because they were required to attend the presentation for an SPM class. The second most common reason for attendance was interest in the presentation topic (47.5%) and the third was because they were invited by friend (38.7%), as seen in Figure 3.

Figure 3. Students' Reasons for Attending Wellness Center Presentations



Additionally, since our literature review highlights the interaction of motivations and feeling that one's employer cares about them, we asked students to report the extent to which they believe that St. Olaf cares about their health. Table 3 below shows the distribution of responses. For each area of health, "to a moderate extent" had the highest percentage of responses. For each

area of health listed below, over 50% of students believed that St. Olaf cares about their health to a moderate or large extent.

Table 3. Belief that St. Olaf Cares about Student Health

Area of Health	To a Large	To a Moderate	To a Slight	Not at All
	Extent	Extent	Extent	
Alcohol and Other Drugs	29.7%	42.8%	21.7%	5.8%
Mental Health	25.1%	39.8%	28.7%	6.5%
Physical Health	22.6%	57.0%	18.3%	2.2%
Sexual Health	20.1%	43.4%	28.7%	7.9%

#### Bivariate Analysis

We used a chi-square test (Cramer's V) to examine the association between reasons for attending a Wellness Center presentation and class year. We found a significant interaction only between class year and attending an event for an SPM requirement (V(2)=.383, p=.000): 81.7% of seniors and 56.3% of juniors attended presentations because they were required to attend for an SPM class, but only 35.3% of sophomores attended presentations for this reason.

Furthermore, we conducted an independent samples t-test to compare the responses of white students and students of color on the belief that St. Olaf cares about student health and found a significant difference (t(260)=2.618, p=.009). The mean score for students of color was higher (m=8.30) than the mean score for white students (m=7.35).

Lastly, we calculated a Pearson correlation coefficient for the relationship between Wellness Center use ever and the index of believing that St. Olaf cares about student health (r= -.016, p=.792), and found no significant correlations. Similarly, we used a Spearman rho correlation coefficient for the relationship between Wellness Center use during fall 2018 and the index of believing that St. Olaf cares about student health and found no significant correlations (r= -.096, p=.386).

For non-significant results from the tests above, see Appendix A.

#### Discussion

Our findings indicate that a majority of students attended presentations because they were required to attend them for an SPM class. This was especially true for juniors and seniors. Therefore, we recommend that the Wellness Center increase underclass student attendance of presentations by working with the Exercise Science Department and the Registrar to reserve seats in SPM classes for freshmen and sophomores, thereby ensuring that they interact with the Wellness Center earlier in their college careers. Additionally, the Wellness Center could collaborate with classes that are highly populated by underclass students (such as introductory level classes and classes meeting the First Year Writing or Biblical Studies General Education Requirements) to make Wellness Center presentations required for these classes.

Additionally, about 40% of students attended presentations because they were invited by a friend. Similarly, students who participated in our focus group mentioned that they felt more comfortable attending presentations when with friends (see Appendix A for notes from our focus group).

Interestingly, we found that students of color were more likely to believe that St. Olaf cares about student health than white students. As St. Olaf is a predominantly white institution with a

history of institutional racism, we assumed that white students would be more likely to report that St. Olaf cares about their health. However, as mentioned above, students of color had a higher mean score for believing that St. Olaf cares about their health. This may be due to the fact that St. Olaf has recently been focusing on improving the experiences of students of color. in response to the 2017 protests about racism on campus.

Referring to our literature review, Brown, Fry, and Huddleston (2012) found that employees who believed that their employers valued them and their health were more likely to engage in wellness-behaviors. Based on this, we hypothesized that if students believed that St. Olaf cares about their health, they would be more likely to engage in wellness-related behaviors and to use the Wellness Center. However, our hypothesis was not supported; we did not find a significant relationship between students' belief that St. Olaf cares about their health and their use of the Wellness Center in the fall of 2018 or during their entire time at St. Olaf.

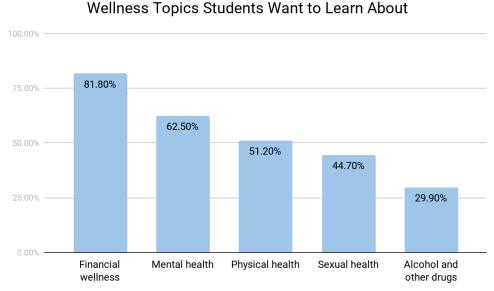
#### **Research Question 2: Intrinsic Motivations**

Which intrinsic motivations prompt students to go to the Wellness Center?

#### Univariate Analysis

Our univariate analysis examined various intrinsic motivations for going to the Wellness Center and its events and presentations. First, we examined which aspects of wellness students were interested in learning about. As shown Figure 4, a large majority of students (81.8%) were interested in learning about financial wellness. Additionally, 62.5% of students reported being interested in learning about mental health and 51.2% expressed interest in learning about physical health. On the lower end, but including large minorities, 44.7% of respondents expressed interest in learning about sexual health and 29.9% of respondents expressed interest in learning about health related to alcohol and other drugs.

