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**PROMOTING BEHAVIOR CHANGE IN ROWAN UNIVERSITY STUDENTS
THROUGH FITNESS AND WELLNESS PROGRAMMING**

by
Megan E. McHugh

A Thesis

Submitted to the
Department of Educational Services and Leadership
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in Higher Education
at
Rowan University
July 13, 2015

Thesis Chair: Burton R. Sisco, Ed.D.

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Dedication

I would like to dedicate this thesis to all the undergraduate students I have had the pleasure of working with throughout my graduate work at Rowan University, specifically the 2013-2015 Student University Programming (SUP) executive boards that made my job so much more than just a job. Thank you for helping me find my passion for this field.

Acknowledgments

First, I would like to thank my two supervisors and mentors, Constantine Alexakos and Tina Pinocci, for their constant support and guidance, and for the countless opportunities they have provided me with throughout my graduate work at Rowan University. It is because of their extensive knowledge of this field, and their willingness to share it with me, that I feel fully equipped to soon enter the field myself as a professional.

I would also like to express my appreciation for my family and friends, especially my parents, throughout this journey. Their support and understanding is what helped me to persevere through the most trying of times over the past two years.

Finally, I would like to thank Dr. Sisco for sharing his knowledge with me both inside and outside of the classroom, and for helping me to realize and appreciate the importance of research. Mostly, I am grateful for his constant guidance and support throughout this program and my thesis work.

Abstract

Megan E. McHugh
PROMOTING BEHAVIOR CHANGE IN ROWAN UNIVERSITY STUDENTS
THROUGH FITNESS AND WELLNESS PROGRAMMING
2014-2015

Burton R. Sisco, Ed.D
Master of Arts in Higher Education

The purpose of this study was to investigate the impact of participation in the Rowan University Recreation Center's 2015 RU Heart Strong incentive program, and to explore behavior change in college students as a result of fitness and wellness programming at Rowan University. Data were collected from 59 subjects who participated in a survey that assessed subjects' physical activity levels and various psychosocial constructs such as social support, self-efficacy, and expectations in relation to the 2015 RU Heart Strong incentive program. Data analysis suggested that students who participated in the RU Heart Strong incentive program practiced behaviors to maintain a healthier lifestyle such as exercising and eating well. Data also suggested that subjects experienced minimal positive behavior change towards maintaining a healthy lifestyle as a result of their participation in the RU Heart Strong incentive program.

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Chapter I

Introduction

Many college students struggle with establishing and maintaining a healthy lifestyle during their undergraduate years. Being physically active and eating a well-balanced diet on a consistent basis may prove to be difficult when students are balancing college courses, on or off campus jobs, internships, clubs or organizations, and a more demanding social life. In response, colleges and universities are doing more to provide students with resources that help keep them on track with their healthy behaviors.

Statement of the Problem

Rowan University's Recreation Center provides students with a number of diverse opportunities to form healthy habits and maintain a healthy lifestyle throughout their college experience. One of these opportunities includes a variety of fitness and wellness programs for students to participate in that promote positive behavior change. Although many students have taken advantage of these programs, there has not been a sufficient amount of research conducted that measures student behavior change as a result of their participation in the programs.

Purpose of the Study

The purpose of this study was to investigate the impact of participation in the Rowan University Recreation Center's 2015 RU Heart Strong incentive program, and to explore behavior change in college students as a result of fitness and wellness programming at Rowan University. This study aimed to provide empirical data that

supported the hypothesis that college students can form healthy habits after participating in fitness and wellness programs intended to produce positive behavior change. A similar research study had not yet been completed at Rowan University.

Significance of the Study

The findings of this study may provide college students with a better understanding of their current health trends, issues, and behaviors, and where they stand compared to other college students. The results may also encourage college students to seek behavior change in their health habits and participate in fitness and wellness programming in order to ultimately live a healthier lifestyle during and after college. In addition, the outcomes of this study may help college administrators at the Rowan University Recreation Center and other institutions better serve undergraduate students who are looking to establish or maintain a healthy lifestyle in college.

Assumptions and Limitations

The scope of this study was limited to current undergraduate Rowan University students who participated in the RU Heart Strong incentive program from February 1-28, 2015 at the Rowan University Recreation Center. Other limits included the sample size and selection process due to participant availability and study completion time. It was assumed that all participants responded with truthful answers during the data collection process. In addition, I had just completed an internship in the Fitness and Wellness department at the Rowan University Recreation Center during the time of this study. I was a major contributor to the planning and implementation of the RU Heart Strong incentive program that was used in this study. Although I have tried to set aside

all biases throughout the study, my involvement may have presented potential bias in the reporting of the findings.

Operational Definitions

1. Behavior Change: For the purposes of this study, behavior change is defined as a change in behavior in the form of practicing healthier behaviors.
2. College Students: For the purposes of this study, college students represent all current undergraduate students attending Rowan University during the 2014-2015 academic year.
3. Fitness and Wellness Programming: For the purposes of this study, fitness and wellness programs are specific to those executed by the Rowan University Recreation Center with focus on the RU Heart Strong incentive program that took place throughout the month of February.
4. Healthy Habits: For the purposes of this study, healthy habits were considered any form of exercise, eating heart healthy foods, getting at least six hours of sleep per night, taking measures to manage stress, and educating oneself on how to live a healthy lifestyle.
5. Selected Students or Participating Students: All active participants of the 2015 RU Heart Strong incentive program.

Research Questions

1. What are the activity levels of selected students who participated in the RU Heart Strong incentive program sponsored by the Student Recreation Center at Rowan University?

2. What are the factors that contribute to selected students' feelings of success and achieving self-efficacy during physical activity as a part of the RU Heart Strong incentive program?
3. What are the factors that affect selected students' decision making in whether to choose to maintain a healthy lifestyle through regular physical activity, proper nutrition, and weight control?
4. What are the barriers that affect selected students' ability to successfully maintain a healthy lifestyle as an outcome of participating in the RU Heart Strong incentive program?
5. How satisfied were participating students with their overall experience in the Student Recreation Center's RU Heart Strong incentive program?
6. Did participating students experience behavior change as a result of their participation in the RU Heart Strong incentive program to maintain a healthier lifestyle through regular physical activity and proper nutrition?

Overview of the Study

Chapter II provides a review of scholarly literature relevant to this study. This section includes a discussion on current health trends, issues, and behaviors of college students. It specifically focuses on fitness and physical activity, nutrition and eating habits, and sleep patterns and stress management of college students. This section also analyzes how students can form healthy habits through behavior change as a result of their participation in fitness and wellness programming. Chapter II looks further into two well-known behavior change theories, Bandura's Social Cognitive Theory and

Perkins's and Berkowitz's Social Norms Theory.

Chapter III provides a description of the methodology of the study. One hundred and seventeen active RU Heart Strong participants made up the convenience sample and were sent a survey that assessed subjects' physical activity levels and various psychosocial constructs such as social support, self-efficacy, and expectations in correlation to the 2015 RU Heart Strong incentive program. Fifty-nine undergraduate students from that sample chose to participate in the study.

Chapter IV provides the findings of the study based on the research questions introduced in Chapter I. This chapter also describes the profile of the sample, and presents the information in the format of tables and narrative describing the data.

Chapter V summarizes the study and discusses the major findings. In this section the major findings are related to what was learned in the literature review found in Chapter II. This section also includes any conclusions that were reached and provides recommendations for practice and further research.

Chapter II

Review of Literature

For many, the college experience is a time for growth, development, and learning to take responsibility for personal life decisions. Fitness and wellness are two responsibilities that commonly fluctuate throughout the college experience, but are usually issues that every college student experiences at some point or another. Some students make poor decisions that lead to unhealthy habits such as excessive alcohol intake and falling into poor sleeping patterns. On the other hand, college can present students with many opportunities for getting and staying healthy. Many institutions provide a fully equipped gym, sports clubs and intramurals, and health education courses and programs for their students to utilize at low to no cost. It is then at that point up to students to decide whether to take advantage of the fitness and wellness opportunities provided by the institution. They must make decisions to take responsibility and form healthy habits in order to grow and develop into well-rounded individuals after the college experience.

The purpose of this literature review is to familiarize readers with current health trends of college students and the foundation of behavior change theories. This literature review also explores related studies with similar goals and findings. First, current health trends, issues, and behaviors of college students are introduced. This section is split into physical activity, nutrition, sleeping patterns, and stress management. Next, Bandura's Social Cognitive Theory and Perkins and Berkowitz's Social Norms Theories are described as foundational theories for yielding behavior

change. In the following section, the ways that institutions promote healthy behaviors on campus is explored with a focus on the resources available at Rowan University. Programming for behavior change is also analyzed, specifically looking at Rowan University's Nutrition Week program. The literature review concludes with the benefits and importance of developing healthy habits in college in order to live a healthy lifestyle after college.

Current Health Trends, Issues, and Behaviors of College Students

College can be a unique time that offers different opportunities for those attending. For many living on campus, it is likely to be the first time they have lived away from home. For others it may be the first time they have access to a gym facility within walking distance. With this unique, new experience also comes emergent responsibilities and challenges. A few of these challenges are likely to relate to one's fitness and physical activity, nutrition and eating habits, and sleeping patterns and stress management.

Fitness and physical activity. College students are likely to experience changes in their health behaviors over the course of their undergraduate years. For example, data show that physical activity rates tend to decrease from high school to college for many students (Bray & Born, 2004). The Centers for Disease Control and Prevention (2014) recommends that college students should be partaking in at least two and a half hours of moderate to vigorous physical activity a week. These types of activities are those that increase breathing, get the heart rate up, and strengthen muscles. Miller, Staten, Rayens, and Noland (2005) surveyed 903 undergraduate students about their physical activity

patterns and frequency. Of the sample, 46% reported partaking in vigorous physical activity that increased breathing and left them sweating for at least 20 minutes three or more days a week. In addition, 58% of the sample reported partaking in moderate physical activity, such as walking or biking, for at least 30 minutes three or more days a week.

Nutrition and eating habits. In college, students may find that their eating habits have changed due to the sudden freedom of choosing what, where, and when to eat. They may be exercising poor eating habits, such as overeating, if they are tempted by the all-you-can-eat dining facilities, vending machines, and easy access to food 24 hours a day that can be commonly found on college campuses (Centers for Disease Control and Prevention, 2014). Students may also find that they are practicing poor eating habits by not eating enough due to the stress that can come from the academic and social expectations of college life. “In a National College Health Assessment done by the American College Health Association, only 7.8 percent of students surveyed eat five or more servings of fruit and vegetables every day” (Valle, 2012, ¶ 15). In order to keep up one’s energy both mentally and physically, students should be eating regular, healthy meals everyday (Centers for Disease Control and Prevention, 2014).

Sleeping patterns and stress management. The CDC (2014) states that adults need seven to nine hours of sleep per night to function efficiently. Lack of sleep not only affects students’ abilities to participate in class and take tests, it also affects their ability to make decisions, such as choosing to exercise or eat well. College students should stick to a regular sleeping pattern and should avoid staying up late or pulling all-

nighters to study (Centers for Disease Control and Prevention, 2014). Another important factor of staying healthy in college is maintaining one's mental health. Stress and anxiety levels can fluctuate throughout the college experience due to a demanding workloads, assignment deadlines, exam periods, social factors and pressures, and more. It is important for college students to take the necessary steps towards coping with stress and anxiety in college. The CDC (2014) recommends regularly practicing healthy habits such as exercising, eating well, and getting enough sleep for maintaining one's mental health. Also, developing a support network of friends, talking with professors, counselors, and family members about stress, and visiting the school or local health clinic are all helpful ways to cope with stress (Centers for Disease Control and Prevention, 2014).

Forming Healthy Habits through Behavior Change

College years are a crucial time for students to start developing healthy habits, such as those listed above. Miller et al. (2005) state that "because the college years are a time when young people have an opportunity to make decisions about their behaviors, it is important that healthy behaviors become an integral part of their daily lives that they will take with them when they leave the college campus" (p. 216). In a study of recent college alumni, Sparling and Snow (2002) found that physical activity habits formed in college years were maintained after graduation. When college students practice healthy behaviors such as consistently exercising, eating well, getting enough sleep, and maintaining mental health they are more likely to experience long-term health benefits

after college.

