5-2020

Through their eyes: Exploring the relationship between college females' body perceptions and recreation center messaging

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THROUGH THEIR EYES: EXPLORING THE RELATIONSHIP
BETWEEN COLLEGE FEMALES’ BODY PERCEPTIONS
AND RECREATION CENTER MESSAGING

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Sydney Leigh Ann Cindrich
University of Northern Iowa
May 2020
ABSTRACT

The study aimed to investigate the influence that recreation center promotional messaging had on college females’ body perceptions. Body perceptions among young adult females have been linked to mental health (McKay, 2013; Miner-Rubino, Twenge, & Fredrickson, 2002). Female participants 18 to 25 years of age ($N = 137$, $M_{age} = 20.41$) from a mid-sized, Midwestern university completed two separate body perception questionnaires. These questionnaires assessed body appreciation (functionality) and body shame (objectification). Participants were divided into three groups and shown a collage of recreation center messages that were portraying one of three conditions (a) body functionality, (b) self-objectification, or (c) neutral images. Participants then completed post-collage surveys to capture acute responses in body perceptions based on the viewed collage. Results indicated that those who viewed the body functionality collage had a significant decrease in body shame scores from pre- to post-survey completion. These results support the importance of body functionality-focused messaging for young adult females, especially for university wellness and recreation centers looking to promote health and wellness services.
This Study by: Sydney Cindrich

Entitled: Through their eyes: Exploring the relationship between females’ body perceptions and recreation center promotional messaging

has been approved as meeting the thesis requirement for the

Degree of Master of Arts

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CHAPTER 1

INTRODUCTION

College can influence many student behaviors and habits that impact students’ lives in several different ways. When a student enters college, they have the opportunity to make new friends, conquer academic challenges, and maybe explore their identity. However, the transition from high school to college is often challenging and unfortunately, a young person’s mental and physical health could be influenced by this change (Forrester, 2014).

Poor physical and mental health can lead to chronic conditions as the Centers for Disease Control and Prevention (2019) reports that one in two adults currently live with a chronic disease. According to the American College Health Association (ACHA) National College Health Assessment (2019), less than 47% of university students described their health as “very good.” However, young adults (e.g., college age) are often believed to be in the “prime of life” or the healthiest time of their lives (Zastrow & Kirst-Ashman, 2009). So, these health statistics for young adults should prompt exploration of ways to encourage and facilitate healthy behaviors among this population.

When students leave high school and enter college, they have more freedom and less structured schedules. They are not required to attend Physical Education classes and team sport involvement often comes to an end, students must find new strategies (i.e., time management, nutrition awareness) to make healthy opportunities for themselves. Universities have a stake in students’ physical and mental health, and often have a variety of campus resources that can address students’ health needs.
The college recreation and wellness center is one amenity that is included in student fees that could aid students in addressing and maintaining mental and physical health. However, only 39% of students reported actually using the recreation center three times or more in a week (Forrester, 2014). The low percentage of students who are consistently using the recreation center is of concern because according to the Physical Activity Guidelines, students should be spending about 150 minutes a week exercising (Piercy et al., 2018). Additionally, female students are exercising less than male students, as only 44% of female students are getting the recommended amount of exercise per week compared to male students at 50% (ACHA, 2019).

Not only is physical health a concern, but many female students’ mental health appears to be negatively impacted during college years (ACHA, 2019). According to the ACHA (2019), 91.5% of female students reported feeling overwhelmed by their to-do lists, 88.6% felt emotionally exhausted, and 71.8% felt overwhelming anxiety. Within the last 12 months of completing the survey, 19% of female students were diagnosed with depression and anxiety (ACHA, 2019). Fortunately, consistent research findings with young adults show a solid link between improved mental health and exercise (Callaghan, 2004; Ströhle, 2009; Wipfli, Landers, Nagoshi, & Ringenbach, 2011), especially for women (Adams, Moore, & Dye, 2007).