Figure 4. Wellness Topics Students Want to Learn About



We also asked students if they wished to learn about any other wellness topics, using an openended question. The most frequently mentioned topic was romantic, platonic, and familial relationships (12 students), followed by spiritual health and mindfulness (5 students).

Additionally, 47.5% of participants who have attended presentations stated that they attended because they were interested in the topic. (Other reasons for attending events are addressed above in our discussion of extrinsic motivations.)

We also asked how welcoming students thought the Wellness Center is. As shown in Table 4, 50% of students indicated that the Wellness Center was somewhat welcoming and 34.1% indicated that the Wellness Center was very welcoming. Combining the categories of somewhat welcoming and very welcoming, a large majority (84.1%) of students believed that the Wellness Center is welcoming.

Table 4. Students' Views of the Wellness Center as Welcoming

View of the Wellness Center	Percentage
Very welcoming	34.1%
Somewhat welcoming	50.0%
A little welcoming	14.6%
Not at all welcoming	1.2%

Furthermore, because health can impact wellness-related behaviors, we asked students to rate their own current and ideal physical and mental health. Respondents tended to rate their current mental health lower than their current physical health, as shown in Table 5 below. For example, 4.7% of students indicated having excellent mental health while 12.4% indicated having excellent physical health. In addition, a gap appeared between respondents' reports of current and ideal health. Ratings of current health tended to be lower than ratings of ideal health, suggesting possible dissatisfaction with current health. For example, only 12.4% of respondents indicated having excellent current physical health while 41.9% indicated wanting excellent physical health.

Table 5. Students' Ratings of Current and Ideal Physical and Mental Health

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Area of Health	Excellent	Very Good	Good	Fair	Poor
Current physical health	12.4%	28.1%	38.3%	14.6%	6.6%
Current mental health	4.7%	23.0%	27.4%	35.0%	9.9%
Ideal physical health	41.9%	39.0%	12.1%	4.0%	2.9%
Ideal mental health	40.4%	40.0%	12.6%	4.8%	2.2%

Lastly, we explored the types of mobile applications that students use or are interested in using, as our literature review highlighted the usefulness of cell phone apps in spreading wellness-related information to college students. As shown in Table 6, 50.2% of students were *interested in* budget/financial apps, which is consistent with students having a high interest in learning about financial wellness in general, as mentioned above. The second highest category among the apps that students were interested in is sleep-tracking (36.1%). In terms of *app usage this semester*, menstruation and ovulation apps was the most common category (41.2%). The second most commonly used category was exercise apps (31.5%). For *have not used and are not interested in using*, the most common category was alcohol and other drugs apps (76.3%), which is consistent with low interest in learning about health related to alcohol and other drugs, as mentioned above.

Table 6. Students' Use and Interest of Wellness-Related Apps

App Type	I have NOT used this type of app and I am NOT interested in using it	I haven't used this type of app, but I am INTERESTED in using it	I have USED this type of app, but NOT during this semester	I have USED this type of app this semester	Combined: Current use plus interest in use
Menstruation and ovulation	21.7%	18.1%	19.0%	41.2%	59.3%
Exercise	14.9%	16.0%	29.5%	31.5%	47.5%
Sleep tracking	18.9%	36.1%	20.7%	24.3%	60.4%
Mindfulness	28.2%	27.5%	23.1%	21.2%	48.7%
Budget and financial	24.7%	50.2%	9.8%	15.3%	65.5%
Calorie and nutrition	35.8%	12.5%	36.9%	14.7%	27.2%
Alcohol and other drugs	76.3%	18.3%	4.10%	1.40%	19.7%

In order to have a better understanding of respondents' interest in apps, we combined the responses for students that already use apps and those that do not use them but are interested in doing so. Under the column "combined interest with current use" budget and financial apps were the most common apps that students were interested in or use (65.5%), followed by sleep tracking apps (60.4%) and menstruation and ovulation apps (59.3%). Since many male students do not menstruate and therefore would not need this type of application, we calculated the percentage of female respondents for combined interest with current use for menstruation apps: 65.6% of females use or are interested in using menstruation and ovulation apps.

#### Bivariate Analysis

We calculated a chi-square test of independence (Cramer's V) comparing the desire to learn about physical health among women and men (using binary categories of gender since the number of students reporting genders outside of the binary was too small to conduct significance tests) and found a significant difference (V(1)=.136, p=.025). Women were more interested in learning about physical health (56.4%) than men (41.1%), as seen in Table 7. The same test showed significant differences for men's and women's desire to learn about financial wellness (V(1)=.188, V(1)=.188, V(1)=.188,

**Table 7. Wellness Topics and Gender** 

Topic of Interest	Female	Male
Physical health	56.4%	41.1%
Financial wellness	87.2%	71.2%

We calculated a chi-squared test of independence comparing students' desire to learn about specific wellness-related topics and their self-reported race/ethnicity (again, using binary categories of race/ethnicity). We found a significant interaction between race and desire to learn about health related to alcohol and other drugs (V(1)=.124, p=0.043). Students of color were more interested in learning about alcohol and other drugs (39.1%) compared to white students (25.9%). The same test was not significant for race and desire to learn about mental health (V(1)=.015, p=0.808), physical health (V(1)=.069, p=0.261), sexual health (V(1)=.093, p=0.129), and financial wellness (V(1)=.014, P=0.825).