In order to form healthy habits, one must experience a change in behavior. The individual must go through a program or intervention designed to promote behavior change and discontinue practicing previous habits. When creating a program or intervention that effectively yields behavior change, interventionists can use behavior change theories as the basis of practice. Two well-known behavior change theories are Social Cognitive Theory and Social Norms Theory.

Social cognitive theory. Bandura's Social Cognitive Theory (SCT) is a behavior change theory based on the relationship between internal and external factors. The main principle behind SCT is reciprocal determinism, the concept that there is a "continuous, dynamic interaction between the individual, the environment, and behavior" (Prochaska, Redding, Rossi, Rossi, & Velicer, 2000, p. 185). Bandura believed that the relationship between individual, environment, and behavior is interactive and a change in any one of these factors would impact the other two (Prochaska et al., 2000).

The factors of the individual that may play a role in SCT's concept of behavior change are personal characteristics and cognitive factors, emotional coping, behavioral capacity, self-efficacy, expectations, self-regulation, experiential learning, and reinforcement (Prochaska et al., 2000). Specifically, Bandura's concept of self-efficacy has an important role in the behavior change process, and has been incorporated into most of the major behavior change theories existing in the field of psychology

(Prochaska et al., 2000). Bandura (1977) describes self-efficacy as one's ability to recognize that he or she is capable of successfully changing behavior. An individual's self-efficacy can relate directly to personal self-confidence. Bandura proposed that the performance of a behavior stems from one's confidence in their ability to perform that behavior (Prochaska et al., 2000). Therefore, increased self-efficacy could increase the likelihood of behavior change to take place.

A situation-specific form of self-efficacy that relates to health and fitness is physical self-efficacy. Two components of physical self-efficacy are one's confidence in situations that require physical ability and one's confidence in displaying physical ability publically (Ryckman, Robbins, Thornton, & Cantrell, 1992). Both components affect whether an individual will decide to participate in physical activity or not. "Physical self-efficacy increases with experience, rewards, and success with a given activity" (Lockwood & Whol, 2012, p. 629).

In addition to individual factors such as increased self-efficacy, environmental factors also play a role in SCT's concept of behavior change. Environmental factors can be physical, social, cultural, economical, political, or situational in nature (Prochaska et al., 2000). By shaping an environment that encourages behavior change, the likelihood of a change in behavior occurring increases. Interventionists should provide opportunities for behavior change, assist with the changes, and offer social support to those undergoing the change (Perry, Barnowski, & Parcel, 1990). Bandura (1986) believed that even with a high concept of self-efficacy individuals may not perform a behavior if they have no incentive. This suggests the use of incentives and rewards

when shaping an environment that yields behavior change.

Social norms theory. Social Norms Theory (SNT), a behavior change theory created by Perkins and Berkowitz in 1986, is best known for its effectiveness in reducing college students' alcohol consumption and alcohol-related injuries (Social Norms Theory, 2013). Unlike Bandura's Social Cognitive Theory, SNT aims to understand solely how environmental factors change behavior, focusing primarily on peer influences. SNT believes that individual behavior is influenced by misconceptions of how peers think and act. This misperception forms when there is a gap between "perceived norms (what is viewed as typical or standard in a group) and actual norms (the real beliefs and actions of the group)" (Social Norms Theory, 2013, ¶ 2). Individuals tend to be more affected by perceived norms than actual norms. SNT believes that correcting misconceptions of perceived norms will result in a behavior change, decreasing the problem behavior and increasing the desired behavior (Social Norms Theory, 2013). Therefore, in order to correct misconceptions and yield behavior change, interventionists should provide education opportunities for college students to learn and understand the appropriate actual norms.

Promoting Healthy Behaviors on Campus

Despite all of the temptations and stresses that cause students to practice unhealthy behaviors, college can be an ideal time for students to get and stay healthy. Most schools have intentionally shaped environments that yield behavior change with the purpose of helping students form healthy habits. Many schools provide students

with a number of resources to take advantage of for little to no cost. These resources often include gym facilities, an on campus health center, intramural and recreational sports, fitness classes, health related clubs and initiatives, and health education and incentive programs. It is the institution's responsibility to provide these services to students in order to promote healthy living on campus. In addition, it is the student's responsibility to take advantage of these resources provided in order to form healthy habits and live a healthy lifestyle.

Rowan University of Glassboro, New Jersey specifically offers a number of these resources. First, the university has a newly renovated Wellness Center located in the center of campus. This center offers illness and injury visits free of charge for Rowan students, reproductive health care services for male and female students at reasonable costs, group and individual counseling services, and monthly health promotion initiatives throughout the year (Student Health Services, Rowan.edu). In addition, the Office of Healthy Campus Initiatives at Rowan University is committed to keeping the Rowan community educated on how to make healthy choices and live a healthy lifestyle through interactive programs and educational sessions (Healthy Campus Initiatives, Rowan.edu). Rowan also has a state-of-the-art health club on campus, the Rec Center, which is open seven days a week free of charge for enrolled, full-time students. This facility features a three-court gymnasium, swimming pool, indoor track, fitness and free-weight room, group exercise studio, cycling room, and racquetball courts. In addition, the Rec Center offers a number of recreational activities, fitness classes, intramural sports, instructional classes, and fitness and wellness

programs for students to take advantage of for little to no cost (Rec Center, Rowan.edu). Some of the wellness centered programs offered on campus by the offices and departments mentioned above include Nutrition Week, the Health and Fitness Expo, Chill N' Chat meetings, as well as a number of awareness walks and fitness incentive programs.

Promoting Behavior Change through Programming

Fitness and wellness programs on campuses are typically created with the intention of educating college students on healthy behaviors, promoting positive behavior change in these students to practice healthy habits, and supporting them throughout the process. Health and fitness programs may take the form of a health and wellness fair, a nutrition class, a fitness challenge, or an awareness walk or run. For example, Rowan University plans a nutrition week every year where different departments and offices on campus, such as the Wellness Center and the Recreation Center, collaborate to provide students with a week of different programs related to nutrition education and practice. Some of these programs include a seminar on making homemade healthy snacks, a question and answer session regarding supplement use, and a nutrition themed trivia game (National Nutrition Week Brochure, 2014). A limitation of this program is that it focuses too heavily on education, with little attention to increasing self-efficacy and providing incentive and reward. Additional elements may be needed to have this specific program effectively promote behavior change in college students.

When fitness and wellness programs include all of the necessary elements, behavior change can certainly be achieved. Liguori and Carroll-Cobb (2012) state that programs with intent of behavior change should include important key elements that impact self-efficacy such as an educational component, behavior change steps and processes, social support, and cognitive restructuring. When education is combined with behavioral skills, psychological variables such as enhanced self-efficacy and motivation, and behavior change variables such as self-reflection and goal achievement, behavior change will occur (Lockwood, & Wohl, 2012). Lockwood and Wohl (2012) assessed the effectiveness of an intensive 15-week Lifetime Wellness course in changing general self-efficacy, physical self-efficacy, and wellness behaviors in college students. The data from 71 participating students was collected using pre and post assessments, and results found that these students experienced significant positive changes in both their physical activity levels and their ability to make healthy physical and nutritional choices. This study demonstrates how fitness and wellness programming can positively impact a student's ability to successfully change behavior and live a healthier lifestyle in college.

Summary of the Literature Review

Practicing well-rounded healthy habits related to physical activity, nutrition, sleep, and mental health provides the brain and body with the energy needed to learn and perform successfully in college. Learning and practicing these healthy habits in college is crucial to one's healthy lifestyle after college. The benefits of a healthy lifestyle are well documented. Keeping healthy reduces one's risk for many chronic

conditions, such as high blood pressure, type 2 diabetes, and obesity (Centers for Disease Control and Prevention, 2014). Currently at Rowan University there has not been a sufficient amount of research conducted that measures student behavior change as a result of participation in fitness and wellness programs that promote healthy living. By shaping environments and providing opportunities that promote behavior change, institutions can help students form these healthy habits during their college experience, preparing them for life after college. Understanding this information, including the underlying behavior change theories, is important to those working in college settings looking to promote healthy living in their students. With this gained knowledge, administrators can put theory into practice and create programs that promote behavior change in college students and help them to live a healthier lifestyle.

Chapter III

Methodology

Context of the Study

Rowan University. The study was conducted at Rowan University, a selective, medium-sized, public state comprehensive research university. Rowan University has three campuses in Glassboro, Camden, and Stratford, New Jersey. This study took place on the University's main campus in Glassboro. Rowan is ranked 19th by *U.S. News and World Report* among the Best Regional Universities-North and 3rd among public universities in the category for 2015. The student body is made up of 14,778 students with 12,022 undergraduate students, 1,927 graduate students, and 829 professionals from 33 states and 19 foreign countries. The University offers 63 bachelor's, 44 master's, 27 post-baccalaureate (COGS), 3 post-master's (CAGS), 3 professional post-master's, 2 doctoral, and 2 professional programs and awarded 3,168 degrees in the academic year 2012-2013. Rowan offers 8 men's and 10 women's varsity sports, 43 intramural sport activities per year, and 40 organized club sport programs, 28 Greek Life organizations, and 130 campus clubs and organizations for student involvement. The university houses 4,385 students on campus (Rowan Fast Facts, 2014).

The mission of Rowan University is:

A leading public institution, Rowan University combines liberal education with professional preparation from the baccalaureate through the doctorate. Rowan provides a collaborative, learning-centered environment in which highly qualified and diverse faculty, staff, and students integrate teaching, research,

scholarship, creative activity, and community service. Through intellectual, social and cultural contributions, the University enriches the lives of those in the campus community and surrounding region. (Rowan About, 2015, ¶ 2)

The Recreation Center. Rowan University's Student Recreation (Rec) Center, the state-of-the-art health club on campus, is housed inside a 92,000 square foot facility that features a three-court gymnasium, indoor track, 25-yard pool, four racquetball courts, a cycling room, a group exercise studio, fitness and free weight room areas, full locker/shower facilities, and a Muscle Maker Grill. The Rec Center is open seven days a week to all currently enrolled full-time students to use, and memberships are available at a cost for part-time students, faculty, staff, and alumni (Rec Center Facility & Hours, 2015).

The Rec Center is dedicated to providing students with exceptional programs, services, and facilities that promote and encourage a balanced, healthy lifestyle. The Rec Center provides students with the opportunity to participate in a number of fitness and wellness focused programs throughout the year that educate students on how to make healthier choices in college. During the month of February the Rec Center facilitates a 4-week long fitness and wellness incentive program, RU Heart Strong, which aims to educate students about proper heart health. This program focuses on how regular exercise, proper nutrition, good stress management, and regular health screenings can help individuals maintain a strong and healthy heart. The program uses a point tracking system and prizes to incentivize student involvement and engagement.

Population and Sample Selection

The total population of this study was the 117 active participants of the RU Heart Strong incentive program that took place at the Rowan University Recreation Center in February 2015. A convenience sample of 59 selected undergraduate students provided quantitative data for this study. Of the 117 surveys distributed via email to active participants using Rowan University's Qualtrics Online Survey Software, 61 responses were received and 59 surveys were analyzed. All graduate students, faculty, staff, and/or other members that participated in the 2015 RU Heart Strong incentive program and completed the survey were excluded from the study.

Instrumentation

This study required quantitative data collection in the form of an online survey. This instrument was adapted from Bartlett's (2009) Exercise & Nutrition Behavior Survey, which she used in her dissertation, *The Evaluation of a Nutrition Education and Fitness Program with a Contest Component Among College Students Using the RE-AIM Framework*. Similar to this study's purpose, Bartlett's study evaluated an eight week program, Body for Break, which aimed to help college students at a large mid-Atlantic university live a healthier lifestyle by providing them with free personal training, nutritional consultations, weekly motivational/informational emails, and prizes. Bartlett assessed the physiological outcomes (weight, body fat, body size, resting heart rate, and blood pressure) and nutritional education of completers of the program (completed at least five of the eight weeks) in a longitudinal study. Although results found that Body for Break had only a moderate level of implementation by participants

and low effectiveness for those participants, “qualitative data obtained one month after program competition revealed that most participants were still keeping up with at least some portion of the program” (Bartlett, 2009, p. 32).