Though recreation centers have the resources for female students to be physically active, research has shown that the main demographic using recreation centers is men (Miller, Noland, Rayens, & Staten, 2008). Differences in facility-use based on gender is a problem because the overall purpose of a campus recreation center is for recruitment,
enrollment, retention, and health advocacy for all students (Kampf, 2010). Promotional messaging is one way to target different groups of students. It is possible that recreation centers need to consider the promotional messages that they are sending regarding health and wellness programs, and consider promoting their services to student groups who are not predominately men.

One strategy that recreation centers might use to motivate female students to be physically active is to use promotional messaging to trigger an affective response (Mitchell & Olson, 1981). An affective response is an emotional reaction that someone experiences because of a particular situation (Ulrich, 1983). Promotional messages have been shown to be so powerful that they have the ability to trigger an affective response from the viewer, which could influence behavior (Mitchell & Olson, 1981). Therefore, in order to understand how to use a promotional message to trigger the affective response for behavior change, it becomes critical to understand motivation to adopt a behavior.

In regards to physical activity behaviors, motivation can be categorized into intrinsic and extrinsic motivation (Deci & Ryan, 1985). Intrinsically motivated females exercise for pure enjoyment of being physically active as well as the health benefits that come with exercise (Deci & Ryan, 1985; Vartanian, Wharton, & Green, 2012). Intrinsic reasons for exercise might be due to appreciation for body functionality, a term that describes how the body is able to move and function (Avalos & Tylka, 2006). Additionally, those who are intrinsically motivated to exercise tend to have better psychological health than those who are extrinsically motivated to exercise (Maltby & Day, 2001).
Women who are extrinsically motivated are more likely to be physically active for the appearance benefits or a reward that comes with exercise (Deci & Ryan, 1985). Based on prior research, females are typically more extrinsically motivated to exercise than males (Craft, Carroll, & Lustyk, 2014; Egli, Bland, Melton, & Czech, 2011). This can be problematic because women who are focused on appearance, tend to experience higher levels of self-objectification (Strelan, Mehaffey, & Tiggemann, 2003), which is when women feel like they are objects made to be pleasing to the eye (Fredrickson & Roberts, 1997). Because an immediate appearance benefit involved with exercise often does not occur, extrinsic motivation for exercise may not be sustainable for a long-term healthy lifestyle change (Buckworth, Lee, Regan, Schneider, & DiClemente, 2007).

The focus of recreation center promotional messaging should primarily be health promotion rather than body appearance. If women are exercising for enhanced health, then this might result in lower self-objectification and higher appreciation for body functionality, which could then lead to positive exercise behavioral outcomes (Deci & Ryan, 1985). Conversely, if women perceive exercise program promotional messages as targeting physical appearance outcomes, then women might experience higher self-objectification and a lower appreciation for their bodies. This could then lead to compromising exercise behavioral outcomes, such as the cessation of regular physical activity and exercise (Buckworth et al., 2007).

Purpose of the Study

The purpose of this study was to identify how the promotional messages for physical activity and exercise, utilized by college recreation centers, are perceived by
female students. Furthermore, this study investigated if college women perceived these messages as promotion for body functionality and body acceptance, or if women perceived them as promoting self-objectification and physical appearance. The following hypotheses were proposed:

1. Participants who view the body functionality collage will have significant changes in pre- to post survey scores. Specifically, significantly lower scores for body shame and significantly higher scores for body appreciation.

2. Participants who view the objectification collage will have significant changes in pre- to post survey scores. Specifically, significantly higher scores for body shame and significantly lower scores for body appreciation.

3. No significant body perception differences will be found for the control collage.

**Significance**

Maintenance of physical health in female college students is important to combat depressive and anxiety symptoms that may result due to collegiate responsibilities (American College Health Association, 2019; Callaghan, 2004; Ströhle, 2009; Wipfli et al., 2011). According to research with 5,211 university students, physical activity has also been shown to enhance academic performance in the classroom (Huesman, Brown, Lee, Kellogg, & Radcliffe, 2009). College recreation centers have the resources for females to be physically active. However, promotional messaging should encourage females to be motivated to exercise for health reasons instead of appearance reasons. Encouraging intrinsic and health motivation could lead to future sustained exercise behavior (Deci & Ryan, 1985). If female students are exposed to promotional messages that target body
functionality, then female students may want to attend the recreation and wellness center to focus on what their bodies can do verses what their bodies “should” look like.