We conducted an independent samples t-test comparing the relationship between each of the desired learning topics and the Index of Wellness Center Types of Use Ever. We found a significant interaction between interest in learning about sexual health and Wellness Center use (t(246.283)= -3.151, p=.002). Students who were interested in learning about sexual health had a higher mean score (m=2.88) on the use index than students who were not interested in learning about sexual health (m=2.31). We did not find a significant interaction for Wellness Center use and desire to learn about any of the other wellness topics. We also conducted a Mann-Whitney U test to compare the mean frequency of Wellness Center use during fall 2018 for each of the desired learning topics. The only significant relationship was between desire to learn about sexual health (p=.006). Students who were interested in learning about sexual health were more likely to use the Wellness Center during fall 2018 than other students.

We calculated a chi-square test of independence (Cramer's V) comparing students' race/ethnicity and their self-reported level of current physical health and found a significant interaction (V(4)=.271, p=.001). Students of color were more likely to rate their current physical health as fair (27.4%) compared to white students (10.4%), as seen in Table 8. Conversely, white students were more likely to rate their current physical health as very good (33.8%) compared to students of color (11.3%). Additionally, we found a significant interaction when comparing students' race/ethnicity and their self-reported level of ideal physical health (V(4)=.223, p=.007). Students of color were more likely to rate their ideal physical health as fair (8.2%) or good (21.3%) than white students (3.0%, 8.5%), as seen in Table 9. White students were more likely to rate their current and ideal physical health as higher than students of color.

Table 8. Current Physical Health and Race/Ethnicity

	Students of Color	White Students
Poor	9.7%	5.5%
Fair	27.4%	10.4%
Good	40.3%	38.3%
Very Good	11.3%	33.8%
Excellent	11.3%	11.9%
	100.0%	100.0%

Table 9. Ideal Physical Health and Race/Ethnicity

	Students of Color	White Students
Poor	4.9%	2.5%
Fair	8.2%	3.0%
Good	21.3%	8.5%
Very Good	37.7%	40.8%
Excellent	27.9%	45.3%
	100.0%	100.0%

We calculated a chi-square test of independence (Cramer's V) comparing students' gender with their reported current physical health and found a significant interaction (V(4)=.210, p=.020). Other relationships that were significant for gender were level of ideal physical health (V(4)=.214, p=.018) and level of ideal mental health (V(4)=.214, p=.018). Men were more likely to rate their current physical health as excellent (23.6%) compared to women (8.9%), as seen in Table 10. Furthermore, men were more likely to rate their ideal physical health as excellent (55.6%) compared to women (37.9%) and men were more likely to rate their ideal mental health as excellent (54.3%) compared to women (36.3%), as seen in Tables 11 and 12.

**Table 10. Current Physical Health and Gender** 

	Female	Male
Poor	6.3%	5.6%
Fair	12.5%	15.4%
Good	43.2%	30.6%
Very Good	29.2%	25.0%
Excellent	8.9%	23.6%
	100.0%	100.0%

Table 11. Ideal Physical Health and Gender

	Female	Male
Poor	4.2%	0.0%
Fair	4.7%	2.8%
Good	14.2%	4.2%
Very Good	38.9%	37.5%
Excellent	37.9%	55.6%
	100.0%	100.0%

**Table 12. Ideal Mental Health and Gender** 

	Female	Male
Poor	2.6%	1.4%
Fair	5.3%	2.9%
Good	15.8%	2.9%
Very Good	40.0%	38.6%
Excellent	36.3%	54.3%
	100.0%	100.0%

We conducted a chi-square test of independence (Cramer's V) and found a significant interaction for current mental health and desire to learn about mental health (V(4)=.222, p=.009). Students who rated their current mental health level as lower were more likely to want to learn about mental health: 70.4% of students who rated their current mental health as poor

wished to learn about mental health compared to only 23.1% of students who rated their current mental health as excellent.

We calculated a Pearson correlation coefficient for the relationship between Wellness Center use ever and current physical health (r= -.022, p=.719), current mental health (r= -.116, p=.054), ideal physical health (r= -.050, p=.415), and ideal mental health (r= -.051, p=.401), but found no significant correlations. The levels of current and ideal physical health and mental health were *not* significantly related to use of the Wellness Center ever.

We calculated a Spearman rho correlation coefficient for the relationship between Wellness Center use during fall 2018 and current physical health (r= -.155, p=.148), current mental health (r= -.160, p=.135), ideal physical health (r= -.050, p=.643), and ideal mental health (r = -.092, p=.395, finding no significant correlations. The levels of current and ideal physical and mental health were not significantly related to use of the Wellness Center during fall 2018.