Bartlett’s survey instrument is included for reference as Appendix A. Permission to use Bartlett’s survey questions and reproduce the instrument in the appendices was given via email, and is included for reference as Appendix B. Minimal customized questions were added to this instrument when necessary to apply information to Rowan University, the Rowan Recreation Center, and the RU Heart Strong incentive program. The survey instrument that was created for this study is attached as Appendix C.

The purpose of the study, consent information, and the researcher’s contact information for questions were all included in the email sent to the sample and again on the first page of the online survey. The initial email message sent to participants is attached as Appendix D. Participants were required to check a box confirming they are 18 years of age or older and a box giving their consent for survey participation prior to taking the online questionnaire. The survey did not ask participants to reveal any identifying information such as name or Rowan Banner ID. All subjects that participated in the survey remained anonymous at all times. Participants were asked for demographic information such as gender, age and race. In addition, participants were asked to identify their class standing during the spring 2015 semester and their current GPA.

The survey asked a series of items that assessed subjects’ physical activity levels

and various psychosocial constructs which are known to correlate with health behaviors, such as social support, self-efficacy, and expectations, as a result of participation in the 2015 RU Heart Strong incentive program. Items were also organized by factor groupings such as social support, barriers to physical activity, self-efficacy, and expectations. The first factor grouping asked subjects two questions regarding how much they could count on those close to them for support in deciding to become more physically active and eat a healthier diet using a Likert Scale ranging across Not at All, Very Little, Somewhat, and A Lot with values from 1 to 4 respectively. The second factor grouping provided students with five statements regarding how confident they were that they could be physically active despite common barriers. These items were applied with a Likert Scale ranging across Not at all Confident, Somewhat Confident, Moderately Confident, Confident, and Extremely Confident with values from 1 to 5 respectively. The third factor grouping provided subjects with 11 statements regarding self-efficacy and when participants felt most successful when exercising as a part of the RU Heart Strong incentive program. These items were applied with a Likert Scale ranging across Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree with values from 1 to 5 respectively. The final factor grouping provided subjects with 16 statements regarding expectations and how important participants felt expectations were in their decision to become physically active. These items were applied with a Likert Scale ranging across Not at all Important, Somewhat Important, Moderately Important, Important, and Extremely Important with values from 1 to 5 respectively.

Prior to distributing the survey, approval from the Institutional Review Board

(eIRB) of Rowan University was requested in order to ensure that the survey could be sent out to human subjects. The notice of approval from the IRB is attached as Appendix E. In addition, the first draft of the survey was piloted for face validity on a group of three undergraduate students who participated in a past fitness and wellness incentive program at the Rowan University Recreation Center. Therefore, this group was also a convenience sampling. The pilot participants were asked to provide feedback on readability, clarity, and sense making. A Cronbach Alpha test was also performed on each of the Likert Scale factor groupings to test for reliability. A score of .707 or greater shows that the items have a high internal consistency. The following results were produced from the Cronbach Alpha analysis: social support gave a score of .771, barriers to physical activity gave a score of .840, self-efficacy gave a score of .821, and expectations gave a score of .784. Overall, the survey instrument resulted in a high reliability score by each factor grouping.

Data Collection

Immediately following approval from the IRB, the survey was administered via email to the convenience sample of 117 active 2015 RU Heart Strong participants on June 12, 2015. Follow up emails including the survey link were sent out on June 17, June 22, June 25, and June 30, 2015. In addition to contacting participants via email, I sought participants out using the social media outlet, Facebook, whenever possible to increase response rate probability. The subjects of this study incurred no costs. This study did not involve physical, legal, or economic risks of harm. Indirect psychological/emotional and social risks of harm are possible, but highly unlikely, due

to study subject. An anticipated potential benefit for participants was a positive change in behavior in maintaining a healthier lifestyle through regular physical activity and proper nutrition. This benefit potentially could endure after the student's college experience

Data Analysis

The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS) computer program. I examined factor groupings such as the subjects' physical activity levels and various psychosocial constructs such as social support, self-efficacy, and expectations, in correlation to subjects' participation in the 2015 RU Heart Strong incentive program. Frequencies, percentages, mean, and standard deviation were calculated using SPSS and presented in the form of tables and narrative analysis. The results from all open-ended questions were analyzed for reoccurring themes, and then each theme was assigned a code and calculated for frequencies and percentages. These results are attached as Appendix F. All data were examined and reported in Chapter IV.

Chapter IV

Findings

Profile of the Sample

The subjects in this study consisted of 117 active participants of the Rowan University Recreation Center's 2015 RU Heart Strong incentive program. The sampling for this survey was a total population and convenience sample. A total population survey was created using Rowan University's Qualtrics Online Survey Software and all 117 active participants were invited by email to take the survey on June 12, 2015. The email message explained the purpose of the study, that participation was optional, and that their results would remain anonymous. Four additional reminder emails that included the survey link were sent to the study subjects between June 12 and June 30, 2015. A total of 59 undergraduate students participated in the survey, yielding a 50.4% response rate. Twenty-nine males and 30 females completed the survey. Ten subjects reported being between 18 and 19 years of age, 32 subjects reported being between 20 and 21 years of age, 16 subjects reported being between 22 and 23 years of age, and one subject reported being 26 years of age or older. Two subjects reported their race as African American, two subjects reported their race as Asian American, 49 subjects reported their race as Caucasian, and six subjects reported their race as Hispanic American. Table 4.1 represents the gender, age, and race of the subjects.

Table 4.1

Demographics for RU Heart Strong Participants (N=59)

Variable	<i>f</i>	%
Gender		
Male	29	49.2
Female	30	50.8
Total	59	100
Age		
18-19	10	16.9
20-21	32	54.2
22-23	16	27.1
24-25	0	0
26+	1	1.7
Total	59	100
Race		
African American	2	3.4
Asian American	2	3.4
Caucasian	49	83.1
Hispanic American	6	10.2
Total	59	100

Subjects were also asked to indicate their class status during the spring 2015 semester when the RU Heart Strong incentive program took place. Table 4.2 represents the class standings of the subjects at that time. Seven subjects (11.9%) reported being freshmen, eight subjects (13.6%) reported being sophomores, 21 subjects (35.6%) reported being juniors, and 23 (39%) subjects reported being seniors.

Table 4.2

Class Standings for RU Heart Strong Participants (N=59)

	<i>f</i>	%
Freshman	7	11.9
Sophomore	8	13.6
Junior	21	35.6
Senior	23	39
Total	59	100

Finally, subjects were asked to share their current grade point average (GPA). The results are reported in Table 4.3. Subjects could choose from a 2.0 – 2.5 GPA, a 2.51 – 3.0 GPA, a 3.01 – 3.5 GPA, or a 3.5 or greater GPA. Only one subject (1.7%) reported having a GPA of 2.0-2.5. Thirteen subjects (22%) reported their GPAs falling between 2.51-3.0. Twenty-one subjects (35.6%) reported their GPA falling between 3.01-3.5. Twenty-four subjects, the majority (40.7%), reported having a GPA of 3.5 or higher.

Table 4.3

Current Overall GPAs for RU Heart Strong Participants (N=59)

	<i>f</i>	%
2.0-2.5	1	1.7
2.51-3.0	13	22
3.01-3.5	21	35.6
>3.5	24	40.7
Total	59	100

Analysis of the Data

Research question 1. What are the activity levels of selected students who participated in the RU Heart Strong incentive program sponsored by the Student Recreation Center at Rowan University?

Subjects were asked to indicate if they participated in athletics during high school. Table 4.4 shows that the majority of subjects (86.4%) reported they did participate in high school athletics.

Table 4.4

Participation in High School Athletics (N=59)

	<i>f</i>	%
Yes	51	86.4
No	8	13.6
Total	59	100

Subjects were asked to report how their overall level of physical activity had changed compared to when they were in high school. Five subjects (8.5%) reported that their activity levels had decreased considerably since high school, 15 subjects (25.4%) reported a decrease in activity, 6 subjects (10.2%) reported no change, 14 subjects (23.7%) reported an increase in activity, and the majority (32.2%) reported that their activity levels had increased considerably since high school. Table 4.5 represents the change in overall level of physical activity of subjects now compared to in high school.

Table 4.5

Change in Overall Level of Physical Activity Now Compared to in High School (N=59)

	<i>f</i>	%
Decreased Considerably	5	8.5
Decreased	15	25.4
No Change	6	10.2
Increased	14	23.7
Increased Considerably	19	32.2
Total	59	100

Subjects were asked to report how their frequency of exercise had changed since they began using the Student Recreation Center as a part of the RU Heart Strong incentive program in February 2015. This information is represented in Table 4.6. The majority (45.8%) reported no change, while 25 subjects (42.4%) reported an increase in frequency, and five (8.5%) reported their frequency increased considerably since their participation in RU Heart Strong. Only two subjects (3.4%) reported a decrease in frequency

Table 4.6

Change in Frequency of Exercising as a Result of Participation in RU Heart Strong (N=59)

	<i>f</i>	%
Decreased Considerably	0	0
Decreased	2	3.4
No Change	27	45.8
Increased	25	42.4
Increased Considerably	5	8.5
Total	59	100

The survey also asked two questions pertaining to subjects' regular exercise habits. Regular exercise is defined in this study as exercising five or more times per week for a total of 30 minutes each day. First, subjects were asked whether they currently exercise regularly or not. Subjects were then asked if they exercised regularly before they started using the Student Recreation Center as a part of the RU Heart Strong incentive program in February 2015. Table 4.7 compares subjects' regular exercise before and after their participation in the RU Heart Strong incentive program. The results increased for subjects from 61% engaging in regular exercise before the program to 67.8% engaging in regular exercise after the program.

Table 4.7

Comparison of Regular Exercise (Five or More Times Per Week for a Total of 30 Minutes Each Day) Before and After Participation in RU Heart Strong (N=59)

	Before Participation		After Participation	
	<i>f</i>	%	<i>f</i>	%
Yes	36	61	40	67.8
No	23	39	19	32.2
Total	59	100	59	100

Subjects were asked to select one of five statements that most closely reflected their current exercising status. Table 4.8 shows that the majority (55.9%) of subjects reported that they currently exercise regularly, and have done so for longer than six months. Only three subjects (5.1%) reported that they currently do not exercise, but are thinking about starting in the next six months, and zero subjects reported that they do not currently exercise not do they intend to start in the next six months.

Table 4.8

Students' Current Exercise Status (Note: Regular Exercise = 5 or More Times Per Week for a Total of 30 Minutes Each Day) (N=59)

	<i>f</i>	%
I currently do not exercise, and I do not intend to start exercising in the next 6 months	0	0
I currently do not exercise, but I am thinking about starting in the next 6 months	3	5.1
I exercise sometimes, but not regularly	13	22
I currently exercise regularly, but I have only begun in the last 6 months	10	16.9
I currently exercise regularly, and I have done so for longer than 6 months	33	55.9
Total	59	100

Subjects were asked how sure or confident they are that they could start or continue to exercise for 30 minutes or more at a moderate intensity at least five times per week. Table 4.9 shows that the majority of subjects (62.7%) were very sure they could start or continue to exercise regularly, and that the minority of subjects (3.4%) were very unsure that they would be able to.

Table 4.9

Students' Confidence That They Can Start or Continue to Exercise for 30 Minutes or More at a Moderate Intensity at Least Five Times Per Week (N=59)

	<i>f</i>	%
Very Unsure	2	3.4
Somewhat Unsure	4	6.8
Somewhat Sure	16	27.1
Very Sure	37	62.7
Total	59	100

Survey item nine was an open-ended question that asked subjects “As a Result of your participation in the RU Heart Strong incentive program during the month of February, approximately how many times per week did you use the Student Recreation Center?” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (59.3%) used the Student Recreation Center 4-6 times per week as a result of their participation in the RU Heart Strong incentive program.

Survey item 10 was an open-ended question that asked subjects “During the month of February, on average, how many times per week were you physically active outside of the Student Recreation Center? The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (45.8%) reported being physically active outside of the Student Recreation Center 2-4 times per week during the month of February. Fifteen subjects (25.4%) reported being physically active only one time per week and 12 subjects (20.3%) reported no physical activity outside of the Recreation Center during that month.