Definitions

Affective Response: An affective response is an emotional reaction that someone experiences because of a particular situation (Ulrich, 1983).

Body Functionality: Body functionality is the concept of focusing on how the body is physically able to function through the day to day tasks (Mulgrew, McCulloch, Farren, Prichard, & Lim, 2018). In accordance to the current study, body functionality is going to define the movement of the body in an exercise or physical activity domain (e.g., endurance, speed, strength, balance, and flexibility).

Body Shame: Body shame is the emotion that women feel when they feel like they cannot live up to the idealistic beauty standards that accompanies self-objectification (McKinley & Hyde, 1996).

Promotional Message: For the current study, promotional messages are the messages that recreation centers provide to students for information about recreation center features, wellness events, and/or physical activity and exercise programming. Messages will be from recreation centers’ social media pages.

Self-Objectification: Self-objectification occurs when individuals start to believe that they are objects made to be pleasing to the eye, so they may feel self-conscious about their appearance, which has a negative influence on overall body image (Fredrickson & Roberts, 1997; McKay, 2013).
Assumption of Study

The following assumptions were identified for this study:

1. Participants will be women capable of reading and agree to study participation.
2. Honesty in responses.

Limitations of Study

The following limitations were identified for this study:

1. The honesty and accuracy of the participant’s responses on the questionnaires.
2. The participants will be exclusively female-identifying college students recruited from a single Midwestern university.

Delimitations of Study

The following delimitations were identified for this study:

1. Participants were exclusively female-identifying college students.
2. Participants needed to be involved in recreation center activities within the last 12 months.
3. Participants had to be within the ages of 18-25 to participate in the study.
CHAPTER 2
LITERATURE REVIEW

Due to the increase of responsibility in college, students have a tendency to neglect their physical and mental health by failing to get enough physical activity (ACHA, 2019; Forrester, 2014). The associated risks of not getting enough physical activity in college are not only physiological (i.e., increased risk of obesity, diabetes, heart disease, arthritis, high blood pressure) but also psychological (i.e., increase in depression, stress, anxiety, difficulty sleeping) (Centers for Disease Control and Prevention, 2019).

When students transition from high school to college, the priority of health may start to decline due to financial obligations, difficulty with time management, or academic challenges (Calestine, Bopp, Bopp, & Papalia, 2017; Forrester, 2014). Their schedules often become less structured, their decisions may become more autonomous, and their responsibilities likely increase. The Public Agenda surveyed 600 students; ages 22-30 years old about their college experiences and discovered that nearly half of students who attended a four-year university reported having to work 20 hours a week in order to make a living wage (Johnson & Rochkind, 2009).

Moreover, difficulty of time management skills have been shown to be correlated with academic stress (Macan, Shahani, Dipboye, & Phillips, 1990) with 50% of students feeling overwhelmed by the amount of studying they had to do, and 54% of students leaving school because they needed a psychological break (Johnson & Rochkind, 2009). According to the ACHA 2019 report, 34% of college students indicated that stress was
the leading factor of failing a class, an exam, or dropping a course, with 27.8% of students reporting anxiety as the second influencing factor (ACHA, 2019). These statistics might reflect the cultural shift that students experience with the transition between high school and college. For example, students may go out to eat due to convenience rather than cooking or they may neglect their mental health in order to meet academic deadlines. Although students experience many psychological tribulations in college, researchers have found that regardless of academics or social factors, those who actively participate in their campus recreation center, do have an improvement in academic success, anxiety, and depressive symptoms (Callaghan, 2004; Huesman et al., 2009; Ströhle, 2009; Wipfli et al., 2011). Fortunately, most college campuses are equipped with recreation facilities to aid students in pursuing healthier habits.