We used a Spearman rho correlation coefficient to analyze the relationship between Wellness Center use during fall 2018 and students' perception of how welcoming the Wellness Center is and found a significant linear relationship between these two variables (r=.311, p=0.016). This indicates that the data support our hypothesis that students' use of the Wellness Center this semester is associated with how welcoming they perceive the space to be. However, we also calculated a Pearson coefficient for the relationship between perception of the Wellness Center as welcoming and the number of types of Wellness Center services that students used during their entire time at St. Olaf and found no significant association between the variables (r=.122, p=.118). Therefore, students' perception of the Wellness Center as welcoming is not associated with their use of the Wellness Center during the entire time that they have been at St. Olaf thus far. In the beginning of fall semester 2018, the director of the Wellness Center rearranged its office space, which may be why students' use of the Wellness Center in fall 2018, but not ever, was associated with their perceptions of how welcoming the space is.

For other responses to the open-ended question on interest in wellness topics, frequencies to accompany above percentages, and additional non-significant results from the tests mentioned above, see Appendix A.

#### Discussion

Our findings indicate that a large majority of students are interested in learning about financial wellness, therefore we recommend that the Wellness Center organize and host more presentations and events on this topic, or even create new peer educator positions dedicated to this topic. Interestingly, women were more interested than men in learning about both financial wellness and physical health. Additionally, 12 students indicated interest in romantic, platonic, and familial relationships, so we recommend that presentations incorporate discussion of these topics. Since only about half of students attend events because they are interested in the topic, following these recommendations may increase student interest in events and therefore student attendance.

When examining how students of color, white students, men, and women rate their current and ideal health, we found that white students were more likely than students of color to rate their current and ideal physical health positively. Furthermore, men were more likely than women to rate their current physical health and their ideal physical and mental health as excellent. Generally, students who rated their current mental health level as poor wanted to learn about mental health. Based on our literature review, we hypothesized that level of current and ideal physical and mental health would be related to Wellness Center use (Bernhardt et al. 2010).

However, our hypothesis was not supported: there was not a significant relationship between level of current and ideal physical and mental health and Wellness Center use in the fall of 2018 or during students' entire time at St. Olaf College. Even though students who rated their current mental health as poor wanted to learn about mental health, they were not more likely to use the Wellness Center.

Additionally, since students who were more interested in learning about sexual health used the Wellness Center more than students who were not interested in learning about sexual health, we wonder if students tend to think of the Wellness Center as a place only or mainly for sexual health and condoms. In our focus groups, many students said that the first thing that comes to mind when thinking of the Wellness Center is that it is a place to get free condoms. We recommend promoting the other services that the Wellness Center offers, as well as other wellness topics that the Wellness Center focuses on.

Furthermore, we found that a majority of students surveyed think of the Wellness Center as welcoming. Based on our literature review, we hypothesized that students who view the Wellness Center as welcoming would be more likely to use the Wellness Center and attend its presentations (Brown, Fry, and Huddleston 2012). Our hypothesis was supported for fall 2018: students who view the Wellness Center as welcoming were more likely to use the Wellness Center during fall 2018.

Lastly, our review of literature included information on mobile-wellness applications (Stvilia and Choi 2015). At St. Olaf College, we found that many students are interested in or use budget/financial apps, sleep tracking apps, and menstruation and ovulation tracking apps. Therefore, we recommend that the Wellness Center research and promote these types of apps for student use. Furthermore, the Wellness Center could partner with other organizations and departments on campus to design its own wellness app(s), which could simultaneously promote wellness information and the St. Olaf Wellness Center.

#### **Conclusion and Recommendations**

Our research highlights various extrinsic and intrinsic motivations students have for using the St. Olaf Wellness Center. We found that having an SPM requirement and being with friends were important extrinsic motivations for attending Wellness Center presentations and events. Since SPM classes are generally taken by upperclass students, it was not surprising to find that seniors and juniors were more likely to attend Wellness Center presentations for the SPM requirement than sophomores were.

Additionally, we explored students' interest in wellness presentations as a motivator to attend presentations. Since the Wellness Center aims to cater to students' interests and needs, it is not ideal that a little less than half of students (47.5%) said that they attended presentations because they were interested in the topic. We suggest that the Wellness Center change its presentation topics to include financial wellness in order to motivate more students to attend presentations due to their intrinsic interest. Lastly, our findings indicate the promise of using mobile applications to promote both wellness information and the Wellness Center.

A main strength of our research is that it helps fill the gap in literature on wellness centers on college campuses, particularly regarding students' motivations. Additionally, our findings can be generalized to St. Olaf College sophomores, juniors, and seniors, so we have a reasonable understanding of what St. Olaf students in these years think about wellness and the Wellness Center.

Our research was limited by being a cross-sectional survey. We only surveyed students at one point in time and therefore were unable to see how students' motivations to use the Wellness Center changed throughout their time at St. Olaf. We did get a slight glimpse of related information, however, by surveying students of different class years and asking about Wellness Center use both ever and during fall 2018. Furthermore, our research was limited in that we conducted statistical tests using binary categories of gender, sexual orientation, and race/ethnicity. Since some students identified outside of these categories, our research was not able to fully represent the identities of all students surveyed.