Research question 2. What are the factors that contribute to selected students’ feelings of success and achieving self-efficacy during physical activity as a part of the RU Heart Strong incentive program?

The survey listed 11 statements pertaining to students’ feelings of success and achievement of self-efficacy during physical activity as a part of the RU Heart Strong incentive program. Subjects were asked to indicate their responses by marking their level of agreement with the statement. These statements were based on a Likert scale

and had possible answers of Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. The answers were given a value of 1 to 5, respectively. Table 4.10 is organized from highest to lowest level of agreement based on the mean score. The statement that received the highest mean score was “When exercising as a part of the RU Heart Strong incentive program in February 2015, I felt most successful when I reached a goal” with a score of 4.71. Out of the 59 subjects, three (5.1%) reported Neutral, 11 (18.6%) reported Agree, and 45 (76.3%) reported Strongly Agree. The statement that received the lowest mean score was “When exercising as a part of the RU Heart Strong incentive program in February 2015, I felt most successful when I showed other people I was the best” with a score of 2.59. Eleven subjects (18.6%) reported Strongly Disagree, 16 subjects (27.1%) reported Disagree, 22 subjects (37.3%) reported Neutral, six subjects (10.2%) reported Agree, and four subjects (6.8%) reported Strongly Agree.

Table 4.10

Students' Perception of Feelings of Success When Exercising as a Part of RU Heart Strong According to the Following Factors (N=59)

(Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5)

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
I reach a goal <i>M=4.71, SD=.559</i>	0	0	0	0	3	5.1	11	18.6	45	76.3
I show clear personal improvement <i>M=4.69, SD=.623</i>	0	0	0	0	5	8.5	8	13.6	46	78
I work hard <i>M=4.64, SD=.580</i>	0	0	0	0	3	5.1	15	25.4	41	69.5
I overcome difficulties <i>M=4.63, SD=.613</i>	0	0	0	0	4	6.8	14	23.7	41	69.5
I master something I couldn't do before <i>M=4.59, SD=.698</i>	0	0	0	0	7	11.9	10	16.9	42	71.2
I perform to the best of my ability <i>M=4.53, SD=.598</i>	0	0	0	0	3	5.1	22	37.3	34	57.6
I accomplish something others cannot do <i>M=3.58, SD=1.148</i>	2	3.4	8	13.6	20	33.9	12	20.3	17	28.8
I am the best <i>M=2.80, SD=1.126</i>	9	15.3	12	20.3	25	42.4	8	13.6	5	8.5
I am clearly superior <i>M=2.73, SD=1.112</i>	10	16.9	11	18.6	28	47.5	5	8.5	5	8.5

Table 4.10 (Continued)

Students' Perception of Feelings of Success When Exercising as a Part of RU Heart Strong According to the Following Factors (N=59)

(Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5)

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
	I show other people I am the best <i>M=2.59, SD=1.116</i>	11	18.6	16	27.1	22	37.3	6	10.2	4

Survey item 24 was an open-ended question that asked subjects “What were some factors that contributed to your success in the RU Heart Strong incentive program? Please note whether they were personal characteristics or programmatic.” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (20.3%) reported the program’s workout logging and tracking system as the factor that most contributed to their success in the program. Ten subjects (16.9%) reported friends, 10 subjects (16.9%) reported incentives and prizes, and 10 subjects (16.9%) reported personal motivations as factors that contributed to their success in the program. Other reoccurring themes included being previously active (11.9%), programmatic elements such as group fitness classes or workshops (11.9%), the social/competitive aspect of the program (6.8%), and the Recreation Center staff (3.4%).

Research question 3. What are the factors that affect selected students’ decision making in whether to choose to maintain a healthy lifestyle through regular physical

activity, proper nutrition, and weight control?

Subjects were asked how important it is to them to maintain a healthy lifestyle that includes proper nutrition, weight control, and regular physical activity. Table 4.11 indicated the levels of importance maintaining a healthy lifestyle is for subjects. Four subjects (6.8%) responded that it is slightly important to them, 14 subjects (23.7%) responded that it is moderately important to them, and 41 subjects (69.5%) responded that it is very important to them.

Table 4.11

Importance of Maintaining a Healthy Lifestyle that Includes Proper Nutrition, Weight Control, and Regular Physical Activity to Students (N=59)

	<i>f</i>	%
Not at all Important	0	0
Slightly Important	4	6.8
Moderately Important	14	23.7
Very Important	41	69.5
Total	59	100

Subjects were asked how physically active they intended to be in the upcoming month. Table 4.12 represents subjects' intentions. Seven subjects (11.9%) intended to be slightly active and engage in physical activity 1-2 days a week, 15 subjects (25.4%) intended to be moderately active and engage in physical activity 3-4 days a week, and 37 subjects (62.7%) intended to be very active and engage in physical activity 5 or more days a week.

Table 4.12

Students' Intentions to be Physically Active in the Upcoming Month (N=59)

	<i>f</i>	%
Not at all or Very Infrequently	0	0
Slightly Active (1-2 Days a Week)	7	11.9
Moderately Active (3-4 Days a Week)	15	25.4
Very Active (5 or More Days a Week)	37	62.7
Total	59	100

Subjects were asked two questions regarding support from friends and family in their decision to make healthy choices. Subjects were asked to indicate their responses by marking each statement with a level of support in regards to how much they could count on those close to them when making healthy decisions. These statements were based on a Likert scale and had possible answers of Not at All, Very Little, Somewhat, and A Lot. The answers were given a value of 1 to 4, respectively. Table 4.13 reports how supportive subjects' perceive their loved ones to be if they wanted to become more physically active and eat a healthier diet. The question regarding one's decision to become more physically active received a mean score of 3.17. Two subjects (3.4%) responded Not at All, eight subjects (13.6%) responded Very Little, 27 subjects (45.8%) responded Somewhat, and 22 subjects (37.3%) responded A Lot. The question regarding one's decision to eat a healthier diet received a mean score of 3.07. One subject (1.7%) responded Not at All, 11 subjects (18.6%) responded Very Little, 30 subjects (50.8%) responded Somewhat, and 17 subjects (28.8%) responded A Lot.

Table 4.13

Students' Perception of Support from Friends and Family in Making Healthier Decisions (N=59)

(Not at all = 1, Very Little = 2, Somewhat = 3, A Lot = 4)

	Not at All		Very Little		Somewhat		A Lot	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Decision to become more physically active <i>M=3.17, SD=.791</i>	2	3.4	8	13.6	27	45.8	22	37.3
Decision to eat a healthier diet <i>M=3.07, SD=.740</i>	1	1.7	11	18.6	30	50.8	17	28.8

The survey listed 16 statements pertaining to different factors that may or may not be important in students' decision to become physically active. Subjects were asked to indicate their responses by marking each statement with a level of importance. These statements were based on a Likert scale and had possible answers of Not at all Important, Somewhat Important, Moderately Important, Important, and Extremely Important. The answers were given a value of 1 to 5, respectively. Table 4.14 is organized from highest to lowest level of importance based on the mean score. The statement that received the highest mean score was "I would feel good about myself if I kept my commitment to be regularly physically active" with a score of 4.56. Seven subjects (11.9%) reported it to be Moderately Important, 12 (20.3%) subjects reported it to be Important, and 40 subjects (67.8%) reported it to be Extremely Important. The statement that received the lowest mean score was "At the end of the day, I am too exhausted to be physically active" with a score of 2.32. Nineteen subjects (32.2%)

reported it to be Not at all Important, 16 subjects (27.1%) reported it to be Somewhat Important, 14 subjects (23.7%) reported it to be Moderately Important, six subjects (10.2%) reported it to be Important, and four subjects (6.8%) reported it to be Extremely Important.

Table 4.14

Importance of the Following Factors to Students' in Decision to be Physically Active
(*N=59*)

(*Not at all Important = 1, Somewhat Important = 2, Moderately Important = 3, Important = 4, Extremely Important = 5*)

	Not at all Important		Somewhat Important		Moderately Important		Important		Extremely Important	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
I would feel good about myself if I kept my commitment to be regularly physically active <i>M=4.56,</i> <i>SD=.702</i>	0	0	0	0	7	11.9	12	20.3	40	67.8
I would feel more confident if I were regularly physically active <i>M=4.44,</i> <i>SD=.856</i>	1	1.7	0	0	8	13.6	13	22	37	62.7
Regular physical activity would help me relieve tension <i>M=4.32,</i> <i>SD=.860</i>	0	0	2	3.4	9	15.3	16	27.1	32	54.2
I would like my body better if I were physically active <i>M=4.29,</i> <i>SD=1.035</i>	3	5.1	0	0	7	11.9	16	27.1	33	55.9

Table 4.14 (Continued)

Importance of the Following Factors to Students' in Decision to be Physically Active
(*N=59*)

(*Not at all Important = 1, Somewhat Important = 2, Moderately Important = 3, Important = 4, Extremely Important = 5*)

	Not at all Important		Somewhat Important		Moderately Important		Important		Extremely Important	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
I would feel less stressed if I were regularly physically active M=4.22, SD=.984	1	1.7	4	6.8	5	8.5	20	33.9	29	49.2
I would feel more comfortable with my body if I were regularly physically active M=4.22, SD=.930	0	0	3	5.1	11	18.6	15	25.4	30	50.8
Regular physical activity would help me have a more positive outlook on life M=4.19, SD=.861	0	0	2	3.4	11	18.6	20	33.0	26	44.1

Table 4.14 (Continued)

Importance of the Following Factors to Students' in Decision to be Physically Active
(*N=59*)

(*Not at all Important = 1, Somewhat Important = 2, Moderately Important = 3, Important = 4, Extremely Important = 5*)

	Not at all Important		Somewhat Important		Moderately Important		Important		Extremely Important	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
It would be easier for me to perform routine physical tasks if I were regularly physically active M=4.14, SD=.973	1	1.7	2	3.4	12	20.3	17	28.8	27	45.8
I would sleep more soundly if I were regularly physically active M=4.12, SD=1.146	3	5.1	4	6.8	5	8.5	18	30.5	29	49.2
I would have more energy for my family and friends if I were physically active M=3.97, SD=1.017	2	3.4	2	3.4	13	22	21	35.6	21	35.6

Table 4.14 (Continued)

Importance of the Following Factors to Students' in Decision to be Physically Active
(N=59)

(Not at all Important = 1, Somewhat Important = 2, Moderately Important = 3, Important = 4, Extremely Important = 5)

	Not at all Important		Somewhat Important		Moderately Important		Important		Extremely Important	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
I would find it difficult to find a physical activity I enjoy and that is not affected by bad weather M=2.66, SD=1.226	12	20.3	17	28.8	13	22	13	22	4	6.8
I think I would be too tired to do my daily work after being physically active M=2.53, SD=1.218	16	27.1	17	28.8	11	18.6	9	15.3	6	10.2
I would have less time for my family and friends if I were physically active M=2.53, SD=1.223	14	23.7	18	30.5	13	22	10	16.9	4	6.8

Table 4.14 (Continued)

Importance of the Following Factors to Students' in Decision to be Physically Active
(*N=59*)

(*Not at all Important = 1, Somewhat Important = 2, Moderately Important = 3, Important = 4, Extremely Important = 5*)

	Not at all Important		Somewhat Important		Moderately Important		Important		Extremely Important	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
I feel uncomfortable when I am physically active because I get out of breath and my heart beats very fast M=2.47, SD=1.443	22	37.3	10	16.9	12	20.3	7	11.9	8	13.6
Regular physical activity would take up too much of my time M=2.34, SD=1.247	22	37.3	12	20.3	15	25.4	3	5.1	7	11.9
At the end of the day, I am too exhausted to be physically active M=2.32, SD=1.224	19	32.2	16	27.1	14	23.7	6	10.2	4	6.8

Survey item 18 was an open-ended question that asked subjects “In the last seven days, on how many days did you eat at a fast food type place (McDonalds, Burger King, Wendy's, Taco Bell, Pizza Hut, etc.)?” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (54.2%) did not eat at a fast food type place any of the previous seven days, and 18 subjects (30.5%) only ate at a fast food type place one day out of the seven.