Based on our research, we offer the following recommendations to the Wellness Center:

- 1. Collaborate with the Exercise Science Department ("ESAC," the department that coordinates the SPM classes), The General Education Requirement Task Force, the Registrar's office, and other appropriate departments and offices on campus to reserve seats for underclass students in SPM classes to ensure that freshmen and sophomores have the requirement of attending wellness presentations, and therefore, interact with the Wellness Center earlier in their college careers. Additionally, collaborate with other academic departments to create wellness presentation requirements for classes largely populated by underclass students.
- 2. Give presentations and host events related to financial wellness and/or create new peer educator positions related to financial wellness since there is a high interest among students on this topic. Additionally, incorporate discussion of relationships into presentations/events.
- 3. Since students tend to associate the Wellness Center with sexual health and students interested in sexual health are more likely to use the Wellness Center than students not interested in sexual health, promote the other free services/resources and wellness topics that the Wellness Center offers and focuses on.
- 4. Conduct research on and promote budget/financial, sleep tracking, and menstruation/ovulation tracking apps for student use as a way to spread wellness-related information, promote student health, and advertise the Wellness Center.

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# Appendix A: Additional Research Results General Use of the Wellness Center

Table 1. Use of Wellness Center Services – Ever (in descending order)

(iii descending order
Percentage and Frequency
87.0% (267)
46.9% (144)
40.1% (123)
34.5% (106)
23.1% (71)
13.7% (42)
3.6% (11)
7.2% (22)

Table 2. Frequency of Use of Wellness Services during Fall 2018 (first 10 weeks)

Type of Service	0	1	2	3 or more
Read a Toilet Talk flyer	4.7%	4.7%	12.5%	78.0%
	(14)	(14)	(37)	(230)
Visited the WC for free supplies (condoms, tampons, chap stick, etc.)	64.4%	15.9%	11.7%	8.0%
	(170)	(42)	(31)	(21)
Attended a WC swiped event for SPM credit	72.9%	7.1%	6.8%	8.1%
	(183)	(22)	(21)	(25)
Attended a WC swiped event NOT for SPM credit	83.1%	15.3%	0.8%	0.8%
	(212)	(39)	(2)	(2)
Used the WC website	66.7%	15.5%	8.6%	9.2%
	(116)	(27)	(15)	(16)
Visited the WC for wellness-related information	89.3%	7.5%	2.4%	0.8%
	(225)	(19)	(6)	(2)
Met for a one-on-one with a peer educator	98.1%	0.9%	0.5%	0.5%
	(210)	(2)	(1)	(1)
Visited the WC to simply use the space	90.8%	5.7%	1.7%	1.7%
	(158)	(10)	(3)	(3)

# **Extrinsic Motivations - Univariate Analysis**

Table 3. Students' Reasons for Attending Wellness Center Presentations

Reason for Attending	Percentage
Required for SPM Class	59.3% (118)
I was Interested in the Topic	47.5% (94)
Invited by a Friend	38.7% (77)
A Friend was Presenting	27.6% (55)
WC Collaborated with a Club I am Interested In	20.9% (42)
Required for an Academic Class	14.6%

	(29)
Presentation Happened in my	13.6%
Residence Hall	(27)

### **Extrinsic Motivations - Bivariate Analysis**

We conducted a chi square test (Cramer's V) to compare reasons for attending a Wellness Center event/presentation and class year. We found no significant interaction between class year and attending an event/presentation because:

- It was an academic requirement (V(2)=.126, p=.229).
- It was presented in a residence hall (V(2)=.036, p=.887).
- Of friend's invitation (V(2)=.023, p=.954).
- A friend was presenting (V(2)=.174, p=.060).
- The event was a collaboration between the Wellness Center and a club you are a part of (V(2)=.071, p=.625).
- Of an interest in the topic (V(2)=.170, p=.070).

**Table 4. Reasons for Attending Presentations and Class Year** 

Reason for Attending	Sophomore	Junior	Senior
Required for SPM class	35.3%	56.3%	81.7%
	(18)	(36)	(58)
Required for an academic class	7.8%	18.8%	16.9%
	(4)	(12)	(12)
Presented in a residence hall	15.7%	12.5%	14.1%
	(8)	(8)	(10)
Friend was a presenter	19.6%	21.9%	36.6%
	(10)	(14)	(26)
Invited by a friend	39.2%	40.6%	38.0%
	(20)	(26)	(27)
Event was in collaboration with an organization the student is interested in	17.6%	24.6%	23.9%
	(9)	(16)	(17)
Interested in the topic	62.0%	43.8%	42.3%
	(31)	(28)	(30)

## **Intrinsic Motivations - Univariate Analysis**

**Table 5. Wellness Topics Students Want to Learn About** 

Area of Health	Excellent	Very Good	Good	Fair	Poor
Current Physical Health	12.4% (34)	28.1% (77)	38.3% (105)	14.6% (40)	6.6% (18)
Current Mental Health	4.7% (13)	23.0% (63)	27.4% (75)	35.0% (96)	9.9% (27)
Ideal Physical Health	41.9% (114)	39.0% (106)	12.1% (33)	4.0% (11)	2.9%
Ideal Mental Health	40.4%	40.0%	12.6%	4.8%	2.2%