Survey item 19 was an open-ended question that asked subjects “In the last seven days, on how many days did you eat breakfast?” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (59.3%) responded that they ate breakfast on all seven of the previous seven days.

Survey item 23 was an open-ended question that asked subjects “What was it about the RU Heart Strong incentive program that initially attracted you to join?” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (35.6%) reported that they were initially attracted to join the program to start or maintain a healthy lifestyle. At least 15 subjects (25.4%) reported that the incentives and prizes initially attracted them to join. At least seven subjects (11.9%) reported the program’s workout logging and tracking system, and at least seven subjects (11.9) reported friends as initial attractions. Rowan University’s Recreation Center and the social/competitive aspect were two other reoccurring themes that were both reported by at least six subjects (10.2%) each.

Survey item 26 was an open-ended question that asked subjects “What were

some factors that contributed to your success in maintaining your commitment to your intended behaviors as an outcome of the RU Heart Strong incentive program? Please note whether they were personal characteristics or programmatic.” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (32.2%) reported their personal goals as the factor that contributed most to their success in maintaining their commitment to intended behaviors. Fifteen subjects (25.4%) reported their friends, eight subjects (13.6%) reported programmatic elements, and four subjects (6.8%) reported having something to work towards as factors that contributed to their success. Other reoccurring themes included the program’s workout logging and tracking system (5.1%), incentives and prizes (5.1%), and planning workouts ahead (5.1%).

Research question 4. What are the barriers that affect selected students’ ability to successfully maintain a healthy lifestyle as an outcome of participating in the RU Heart Strong incentive program?

The survey listed 5 statements pertaining to different barriers that may or may not affect a students’ decision to engage in physical activity on a daily basis. Subjects were asked to indicate their responses by marking each statement with a level of confidence that they could engage in physical activity. These statements were based on a Likert scale and had possible answers of Not at all Confident, Somewhat Confident, Moderately Confident, Confident, Extremely Confident. The answers were given a value of 1 to 5, respectively. Table 4.15 is organized from highest to lowest level of confidence based on the mean score. The statement that received the highest mean score

was “I am confident I could be physically active when I am in a bad mood” with a score of 3.75. Four subjects (6.8%) reported they were Not at all Confident, four subjects (6.8%) reported they were Somewhat Confident, 16 subjects (27.1%) reported they were Moderately Confident, 14 subjects (23.7%) reported they were Confident, and 21 subjects (35.6%) reported they were Extremely Confident. The statement that received the lowest mean score was “I am confident I could be physically active when I feel I don’t have time” with a score of 2.68. Thirteen subjects (22%) reported they were Not at All Confident, 17 subjects (28.8%) reported they were Somewhat Confident, 14 subjects (23.7%) reported they were Moderately Confident, six subjects (10.2%) reported they were Confident, and nine subjects (15.3%) reported they were Extremely Confident.

Table 4.15

Students' Perception of their Confidence to be Physically Active Despite Barriers

(*N=59*)

(*Not at all Confident = 1, Somewhat Confident = 2, Moderately Confident = 3, Confident = 4, Extremely Confident = 5*)

	Not at all Confident		Somewhat Confident		Moderately Confident		Confident		Extremely Confident	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
When I am in a bad mood <i>M=3.75,</i> <i>SD=1.212</i>	4	6.8	4	6.8	16	27.1	14	23.7	21	35.6
When it is raining or snowing <i>M=3.56,</i> <i>SD=1.277</i>	5	8.5	7	11.9	15	25.4	14	23.7	18	30.5
When I am on vacation <i>M=3.10,</i> <i>SD=1.296</i>	10	16.9	7	11.9	18	30.5	15	25.4	9	15.3
When I am tired <i>M=2.98,</i> <i>SD=1.266</i>	10	16.9	8	13.6	23	39	9	15.3	9	15.3
When I feel I don't have time <i>M=2.68,</i> <i>SD=1.345</i>	13	22	17	28.8	14	23.7	6	10.2	9	15.3

Research question 5. How satisfied were participating students with their overall experience in the Student Recreation Center's RU Heart Strong incentive program?

Subjects were asked to rate their overall satisfaction with the 2015 RU Heart

Strong incentive program. Table 4.16 indicates subjects' satisfaction levels with the program. One subject (1.7%) reported that they were not satisfied with the program, three subjects (5.1%) reported that they were somewhat satisfied with the program, eight subjects (13.6%) reported that they were neutral about the program, 36 subjects (61%) reported that they were satisfied with the program, and 11 subjects (18.6%) reported that they were extremely satisfied with the program.

Table 4.16

Students' Overall Satisfaction Rating of the RU Heart Strong Incentive Program (N=59)

	<i>f</i>	%
Not Satisfied	1	1.7
Somewhat Satisfied	3	5.1
Neutral	8	13.6
Satisfied	36	61
Extremely Satisfied	11	18.6
Total	59	100

Subjects were asked if they would participate in the RU Heart Strong incentive program again next year. Table 4.17 represents the likelihood that subjects' would participate again next year. Forty-eight subjects (81.4%) answered yes to participating again, four subjects (6.8%) answered no to participating again, and seven (11.9%) answered not applicable.

Table 4.17

Students' Likelihood to Participate in the RU Heart Strong Incentive Program Again Next Year (N=59)

	<i>f</i>	%
Yes	48	81.4
No	4	6.8
N/A	7	11.9
Total	59	100

Subjects were asked if they would recommend the RU Heart Strong incentive program to a friend. Table 4.18 represents the likelihood that subjects' would recommend the program to a friend. Fifty-seven subjects (96.6%) answered that they would recommend the program to a friend, and two (3.4%) answered that they would not recommend the program to a friend.

Table 4.18

Students' Likelihood to Recommend the RU Heart Strong Incentive Program to a Friend (N=59)

	<i>f</i>	%
Yes	57	96.6
No	2	3.4
Total	59	100

Research question 6. Did participating students experience behavior change as a result of their participation in the RU Heart Strong incentive program to maintain a healthier lifestyle through regular physical activity and proper nutrition?

Survey item 25 was an open-ended question that asked subjects "Have you

experienced behavior change as a result of your participation in the RU Heart Strong incentive program towards maintaining a healthier lifestyle through regular physical activity and proper nutrition?” The responses from this question have been typed and attached under Appendix F. After analyzing the responses, the majority of subjects (52.5%) answered yes to experiencing behavior change as a result of their participation in the program. Twenty-five subjects (42.4%) answered no to this question, with four subjects (6.8%) indicating that they had already practiced healthy behaviors prior to their participation in the program.

Chapter V

Summary, Discussion, Conclusions, and Recommendations

Summary of the Study

This study investigated the impact of participation in the Rowan University Recreation Center's 2015 RU Heart Strong incentive program, and explored behavior change in college students as a result of fitness and wellness programming at Rowan University. This study aimed to provide empirical data that supported the hypothesis that college students can form healthy habits after participating in fitness and wellness programs intended to produce positive behavior change.

The survey instrument used was adapted from Bartlett's (2009) Exercise & Nutrition Behavior Survey, which she used in her dissertation, *The Evaluation of a Nutrition Education and Fitness Program with a Contest Component Among College Students Using the RE-AIM Framework*. The survey instrument used for this study was adapted minimally with customized questions when necessary to apply information to Rowan University, the Rowan Recreation Center, and the RU Heart Strong incentive program. The survey assessed subjects' physical activity levels and various psychosocial constructs, which are known to correlate with health behaviors, such as social support, self-efficacy, and expectations, as a result of subjects' participation in the 2015 RU Heart Strong incentive program.

Discussion of the Findings

The findings from this study show that maintaining a healthy lifestyle that includes proper nutrition, weight control, and regular activity is important to the

subjects who participated in this study. Only four subjects (6.8%) reported that the above is only slightly important to them, whereas the remainder of the subjects (93.2%) reported that it is either moderately or very important to them. These findings positively correspond with the findings that subjects who participated in this study tend to practice healthy behaviors such as exercising regularly, eating breakfast every morning, and not eating at fast food restaurants. Forty-three subjects (72.8%) reported that they currently exercise regularly (five or more times per week for a total of 30 minutes each day), which is the recommended amount by the Centers for Disease Control and Prevention (2014), whether they've begun in the last six months or have done so for longer. Fifty-three subjects (89.8%) reported that they were at least somewhat sure if not very sure that they can start or continue to exercise regularly each week. In addition to exercising regularly, 35 subjects (59.3%) reported eating breakfast seven days a week, and 50 subjects (84.7%) reported only eating at a fast food restaurant one day out of the week if not at all.

It was also found that the subjects who participated in this study tended to be active in high school and many were able to maintain their activity level into college. Fifty-one subjects (86.4%) reported that they had participated in high school athletics. Only 33.9% of subjects reported a decrease of some level in activity since high school, whereas 66.1% reported either no change or an increase of some level. These findings differ from Bray and Born's (2004) findings where physical activity rates tended to decrease from high school to college for many students.

Bandura proposed that self-efficacy, a feeling of success or confidence in one's

self to be successful, is a major component in behavior change (Prochaska et al., 2000). When asked to rate level of agreement for a number of statements that related to self-efficacy and feelings of success while exercising as a part of RU Heart Strong, the majority of subjects strongly agreed with statements that focused on individual success rather than competitive success. Statements that focused on individual success where subjects strongly agreed included feeling successful when one showed clear personal improvement (78%), reached a goal (76.3%), mastered something he or she couldn't do before (71.2%), worked hard (69.5%), overcame difficulties (69.5%), and performed to the best of his or her ability (57.6%). There was a dramatic decrease in strong agreement of statements that focused on competitive success such as feeling successful when one was the best (8.5%), was clearly superior (8.5%), and showed other people he or she was the best (6.8%). In addition, when asked what factors contributed to their success in the program, the majority of subjects reported the program's workout logging and tracking system (20.3%), friends (16.9%), incentives and prizes (16.9%), and personal motivations (16.9%). Bandura (1986) and Lockwood and Whol (2012) suggest the use of incentives and rewards when shaping environments that increase self-efficacy and yield behavior change.

Bartlett (2009) stressed the importance of social support not only for individuals practicing healthy behaviors, but also for keeping participants active and interested in fitness and wellness programming. In survey item 26, an open-ended question, 15 subjects (25.4%) listed friends as a factor that contributed to their success in maintaining their commitment to intended behaviors as an outcome of the RU Heart

Strong incentive program. In addition, 49 subjects (83.1%) reported that they could count on their loved ones either somewhat or a lot if they wanted to become more physically active, and 47 subjects (79.6%) reported that they could count on their loved ones either somewhat or a lot if they wanted to eat a healthier diet. Ligouri and Carroll-Cobb (2012) also list social support as an important key element that impacts self-efficacy that included in any program with the intent of behavior change.

When surveyed about barriers that may affect one's ability to successfully maintain a healthy lifestyle subjects were least confident in their ability to be physically active when they feel they do not have time. Thirteen subjects (22%) responded not at all confident and 17 subjects (28.8%) responded only somewhat confident. In Bartlett's study (2009), the majority of participants revealed to be keeping up with at least some portion of the program a month after the program's completion. However, similar to the findings above from this study, participants of Bartlett's study who were not keeping up with the program reported time constraints as a barrier to doing so.

The findings of this study showed that subjects who participated in this study did experience positive behavior change, although it was minimal, as a result of their participation in the RU Heart Strong incentive program to maintain a healthier lifestyle through regular physical activity and proper nutrition. Twenty-one subjects (35.6%) reported that they were initially attracted to join the RU Heart Strong incentive program to start or maintain a healthier lifestyle in survey item 23, an open-ended question. Thirty-one subjects (52.5%) reported experiencing positive behavior change and 25 subjects (42.4%) reported not experiencing positive behavior change when responding

to open-ended survey item 25. Thirty subjects (50.9%) reported an increase or considerable increase in their frequency of exercising as a result of their participation in the RU Heart Strong incentive program.

Finally, the findings of this study showed that subjects who participated in this study were satisfied with the RU Heart Strong incentive program. Forty-seven subjects (79.6%) reported to be satisfied or extremely satisfied overall with the program. Forty-eight subjects (81.4%) reported that they would participate in the program again next year. Fifty-even subjects (96.6%) reported that they would recommend the program to a friend.