(400)	(400)	(0.4)	(40)	(0)
(109)	(108)	(34)	(13)	(6)
1 (103)	1 (100)	1 (34)	1 (13)	1 (0)

# Table 6. Open-Ended Responses for Wellness Topics Students Want to Learn About

<u>Topics</u>	Frequency
Relationships (Romantic, platonic, familial)	12
Spiritual health and Mindfulness	5
College culture	4
Health related to marginalized groups	3
Disabilities	2
Mental illness	2
Vaginal reproductive health	2

Table 7. Students' Views of the Wellness Center as Welcoming

	Percentage
Very Welcoming	34.1%
	(56)
Somewhat Welcoming	50.0%
	(82)
A Little Welcoming	14.6%
	(24)
Not at All Welcoming	1.2%
	(2)

Table 8. Students' Ratings of Current and Ideal Physical and Mental Health

<u>Health Area</u>	Excellent	Very Good	Good	Fair	Poor
Current Physical Health	12.4% (34)	28.1% (77)	38.3% (105)	14.6% (40)	6.6% (18)
Current Mental Health	4.7% (13)	23.0% (63)	27.4% (75)	35.0% (96)	9.9% (27)
Ideal Physical Health	41.9% (114)	39.0% (106)	12.1% (33)	4.0% (11)	2.9% (8)
Ideal Mental Health	40.4% (109)	40.0% (108)	12.6% (34)	4.8% (13)	2.2%

Table 9. Students' Use and Interest of Wellness-Related Apps

Type of App	I have USED this type of app in the past, but not this semester	I have NOT used this type of app and I am NOT interested in using it	I have USED this type of app this semester	I haven't used this type of app, but I'm INTERESTED in using it	Combined interest and use
Menstruation and Ovulation	19.0%	21.7%	41.2%	18.1%	59.3%
Apps	(42)	(48)	(91)	(40)	(131)
Exercise Apps	29.5%	14.9%	31.5%	16.0%	47.5%
	(83)	(42)	(111)	(45)	(156)
Sleep Tracking App	20.7%	18.9%	24.3%	36.1%	60.4%
	(58)	(63)	(68)	(101)	(169)
Mindfulness App	23.1%	28.2%	21.2%	27.5 %	48.7%
	(63)	(77)	(58)	(75)	(133)
Budget and Financial App	9.8%	24.7%	15.3%	50.2%	65.5%
	(27)	(68)	(42)	(138)	(180)
Calorie and Nutrition Apps	36.9%	35.8%	14.7%	12.5%	27.2%
• •	(103)	(100)	(41)	(35)	(76)
Alcohol and other Drugs App	4.1%	76.3%	1.4%	18.3%	19.7%
	(9)	(167)	(3)	(40)	(43)

#### **Intrinsic Motivations - Bivariate Analysis**

Nonsignificant Findings

We conducted a chi-square of independence (Cramer's V) comparing the desire to learn about Wellness Topics with students' race/ethnicity. We also used the same test to compare students' level of current and ideal mental health and race/ethnicity. Additionally, we compared level of current mental health and level of ideal physical health and mental health and desire to learn about wellness topics. We did not find a significant interaction for the following:

- Race/ethnicity and level of current mental health (V(4)=.082, p=.776).
- Race/ethnicity and level of ideal mental health (V(4)=.158, p=.168).
- Desire to learn about physical health and level of current mental health (V(4)=.134, p=.289), ideal mental health (V(4)=.177, p=.076), or ideal physical health (V(4)=.099, p=.618).
- Desire to learn about sexual health and level of current mental health (V(4)=.074, p=.830) or ideal mental health (V(4)=.120, p=.500).
- Desire to learn about health related to alcohol and other drugs and level of current mental health (V(4)=.105, p=.554). We could not run a test for desire to learn about health related to alcohol and other drugs and level of ideal mental health since 30.0% of expected cells had less than 5 counts.
- Desire to learn about financial wellness and level of current mental health (V(4)=.083, p=.757).
- Desire to learn about mental health and level of ideal mental health (V(4)=.034, p=.988) or ideal physical health (V(4)=.062, p=.903).

Additionally, we conducted an independent samples t test comparing the relationship between each of the desired learning topics and our index of Wellness Center types of use during a student's' entire time at St. Olaf. We did not find a significant interaction between Wellness Center use and desire to learn about:

- Mental health (T(289)= -1.315, p=.190).
- Physical health (T(289)= -1.476, p=.141).
- Health related to alcohol and other drugs (T(129.929)= -1.592, p=.113).
- Financial wellness (T(289)= -.989, p=.323).

Lastly, we conducted a Mann-Whitney U test to compare the relationship between each of the desired learning topics and our index of frequency of Wellness Center use during fall 2018. We did not find a significant interaction between frequency of Wellness Center use during fall 2018 and desire to learn about:

- Mental health (p=.127).
- Physical health (p=.197).
- Health related to alcohol and other drugs (p=.072).
- Financial wellness (p=.979).

Table 10. Wellness Topics and Gender

Desired Learning	Female	Male
Interested in learning about mental health	66.7% (130)	56.2% (41)
Interested in learning about physical health	56.4% (110)	41.1% (30)
Interested in learning about sexual health	48.2% (94)	37.0% (27)
Interested in learning about health related to alcohol and other drugs	28.7% (56)	30.1% (22)
Interested in learning about financial wellness	87.2% (170)	71.2% (52)

Table 11. Wellness Topics and Race/Ethnicity

Desired Learning	Students of Color	White Students
Interested in learning about mental health	62.5% (40)	64.2% (129)
Interested in learning about physical health	57.8% (37)	49.8% (100)
Interested in learning about sexual health	53.1% (34)	42.3% (85)
Interested in learning about health related to alcohol and other drugs	39.1% (25)	25.9% (52)
Interested in learning about financial wellness	82.8% (53)	81.6% (164)

Table 12. Current Physical Health and Race/Ethnicity

	Students of Color	White Students
Poor	9.7% (6)	5.5% (11)
Fair	27.4% (17)	10.4% (21)
Good	40.3% (25)	38.3% (77)
Very Good	11.3% (7)	33.8% (68)
Excellent	11.3% (7)	11.9% (24)
	100.0%	100.0%

Table 13. Ideal Physical Health and Race/Ethnicity

	Students of Color	White Students
Poor	4.9% (3)	2.5% (5)
Fair	8.2% (5)	3.0% (6)
Good	21.3% (13)	8.5% (17)
Very Good	37.7% (23)	40.8% (82)
Excellent	27.9% (17)	45.3% (91)
	100.0%	100.0%

Table 14. Current Mental Health and Race/Ethnicity

	Students of Color	White Students
Poor	9.7% (6)	9.5% (19)
Fair	35.5% (22)	35.8% (72)
Good	25.8% (16)	28.9% (58)
Very Good	21.0% (13)	21.9% (44)
Excellent	8.1% (5)	4.0% (8)
	100.0%	100.0%

Table 15. Ideal Mental Health and Race/Ethnicity

	Students of Color	White Students
Poor	3.3% (2)	2.0% (4)
Fair	6.6% (4)	2.5% (5)
Good	19.7% (12)	11.1% (22)
Very Good	37.7% (23)	42.2% (84)
Excellent	32.8% (20)	42.2% (84)
	100.0%	100.0%

Table 16. Current Physical Health and Gender

	Female	Male
Poor	6.3% (12)	5.6% (4)
Fair	12.5% (24)	15.3% (11)
Good	43.2% (83)	30.6% (22)
Very Good	29.2% (56)	25.0% (18)
Excellent	8.9% (17)	23.6% (17)
	100.0%	100.0%

Table 17. Ideal Physical Health and Gender

	Female	Male
Poor	4.2% (8)	0.0% (0)
Fair	4.7% (9)	2.8% (2)
Good	14.2% (27)	4.2% (3)
Very Good	38.9% (74)	37.5% (27)
Excellent	37.9% (72)	55.6% (40)
	100.0%	100.0%

**Table 18. Current Mental Health and Gender** 

	Female	Male
Poor	8.9% (17)	9.7% (7)
Fair	35.9% (69)	34.7% (25)
Good	30.2% (58)	20.8% (15)
Very Good	22.4% (43)	23.6% (17)
Excellent	2.6% (5)	11.1% (8)
	100.0%	100.0%

**Table 19. Ideal Mental Health and Gender** 

	Female	Male
Poor	2.6% (5)	1.4% (1)
Fair	5.3% (10)	2.9% (2)
Good	15.8% (30)	2.9% (2)
Very Good	40.0% (76)	38.6% (27)
Excellent	36.3% (69)	54.3% (38)
	100.0%	100.0%

#### **Focus Group Summary**

We conducted a focus group with seven students on October 1, 2018. Below is a summary of relevant findings:

- The Wellness Center is primarily perceived as a place for free supplies and resources (chap stick, condoms, band aids, tampons/pads, pamphlets, pens, etc.).
- Most students interact with the Wellness Center because of the SPM requirement.
  - However, Wellness Center presentations were perceived as unaffiliated with the Wellness Center office.
- SPM classes are not usually taken until junior and senior year since those class years have registration priority. Therefore, underclass students do not interact with the Wellness Center as much as upperclassmen.
- Students did not want to go to presentations alone. They were more likely to attend if going with a friend.
- The Wellness Center is viewed extremely positively when compared to Health Services. There was a trend of negative personal experiences with Health Services.

Appendix B: Survey Questions

Below are screenshots from our survey. Students completed a survey with questions from all research teams and our professor, but only the questions that we used for our analysis are included below.