Conclusions

From the findings of this study, it can be concluded that fitness and wellness programs provide a positive outlet for students who are looking to start or continue practicing healthy behaviors. Maintaining a healthy lifestyle was important to the majority of the subjects who participated in this study, and therefore, the majority of subjects tended to practice healthy behaviors such as exercising regularly and eating a nutritional diet. A majority of subjects were also active in high school and were able to maintain their activity levels into college. From analyzing these data, it is likely that the subjects who participated in this study were active prior to their participation in the RU Heart Strong incentive program, and as a result, were more likely to frequent the Recreation Center at Rowan University. These students would be more likely to hear about the incentive program as it took place inside the Recreation Center and was heavily advertised inside as well. These students may have also been naturally more

inclined to join the program because they were already practicing healthy behaviors and found it important to maintain a healthy lifestyle. Consequently, this would explain why positive behavior change was found to be minimal among subjects who participated in this study. Although positive behavior change was reported to be lower than expected, satisfaction rates for the RU Heart Strong incentive program were high. Therefore, it can be concluded that the Recreation Center's RU Heart Strong incentive program had a positive impact on undergraduate Rowan University students and should be continued next year.

Recommendations for Practice

Based upon the findings and conclusions of the study, the following suggestions are presented:

1. Incorporate into the program more opportunities for social interactions or teamwork such as adding the option to sign up and accumulate points as a team.
2. Track physiological changes of participants from start to completion of the program such as weight, body fat, body size, resting heart rate, and blood pressure.
3. Test exercise and nutritional knowledge before and after the program.
4. Offer personal training sessions or meetings with the university's registered dietician as a component of the program.
5. Raffle off weekly prizes for participants who exercised at the Recreation Center at least three times per week.
6. Send weekly motivational/informational emails to participants.

7. Continue with current point logging and tracking system.
8. Continue to offer incentives and rewards for points accrued.
9. Examine similar fitness and wellness programs at other universities to expand knowledge and update current practices.

Recommendations for Further Research

Based upon the findings and conclusions of the study, the following suggestions are presented:

1. Interview active participants to gain more qualitative data.
2. Separate total population by activity levels (i.e. low activity, moderate activity, high activity) before collecting data to compare impact of activity level on results.
3. Survey subjects at the start of the program, again at the conclusion of the program, and again three months later to better measure behavior change.
4. Interview non-completers of the program, those who signed up but were never considered active.
5. Modify the survey instrument to include more questions about nutritional habits.

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Appendix A

Bartlett's (2009) Survey Instrument

Exercise & Nutrition Behavior Survey

Directions: Please respond to the following questions by circling the answer that best corresponds to your opinion. Your honest and complete answers are appreciated. All responses are totally confidential and your name is not needed. It will take about 10 minutes to complete the survey. **SRC = Student Recreation Center**

	Yes	No
1. Did you participate in high school athletics?	YES	NO
2. Do you currently exercise regularly (5 or more times per week for a total of 30 minutes each day)?	YES	NO
3. Did you exercise regularly (5 or more times per week for a total of 30 minutes each day) before you started using the SRC?	YES	NO

	Decreased Considerably	2	No Change	3	Increased Considerably	4	5
4. How has your frequency of exercise changed since you began using the Student Recreation Center?	1	2	3	4	5		
5. Compared to high school, in general, how has your overall level of physical activity changed?	1	2	3	4	5		

6. How important is it for you to maintain a healthy lifestyle that includes proper nutrition, weight control, and regular physical activity?

- A. Not at all important
- B. Slightly important
- C. Moderately important
- D. Very important

7. In the next month, how physically active do you intend to be?

- A. Not at all or very infrequently
- B. Slightly active (1-2 days a week)
- C. Moderately active (3-4 days a week)
- D. Very active (5 or more days a week)

8. During the **last month of the fall semester** how many times per week did you use the SRC?

9. During the **last month**, on average, how many times per week were you physically active **outside of the SRC?** _____

10. Which of the following statements most closely reflects your exercising status?

NOTE: **Regular exercise = 5 or more times per week for a total of 30 minutes each day.**

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

11. How sure or confident are you that you can start or continue to exercise for 30 minutes or more at a moderate intensity at least 5 times per week?

____ Very unsure, ____ somewhat unsure, ____ somewhat sure, ____ very sure

12. How much could you count on those close to you for support and help if you wanted to become more physically active?

____ not at all, ____ very little, ____ somewhat, ____ A lot

13. How much could you count on those close to you for support and help if you wanted to eat a healthier diet?

____ not at all, ____ very little, ____ somewhat ____ A lot

For the next 5 items, state the degree to which you are confident that you could be physically active in each of the following situations:

I am confident I could be physically active . . .	Not at all Confident		Moderately Confident		Extremely Confident
14. When I am tired.	1	2	3	4	5
15. When I am in a bad mood.	1	2	3	4	5
16. When I feel I don't have time.	1	2	3	4	5
17. When I am on vacation.	1	2	3	4	5
18. When it is raining or snowing.	1	2	3	4	5

When exercising, I feel most successful when . . .	Strongly Disagree		Neutral		Strongly Agree
19. I exercise longer than other people	1	2	3	4	5
20. I am clearly superior	1	2	3	4	5
21. I am the best	1	2	3	4	5
22. I work hard	1	2	3	4	5
23. I show clear personal improvement	1	2	3	4	5
24. I accomplish something others cannot do	1	2	3	4	5
25. I reach a goal	1	2	3	4	5
26. I overcome difficulties	1	2	3	4	5
27. I master something I couldn't do before	1	2	3	4	5
28. I show other people I am the best	1	2	3	4	5
29. I perform to the best of my ability	1	2	3	4	5

Please rate how important each of these statements is in deciding whether or not you choose to be physically active.

	Not at all Important		Moderately Important		Extremely Important
30. I would have more energy for my family and friends if I were regularly physically active.	1	2	3	4	5
31. Regular physical activity would help me relieve tension.	1	2	3	4	5
32. I think I would be too tired to do my daily work after being physically active.	1	2	3	4	5
33. I would feel more confident if I were regularly physically active.	1	2	3	4	5
34. I would sleep more soundly if I were regularly physically active.	1	2	3	4	5
35. I would feel good about myself if I kept my commitment to be regularly physically active.	1	2	3	4	5

36. I would find it difficult to find a physical activity that I enjoy and that is not affected by bad weather.	1	2	3	4	5
37. I would like my body better if I were regularly physically active.	1	2	3	4	5
38. It would be easier for me to perform routine physical tasks if I were regularly physically active.	1	2	3	4	5
39. I would feel less stressed if I were regularly physically active.	1	2	3	4	5
40. I feel uncomfortable when I am physically active because I get out of breath and my heart beats very fast.	1	2	3	4	5
41. I would feel more comfortable with my body if I were regularly physically active.	1	2	3	4	5
42. Regularly physical activity would take too much of my time.	1	2	3	4	5
43. Regular physical activity would help me have a more positive outlook on life.	1	2	3	4	5
44. I would have less time for my family and friends if I were regularly physically active.	1	2	3	4	5
45. At the end of the day, I am too exhausted to be physically active.	1	2	3	4	5

46. In the last seven days, on how many days did you eat at a fast food type place – McDonalds, Kentucky

Fried Chicken, Pizza Hut, Taco Bell, etc? _____

47. In the last seven days, on how many days did you eat breakfast? _____

48. How often do you intend to visit the SRC over the next 4 weeks (e.g. times per week):

49. Did you attend the final Body for Break assessment? If not, why?

Tell us a little about yourself . . .

	A	B	C	D	E
53. Gender	Male	Female			
54. Race	African American	Asian American	Caucasian	Hispanic American	Other
55. Are you an international student?	Yes	No			
56. Class Status	Freshman	Sophomore	Junior	Senior	Graduate/ Professional
57. Age	18-19	20-21	22-23	24-25	26+
58. Overall GPA	<2.0	2.0-2.5	2.51-3.0	3.01-3.5	>3.5

Please write down your 700#: _____

Please write down your height _____

Please write down your weight _____

Appendix B

Permission to use Bartlett's (2009) Survey Instrument

RE: Graduate Thesis - permission to use your dissertation instruments

 DELETE  REPLY  REPLY ALL  FORWARD 



Bartlett, Michelle <mbartlett@mail.wtamu.edu>

Thu 11/13/2014 4:14 PM

Mark as unread

To: McHugh, Megan Elizabeth;

Hi Megan,

Sure, no problem. Let me know if you need anything else.

Dr. Michelle Bartlett

Asst. Professor of Sports & Exercise Sciences
West Texas A&M University
VHAC 232
806-651-2686

From: McHugh, Megan Elizabeth [<mailto:mchughm@rowan.edu>]

Sent: Wednesday, November 12, 2014 7:24 PM

To: Bartlett, Michelle

Subject: Graduate Thesis - permission to use your dissertation instruments

Ms. Bartlett,

I hope this email finds you well and that you are indeed the author of The Evaluation of a Nutrition Education and Fitness Program with a Contest Component Among College Students Using the RE-AIM Framework (2009). I am currently working on my graduate thesis titled Promoting Behavior Change in Rowan University Students through Fitness and Wellness Programming.

I was hoping to receive permission to use and modify your survey and focus group questions from Appendices B, C, D, and E of your dissertation in my survey instruments and focus group. I would most definitely cite your work and include your instruments as one of my appendices so readers can identify the original source.

I look forward to hearing from you!

Sincerely,

--

Megan McHugh

Graduate Coordinator, Office of Student Activities
Rowan University | 201 Mullica Hill Rd. | Chamberlain Student Center, Suite 117 | Glassboro, NJ 08028
T: 856-256-4187 | **F:** 856-256-5635 | **E:** mchughm@rowan.edu | www.rowan.edu/studentactivities

Appendix C

Survey Instrument

Exercise & Nutrition Behavior Survey Adapted

Consent:

You are invited to participate in this online research survey entitled Promoting Behavior Change in Rowan University Students through Fitness and Wellness Programming. You are included in this survey because of your active participation in the Rowan University Recreation Center's RU Heart Strong incentive program in February 2015. The number of subjects to be enrolled in this study will be 127.

The survey may take approximately 5-10 minutes to complete. Your participation is voluntary. If you do not wish to participate in this survey, do not respond to this online survey. Completing this survey indicates that you are voluntarily giving consent to participate in the survey.

The purpose of this research study is to investigate the impact of participating in the RU Heart Strong incentive program and to explore behavior change in college students as a result of fitness and wellness programming at Rowan University.

This study does not involve physical, legal, or economic risks of harm. Indirect psychological/emotional and social risks of harm are possible, but highly unlikely, due to the study's topic. Subjects can follow up as needed with the Rowan University's counseling services at <http://www.rowan.edu/studentaffairs/counseling/>

There may be no direct benefit to you, however, by participating in this study, you may help us understand whether participation in fitness and wellness programs that are intended to produce behavior change cause students to form healthy habits and maintain a healthier lifestyle during and after college.

Your response will be kept confidential. We will store the data in a secure computer file and the file will be destroyed once the data has been published. Any part of the research that is published as a part of this study will not include your individual information.

If you have any questions about the survey, you can contact me at the address provided below, but you do not have to give your personal identification.

Megan McHugh

126 Warren Street

South Plainfield, NJ 07080

Please complete the checkboxes below.

- To participate in this survey, you must be 18 years or older. (1)
- Completing this survey indicates that you are voluntarily giving consent to participate in the survey. (2)

Q1 Did you participate in high school athletics?

- Yes (1)
- No (2)

Q2 Do you currently exercise regularly (5 or more times per week for a total of 30 minutes each day)?

- Yes (1)
- No (2)

Q3 Did you exercise regularly (5 or more times per week for a total of 30 minutes each day) before you started using the Student Recreation Center as a part of the RU Heart Strong incentive program in February 2015?

- Yes (1)
- No (2)

Q4 How has your frequency of exercise changed since you began using the Student Recreation Center as a part of the RU Heart Strong incentive program in February 2015?

	Decreased Considerably (1)	(2)	No Change (3)	(4)	Increased Considerably (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Compared to high school, in general, how has your overall level of physical activity changed?

	Decreased Considerably (1)	(2)	No Change (3)	(4)	Increased Considerably (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 How important is it for you to maintain a healthy lifestyle that includes proper nutrition, weight control, and regular physical activity?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)

Q7 In the next month, how physically active do you intend to be?

- Not at all or very infrequently (1)
- Slightly active (1-2 days a week) (2)
- Moderately active (3-4 days a week) (3)
- Very active (5 or more days a week) (4)

Q8 As a result of your participation in the RU Heart Strong incentive program during the month of February, approximately how many times per week did you use the Student Recreation Center?

Q9 During the month of February, on average, how many times per week were you physically active outside of the Student Recreation Center?

Q10 Which of the following statements most closely reflects your exercising status? (NOTE: Regular exercise = 5 or more times per week for a total of 30 minutes each day.)

- I currently do not exercise, and I do not intend to start exercising in the next 6 months. (1)
- I currently do not exercise, but I am thinking about starting in the next 6 months. (2)
- I exercise sometimes, but not regularly. (3)
- I currently exercise regularly, but I have only begun in the last 6 months. (4)
- I currently exercise regularly, and I have done so for longer than 6 months. (5)

Q11 How sure or confident are you that you can start or continue to exercise for 30 minutes or more at a moderate intensity at least 5 times per week?

- Very unsure (1)
- Somewhat unsure (2)
- Somewhat sure (3)
- Very sure (4)

Q12 How much could you count on those close to you for support and help if you wanted to become more physically active?

- Not at all (1)
- Very little (2)
- Somewhat (3)
- A lot (4)

Q13 How much could you count on those close to you for support and help if you wanted to eat a healthier diet?

- Not at all (1)
- Very little (2)
- Somewhat (3)
- A lot (4)

Q14 I am confident I could be physically active...

	Not at all Confident (1)	(2)	Moderately Confident (3)	(4)	Extremely Confident (5)
When I am tired. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am in a bad mood. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I feel I don't have time. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I am on vacation. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When it is raining or snowing. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15 When exercising as a part of the the RU Heart Strong incentive program in February 2015, I felt most successful when...

	Strongly Disagree (1)	(2)	Neutral (3)	(4)	Strongly Agree (5)
I exercise longer than other people (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am clearly superior (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am the best (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work hard (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I show clear personal improvement (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I accomplish something others cannot do (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I reach a goal (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I overcome difficulties (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I master something I couldn't do before (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I show other people I am the best (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I perform to the best of my ability (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16 Please rate how important each of these statements is in deciding whether or not you choose to be physically active.

	Not at all Important (1)	(2)	Moderately Important (3)	(4)	Extremely Important (5)
I would have more energy for my family and friends if I were physically active. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular physical activity would help me relieve tension. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I would be too tired to do my daily work after being physically active. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would feel more confident if I were regularly physically active. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>I would sleep more soundly if I were regularly physically active. (5)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>I would feel good about myself if I kept my commitment to be regularly physically active. (6)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>I would find it difficult to find a physical activity that I enjoy and that is not affected by bad weather. (7)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>I would like my body better if I were physically active. (8)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>It would be easier for me to perform routine physical tasks if I were regularly physically active. (9)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>I would feel less stressed if I were regularly physically active. (10)</p>	○	○	○	○	○
<p>I feel uncomfortable when I am physically active because I get out of breath and my heart beats very fast. (11)</p>	○	○	○	○	○
<p>I would feel more comfortable with my body if I were regularly physically active. (12)</p>	○	○	○	○	○
<p>Regular physical activity would take too much of my time. (13)</p>	○	○	○	○	○
<p>Regular physical activity would help me have a more positive outlook on life. (14)</p>	○	○	○	○	○

I would have less time for my family and friends if I were physically active. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At the end of the day, I am too exhausted to be physically active. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 In the last seven days, on how many days did you eat at a fast food type place (McDonalds, Burger King, Wendy's, Taco Bell, Pizza Hut, etc.)?

Q18 In the last seven days, on how many days did you eat breakfast?

Q19 How would you rate your overall satisfaction with the RU Heart Strong incentive program in February 2015?

	Not Satisfied (1)	Somewhat Satisfied (2)	Neutral (3)	Satisfied (4)	Extremely Satisfied (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20 Would you participate in the the RU Heart Strong incentive program next year?

- Yes (1)
- No (2)
- N/A (3)

Q21 Would you recommend the RU Heart Strong incentive program to a friend?

- Yes (1)
- No (2)

Q22 What was it about the the RU Heart Strong incentive program that initially attracted you to join?

Q23 What were some factors that contributed to your success in the RU Heart Strong incentive program? Please note whether they were personal characteristics or programmatic.

Q24 Have you experienced behavior change as a result of your participation in the RU Heart Strong incentive program towards maintaining a healthier lifestyle through regular physical activity and proper nutrition?

Q25 What were some factors that contributed to your success in maintaining your commitment to your intended behaviors as an outcome of the RU Heart Strong incentive program? Please note whether they were personal characteristics or programmatic.

Q26 What is your gender?

- Male (1)
- Female (2)
- Other (3)

Q27 What is your race?

- African American (1)
- Asian American (2)
- Caucasian (3)
- Hispanic American (4)
- Other (5)

Q28 Are you an international student?

- Yes (1)
- No (2)

Q29 What is your class status?

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)
- Graduate student (5)
- Other (6)

Q30 What is your age?

- 18-19 (1)
- 20-21 (2)
- 22-23 (3)
- 24-25 (4)
- 26+ (5)

Q31 What is your current overall GPA?

- (1)
- 2.0-2.5 (2)
- 2.51-3.0 (3)
- 3.01-3.5 (4)
- >3.5 (5)

Appendix D

Initial Email Message to Participants

Hello,

You are invited to participate in this online research survey entitled Promoting Behavior Change in Rowan University Students through Fitness and Wellness Programming. You are included in this survey because of your active participation in the Rowan University Recreation Center's RU Heart Strong incentive program in February 2015. The number of subjects to be enrolled in this study will be 117.

The survey may take approximately 5-10 minutes to complete. Your participation is voluntary. If you do not wish to participate in this survey, do not respond to this online survey. Completing this survey indicates that you are voluntarily giving consent to participate in the survey.

The purpose of this research study is to investigate the impact of participating in the RU Heart Strong incentive program and to explore behavior change in college students as a result of fitness and wellness programming at Rowan University.

This study does not involve physical, legal, or economic risks of harm. Indirect psychological/emotional and social risks of harm are possible, but highly unlikely, due to the study's topic. Subjects can follow up as needed with the Rowan University's counseling services at <http://www.rowan.edu/studentaffairs/counseling/>

There may be no direct benefit to you, however, by participating in this study, you may help us understand whether participation in fitness and wellness programs that are intended to produce behavior change cause students to form healthy habits and maintain a healthier lifestyle during and after college.

Your response will be kept confidential. We will store the data in a secure computer file and the file will be destroyed once the data has been published. Any part of the research that is published as a part of this study will not include your individual information.

You can access the survey by clicking this link:
https://rowan.co1.qualtrics.com/SE/?SID=SV_3ejJg0CI221dj8x

In order to ensure this survey is only completed by the sample selected, please do not share this link with anyone else.

If you have any questions about the survey, you can contact me at the address provided below, but you do not have to give your personal identification.

Megan McHugh
126 Warren Street
South Plainfield, NJ 07080

Sincerely,

--

Megan McHugh
Fitness & Wellness Graduate Intern, Student Recreation Center
Graduate Coordinator, Office of Student Activities
Rowan University | 201 Mullica Hill Rd. | Chamberlain Student Center, Suite 117 | Glassboro, NJ 08028
T: 856-256-4879 | F: 856-256-5635 | E: mchughm@rowan.edu | www.rowan.edu/studentactivities

Appendix E

eIRB Notice of Approval



** This is an auto-generated email. Please do not reply to this email message.
 The originating e-mail account is not monitored.
 If you have questions, please contact your local IRB office **

DHHS Federal Wide Assurance Identifier: FWA00007111
 IRB Chair Person: Harriet Hartman
 IRB Director: Sreekant Murthy
 Effective Date: 6/12/2015

eIRB Notice of Approval

STUDY PROFILE

Study ID: [Pro2015000412](#)

Title: Promoting Behavior Change in Rowan University Students through Fitness and Wellness Programming

Principal Investigator:	Burton Sisco	Study Coordinator:	None
Co-Investigator(s):	Megan McHugh	Other Study Staff:	None
Sponsor:	Department Funded	Approval Cycle:	Twelve Months
Risk Determination:	Minimal Risk	Device Determination:	Not Applicable
Review Type:	Expedited	Expedited Category:	7
Subjects:	127		

CURRENT SUBMISSION STATUS

Submission Type:	Research Protocol/Study	Submission Status:	Approved
Approval Date:	6/12/2015	Expiration Date:	6/11/2016
Pregnancy Code:	No Pregnant Women as Subjects Not Applicable	Pediatric Code:	Not Applicable No Children As Subjects
		Prisoner Code:	Not Applicable No Prisoners As Subjects
Protocol:	Appendix B - Version Date 5:15:15.docx McHugh-eIRBPROTCOL.docx	Consent:	There are no items to display
		Recruitment Materials:	Appendix A.docx

* Study Performance Sites:

Glassboro Campus 201 Mullica Hill Road Glassboro, NJ 08028

ALL APPROVED INVESTIGATOR(S) MUST COMPLY WITH THE FOLLOWING:

1. Conduct the research in accordance with the protocol, applicable laws and regulations, and the principles of research ethics as set forth in the Belmont Report.
2. **Continuing Review:** Approval is valid until the protocol expiration date shown above. To avoid lapses in approval, submit a continuation application at least eight weeks before the study expiration date.
3. **Expiration of IRB Approval:** If IRB approval expires, effective the date of expiration and until the continuing review approval is issued: **All research activities must stop unless the IRB finds that it is in the best interest of individual subjects to continue. (This determination shall be based on a separate written request from the PI to the IRB.) No new subjects may be enrolled and no samples/charts/surveys may be collected, reviewed, and/or analyzed.**
4. **Amendments/Modifications/Revisions :** If you wish to change any aspect of this study, including but not limited to, study procedures, consent form(s), investigators, advertisements, the protocol document, investigator drug brochure, or accrual goals, you are required to obtain IRB review and approval prior to implementation of these changes unless necessary to eliminate apparent immediate hazards to subjects.
5. **Unanticipated Problems:** Unanticipated problems involving risk to subjects or others must be reported to the IRB Office (45 CFR 46, 21 CFR 312, 812) as required, in the appropriate time as specified in the attachment online at:
<http://www.rowan.edu/som/hsp/>
6. **Protocol Deviations and Violations :** Deviations from/violations of the approved study protocol must be reported to the IRB Office (45 CFR 46, 21 CFR 312, 812) as required, in the appropriate time as specified in the attachment online at:
<http://www.rowan.edu/som/hsp/>
7. **Consent/Assent:** The IRB has reviewed and approved the consent and/or assent process, waiver and/or alteration described in this protocol as required by 45 CFR 46 and 21 CFR 50, 56, (if FDA regulated research). Only the versions of the documents included in the approved process may be used to document informed consent and/or assent of study subjects; each subject must receive a copy of the approved form(s); and a copy of each signed form must be filed in a secure place in the subject's medical/patient/research record.
8. **Completion of Study:** Notify the IRB when your study has been stopped for any reason. Neither study closure by the sponsor or the investigator removes the obligation for submission of timely continuing review application or final report.
9. The Investigator(s) did not participate in the review, discussion, or vote of this protocol.
10. **Letter Comments:** *There are no additional comments.*

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipients(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

Appendix F

Open Ended Survey Results

#9. As a Result of your participation in the RU Heart Strong incentive program during the month of February, approximately how many times per week did you use the Student Recreation Center?