Visited the WC to get fre	e supplies (such as condoms,	tampons, pads, chapstick,	or bandaio	ds)	
Used the WC website (e.	g., to get information on a we	ellness topic or to find the W	(C hours)		
Attended a WC swiped e	vent in order to get a swipe fo	or credit toward an ESAC/SP	M class		
Attended a WC swiped e	vent, but NOT to get a swipe	for an ESAC/SPM class			
Visited the WC for wellne	ess-related formation				
Visited the WC to simply	use the space (for example,	to study or to color in a colo	ring book	) 🗆	
Met for a one-on-one wit	h a Peer Educator				
Read a Toilet Talk flyer (	flyers on health topics, poster	d in bathrooms in Buntrock	and the lit	orary)	
ere unaware that the service	0 times this semester (I was UNAWARE that this service/option existed until	0 times this semester (I was AWARE of this option but	1 time	2 times this	3 tim
	now.)	have not used it.)	semester	semester	semes
Visited the WC to get free supplies	0	0	0	0	0
Used the WC website	0	0	$\circ$	0	0
Used the WC website  Attended a WC "swiped"  event in order to get a  swipe for an SPM class	0	0	0	0	0
Attended a WC "swiped" event in order to get a	0	0	0	0	0
Attended a WC "swiped" event in order to get a swipe for an SPM class Attended a WC "swiped" event, but NOT to get a	0 0	0 0	0 0	0 0	0
Attended a WC "swiped" event in order to get a swipe for an SPM class Attended a WC "swiped" event, but NOT to get a swipe for an SPM class Visited the WC for wellness-	0 0 0	0 0 0	0 0 0 0	0 0 0	0
Attended a WC "swiped" event in order to get a swipe for an SPM class Attended a WC "swiped" event, but NOT to get a swipe for an SPM class Visited the WC for wellness-related information Visited the WC to simply use			0 0 0 0 0	0 0 0 0 0	0 0 0 0

of these, please check "None of				_	
Physical health (such as nutrit					
Mental health (such as stress,	-				
Sexual health (such as reprod				ted infections)	
Alcohol and other drugs (such					
Financial literacy/wellness (su	ch as credit car	ds, check/savings ac	counts, budgeting)		
None of the above.				U	
Are there any other topics rela	ted to wellness	that you would like t	o learn more about?		
Do you use <u>apps</u> (software appinterested in using them? If an would have no use for an alcol	item <u>doesn't a</u>	oply to you (for exam	ple, you don't drink alcol		-
	I have USED this type of app this semester	I have USED this type of app in the past, but not this semester	I haven't used this type of app, but I am INTERESTED in using it	I have NOT used this type of app and I am NOT interested in using it	Not applicable
Calorie or nutrition trackers	$\circ$	$\circ$	$\circ$	0	$\circ$
Exercise, running or activity trackers	$\circ$	0	0	0	0
Yoga or mindfulness apps	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
Sleep pattern trackers	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
Alcohol/drug use trackers	$\circ$	$\circ$	0	0	$\circ$
Menstruation or ovulation trackers	0	$\circ$	0	0	$\circ$
Budget or expense tracker (not including bank account apps such as from Wells Fargo)	0	0	0	0	0
For what reasons have you go one of these, check the last of Required for an ESAC/SPM class. For an academic class (such a Presented in my residence has Friend was presenting. Friend asked me to attend with Presentation was a collaborate Interested in the topic.	ption. ass as extra credit o ill th them ion between the	er a requirement) e WC and an organiza			<u>ever</u> been

hink about the layout inside the Wellness he peer educator, and seating in the corne	-	•	educator near the d	oor, supplie
Very welcoming				
Somewhat welcoming		0		
A little welcoming		0		
Not at all welcoming		0		
Not applicable (I have never been to the W				
Not applicable (1 have never been to the w	Telliness center only	, ()		
To what extent do you believe that <u>St. Ola</u>			ese aspects of stud	dent health
To what extent do you believe that <u>St. Ola</u>	<u>if College</u> , as an ins	stitution, <u>cares</u> about th		
	<u>if College</u> , as an ins			
To what extent do you believe that <u>St. Ola</u> wellness?	<u>if College</u> , as an ins	stitution, <u>cares</u> about th		
To what extent do you believe that <u>St. Ola</u> wellness? Physical health	<u>if College</u> , as an ins	stitution, <u>cares</u> about th		

40.	What is your year in scho	ol?						
	Sophomore (							
	Junior							
	Senior							
	Other							
41.	Are you an international s	student?						
	Yes 🔘							
	No 🔘							
42.	What gender do you iden	tify as?						
43.	What racial/ethnic group(	s) do you	identify as?	•				
44.	What sexual orientation d	lo you ide	ntify as?					
47.	How would you rate your	current h	ealth and yo	our idea	al hea	lth in	each of these areas	s?
		Excellent	Very good	Good	Fair	Poor		
	Current physical health	$\circ$	$\circ$	$\circ$	$\bigcirc$	$\circ$		
	Current mental health	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$		
	Ideal physical health	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$		
	Ideal mental health	$\circ$	$\circ$	$\circ$	$\circ$	0		
							1	