1. 4
2. 2
3. 3
4. 5
5. 3
6. 2 times per week
7. 5
8. 6 days a week
9. 5-7 days a week
10. 4
11. 3
12. 7
13. 6
14. 2
15. 1-2 times/week
16. Less than 1 time
17. Twice
18. 5-6
19. 6
20. Five times
21. 1
22. 5
23. 2-3 times
24. 0
25. 4
26. 1
27. 5-6
28. 6
29. 1
30. 5-6
31. 5 times a week
32. 6
33. 3X
34. 5
35. 4
36. 5
37. 6

38. 6
39. 20
40. Maybe a bit more
41. 5
42. 6
43. 4
44. 2
45. 2
46. 4
47. 6
48. 6
49. 3
50. 4
51. 5
52. 5
53. 4
54. 3-4
55. Once
56. 15
57. 4
58. 2
59. 5

#10: During the month of February, on average, how many times per week were you physically active outside of the Student Recreation Center?

1. 2
2. 3
3. 3
4. 4
5. 1
6. 1 time per week
7. 1
8. 2 days a week
9. About 3-4 days
10. 4
11. 2
12. 2
13. 3
14. 4
15. 3-4 days/week
16. 1 time
17. None
18. 20
19. 0

20. Unless studying counts, none.

21. 0

22. 6

23. 1-2

24. 0

25. 1

26. 1

27. 1

28. 2

29. 0

30. 2

31. 2 times a week

32. 3

33. 0

34. 0

35. 4

36. 6

37. 4

38. 1

39. 5

40. 3 times a week

41. 0

42. 0

43. 1

44. 4

45. 0

46. 7

47. 5

48. 0

49. 1

50. 1

51. 1

52. 3

53. 2

54. 2-3

55. Twice

56. 4

57. 1

58. 1

59. 3

#18: In the last seven days, on how many days did you eat at a fast food type place (McDonalds, Burger King, Wendy's, Taco Bell, Pizza Hut, etc.)?

1. 0

2. 1
3. 0
4. 0
5. 1
6. 0
7. 0
8. 1
9. 1
10. 0
11. 1
12. 1
13. 0
14. 1
15. 0
16. None
17. Twice
18. 0
19. 0
20. One
21. 0
22. 1
23. Once
24. 3
25. 0
26. 3
27. 0
28. 0
29. 0
30. No
31. None
32. 1
33. 0
34. 0
35. 0
36. 4
37. 0
38. 0
39. 1
40. 0
41. 1
42. 0
43. 0
44. 1
45. 0
46. 0

- 47. None
- 48. 7
- 49. 1
- 50. 1
- 51. 0
- 52. 0
- 53. 2
- 54. 2
- 55. If wawa counts, all 7. If it doesn't 6.
- 56. 0
- 57. 0
- 58. 1
- 59. 1

#19: In the last seven days, on how many days did you eat breakfast?

- 1. 6
- 2. 7
- 3. 7
- 4. 2
- 5. 2
- 6. 6
- 7. 7
- 8. 7
- 9. 7
- 10. 1
- 11. 5
- 12. 3
- 13. 7
- 14. 5
- 15. 4
- 16. 7
- 17. Everyday
- 18. 7
- 19. 7
- 20. Seven. I sure love a good Man-let.
- 21. 5
- 22. 3
- 23. Twice
- 24. 4
- 25. 5
- 26. 3
- 27. 7
- 28. 5
- 29. 7

30. 7
31. Everyday
32. 1
33. 7
34. 4
35. 7
36. 7
37. 7
38. 7
39. 6
40. 7
41. 6
42. 7
43. 7
44. 5
45. 7
46. 7
47. 7
48. 7
49. 7
50. 1
51. 7
52. 7
53. 1
54. 7
55. 7
56. 7
57. 7
58. 2
59. 7

#23: What was it about the RU Heart Strong incentive program that initially attracted you to join?

1. Friends being involved
2. The incentive to make a schedule and stick to it
3. The incentive to workout more
4. Its cool to see how much you work out and how many other people are doing it too
5. The different ideas of being able to get fit while at college.
6. Workout incentives and opportunity to be active to win prizes
7. Fun way to motivate me to work out
8. free stuff of course
9. Prizes
10. I wanted a healthier lifestyle

11. A fun, free way to compete with friends and be healthy
12. Compare to other people
13. I love the Rec!
14. I liked that it was easy to sign up and it held me accountable for coming to the gym on a regular basis.
15. Megan McHugh
16. I liked that my heart tracker updated throughout the week. I could see where I was in real time with everyone else!
17. Free stuff
18. Incentives
19. Rec employee
20. The free goodies.
21. NA
22. Competition
23. The prizes
24. My close friends were involved and encouraged me to join as well.
25. The goal it set out
26. competitive spirit!
27. I always do the rec programs
28. Incentive to challenge myself
29. I have a family history of heart disease.
30. Keep up with my daily workouts
31. an employee asked me to join
32. Activity Tracker
33. Motivation
34. Friend
35. Rewards
36. Free stuff
37. Prizes
38. Free prizes; I was there anyway
39. the book that allowed me to track my workouts
40. incentives
41. Some one at the rec center asked me to
42. prizes/ competitive spirit
43. possible suggestions of new activities that will help maintain health.
44. Extra incentive to work out
45. my friend forced me
46. I didn't hear about it until the very end, when a friend told me about it.
47. Made me want to go to the gym more
48. Cute girl that worked there asked me to join
49. Trying something new
50. I was interested in learning more about the benefits of maintaining a healthy lifestyle.
51. I wanted to change my unhealthy lifestyle.
52. Prizes

53. It challenged me
54. What other facts I could learn about being healthy.
55. Having set things to do and achieve
56. My friends were involved
57. Be more active
58. The opportunity to receive rewards for improving my health.
59. The challenge

#24: What were some factors that contributed to your success in the RU Heart Strong incentive program? Please note whether they were personal characteristics or programmatic.

1. I usually worked out, so I figured I would log my time anyway
2. Going with a friend
3. Personal goals, working out with friends, and seeing my name on the wall.
4. Keeping track in the book of how often you worked out and what you did (programmatic)
5. The support from friends and family.
6. I liked seeing my name move up on the point charts - going to the extra little workshops at the REC were good too.
7. Seeing my progress
8. Staff reminding me to log my hours
9. Keeping up with my friend who lead in hours at the gym
10. I was able to relate to the programs and services provided
11. Drive to compete with friends, ease of participation
12. Friends
13. Group ex classes- group setting offers motivation.
14. It was neat how there were rewards for the farther you were in the program.
15. Determination (personal)
16. It was easier to participate when my friends were going with me.
17. None
18. Incentives
19. Already a regular exerciser
20. Programmatic. Can't say no to free goodies.
21. NA
22. Education
23. Using my gym routine that I had already established and used it to gain points for ru heart strong
24. Friend encouragement, rewards (ie. water bottles, sleep masks, etc.), tracking binder when going to the gym
25. Looking forward to logging my workout
26. It was cool to see your calendar filled up with the amount you exercised!
27. Motivation to win a prize and staying fit
28. Commitment
29. I actually was not very successful with it.

30. Be active
31. Writing down my activity
32. Rewards and Previously Active
33. Group Exercise Classes
34. Friends
35. N/A
36. Free stuff, and I wanted to do better
37. Rec staff, prizes
38. Getting over mono and being able to progressively workout
39. The book, the fitness tracker on the wall and the prizes
40. Consistent activity
41. I did not really participate
42. I love exercise
43. Have been active, just provided an additional incentive
44. Desire to be stronger for rock climbing - personal
45. I wasn't successful
46. I did not achieve success, as I heard about it at the very end of the program.
47. Working out longer
48. I didn't have success. I worked out the same amount I always have before the program. It was a pain to have to write down my lifting hours every day
49. My drive and motivation
50. Monitoring my progress kept me motivated throughout the month.
51. Seeing others that have improved their lifestyle as a result of similar programs.
52. Personal
53. Felt like I was being held accountable
54. The information given and interaction with other people in the program was a big contribution. I am already dedicated to physical activity so that was a personal characteristic.
55. My friends did it too and would remind me/ nicely peer pressure me into participating
56. Teamwork, encouragement, incentives
57. Many opportunities to get points
58. Tracking my progress motivated me to continue improving.
59. Seeing my name on the wall compared to others

#25: Have you experienced behavior change as a result of your participation in the RU Heart Strong incentive program towards maintaining a healthier lifestyle through regular physical activity and proper nutrition?

1. Not really, I continue to do the same types and amount of exercise that I did before RU Heart Strong
2. Yes I exercise more regularly
3. It helped give me a push towards sticking with a healthier life style.
4. Not really, I was physically active before RU Heart strong and had an okay diet.
5. Yes

6. Yes
7. I work out more regularly
8. No
9. No
10. Yes
11. Yes - more motivation
12. No
13. I mostly just participate to support a healthy lifestyle and help reach goals!
14. I felt lighter and happier after working out on a consistent basis.
15. No
16. N/a
17. No
18. Somewhat
19. More cardio
20. Not especially. I've been regretting skipping the gym for awhile prior to the event.
21. NA
22. Same
23. Not since I've graduated
24. More energy in the day, personal achievement, physical recognition of increased strength
25. Yes
26. Sure.
27. I already tried to stay healthy, no changes stemming from the program
28. Yes
29. I have not really at all.
30. Yes
31. Yes
32. No
33. I felt great
34. Yes
35. No
36. No
37. Slight increase in activity
38. Yes
39. No
40. No, however it was a good way to track how much I was doing.
41. No
42. More cardio
43. Not really, I have been fairly active both before and after
44. More energy
45. No
46. No
47. Felt changes that were for the good
48. No

- 49. No
- 50. Yes, my eating habits have improved greatly.
- 51. Yes
- 52. No
- 53. Yes, eating better, no more soda, more exercise
- 54. I did take some tips that I did not know with me. I am more conscious of balancing my physical activity and nutrition and not just relying on one of the two.
- 55. Not really.
- 56. Somewhat
- 57. Yes
- 58. Yes
- 59. Yes

#26: What were some factors that contributed to your success in maintaining your commitment to your intended behaviors as an outcome of the RU Heart Strong incentive program? Please note whether they were personal characteristics or programmatic.

- 1. I don't like to quit, so I feel like not working out is sort of like quitting
- 2. I would go with a friend so I was being held accountable
- 3. Working out with a friends help me stick to my commitment
- 4. Having people to do it with. I know who would be in what class each day and it was fun to talk about it and keep up with them during the program
- 5. Being supported by my friends and everyone I was around.
- 6. My friends were committed too. (Personal)
- 7. I wanted to prove that I could complete the program to the best of my ability
- 8. Personal investment
- 9. Planning times to go to the gym
- 10. Tracking my progress and monitoring my workouts through the incentive program helped me stay motivated and made me establish a routine after the program had ended
- 11. Compete with friends, motivation from notes written on calendar
- 12. Become healthier
- 13. Group ex classes, prizes, friends, motivation
- 14. My friends pushed me to come to the gym and we held each other accountable.
- 15. Personal Goals
- 16. Scheduling my exercise time in advance.
- 17. None
- 18. Not sure
- 19. Committed to regular exercise schedule
- 20. Seeing the progress in the Book of Gains.
- 21. NA
- 22. Same
- 23. The program definitely pushed me harder

24. The rewards, physical and material.
25. Logging group fitness classes
26. Others motivating me.
27. Prizes and staying fit
28. It relieved stress and could work together with friends to push each other
29. I did not commit to my behaviors.
30. Active
31. Trying to advance in the program
32. Prior Motivation
33. Group Ex Classes and something to work for
34. Focus
35. N/A
36. Friends and coworkers
37. Equipment/encouragement
38. Happier
39. Encouragement
40. Having a partner to work out with.
41. I didn't participate
42. Personal characteristics
43. I have lost about 50 pounds in the year prior to this event, I wish to maintain the level of fitness that enabled that.
44. Personal goals
45. N/a
46. I really enjoy exercise
47. Tracking my workouts
48. Self dedication
49. Diet and exercising in the morning
50. Learning new strategies for maintaining a healthy diet.
51. Talking with the personal trainers gave me tips on ways that I could improve the way I was eating.
52. Accountability-personal
53. The program held me to a standard, i felt like i had to perform or others would know I was slacking
54. Personal want to be healthier.
55. My friends which would probably be programmatic because it was the structured program that made us compete.
56. Balancing foods, learning when my body is tired
57. Not sure
58. Seeing that I was capable of reaching my goals, with some external programmatic motivation enabled me to stay internally motivated after the program had ended.
59. Friends who did the program with help me stay on track