Recreation Centers and Promotional Messaging

Campus recreation centers serve a twofold purpose to a university: the first, and most evident purpose, is to be a resource for students to enhance their overall health and wellness (Miller, 2011). Secondly, recreation centers are a large part of a university’s student recruitment, enrollment, and retention (Kampf, 2010). Kampf found that universities with a new recreation center had a higher enrollment of students when compared to universities that had either an outdated recreation center, or no recreation center at all. Additionally, recreation centers have such a large influence on student enrollment that, in one study, nearly 68% of students reported choosing their current university because of the recreation center, and 74% of students reported that the reason
they still go to their current university is because of the recreation center (Forrester, 2014).

Campus recreation centers have the tools and resources to equip students with healthy behavior practices that could assist them in college and benefit them beyond their college years. Henchy (2011) analyzed the benefits of student participation in recreation center programs and events with a sample of 237 students. Henchy discovered that 86% of students who participate through the recreation center have had an increase in enjoyment of fitness, 59% report an increase in overall health, and 48% indicate that their stress was improved. Not only is there a health benefit from recreation centers, but also students reported to having a better social life because of the center. Additionally, 81% of students who use the center reported that the recreation center made the university feel like home (Henchy, 2011).

Although there are may be many psychological and physical benefits of all students participating in the campus recreation center, consistent research indicates that men predominately use the recreation center (Miller, 2011; Miller et al., 2008; Omar-Fauzee, Yusof, & Zizzi, 2009; Shaikh, et al., 2018; Smith, 2011; Watson, Ayers, Zizzi, & Naoi, 2006). A question then emerges: how do recreation center marketers extend recreation center promotion out to a broader audience? Recruiting more students to be a part of the recreation center community not only benefits the students, but also helps the university with their enrollment and retention (Kampf, 2010; Miller, 2011). Numerous college recreation centers across the nation belong to the professional organization, NIRSA (National Intramural-Recreational Sport Association), an organization that is
focused on creating a healthy collegiate community for all students (NIRSA, 2019). With this global vision, exploration of current recreation center promotional messaging strategies becomes necessary to identify if these recreation centers are doing their part in making this vision of healthy practices in higher education, a reality.

For the current study, promotional messaging from university recreation centers are anything that a recreation center might post that are designed to influence the attendance of students. Such promotional messages consist of: class titles and descriptions, Facebook posts made by the recreation center, or flyers posted around the walls of the gym. Granted, the facility itself is sometimes enough to draw in the student body (Kampf, 2010), but recreation promotion is necessary when targeting all students. Due to the ease and cost efficiency of cultural technological advances, more recreation centers are transitioning from flyer-based promotions to social media, such as Facebook (Bayne & Cianfrone, 2013).

Social media promotion has potential to be useful due to the low financial commitment and the ease of content distribution, however, there could be future implications with promotional messaging on the internet since it is public to everyone. For example, fitness advertisements using toned models have been found to produce a negative affective response from the viewer, therefore recreation centers need to be cautious on what they post for recruitment (Sabiston & Chandler, 2009). An affective response (i.e., the emotional response that indicates the level of interest) can be so strong with advertisements, that this emotional response has the ability to influence future behavior (Mitchell & Olson, 1981). If the goal of recreation centers is to promote health,
then creating a promotional message that influences healthy behaviors in all students is
critical. To effectively be able to target to a broader audience, one factor recreation
centers could take into consideration is how to motivate different types of students to be a
part of the recreation center.

The Relationship Between Motivation Type and Exercise

One of the keys to sustained physical activity behavior is the motivation of an
individual. Based on Deci and Ryan’s Self Determination Theory (1985), motivation can
be classified into intrinsic and extrinsic motivation. Intrinsic motivation is the self-driven
need to adopt a behavior due to the feeling of autonomy (freedom of choice), pure
enjoyment of the activity, and motivation from one’s own desire to do something (Deci &
for health reasons are more intrinsically motivated for exercise and Maltby and Day
(2001) found that intrinsically motivated individuals have better psychological health
than those who are extrinsically motivated to exercise.

Extrinsic motivation is the driving need to adopt a behavior (i.e. physical activity)
based on external forces, such as rewards or enhanced appearance (Deci & Ryan, 1985).
Those who are focused on exercising for appearance related reasons are going to be more
extrinsically motivated because of external rewards (i.e., enhanced appearance)
(Vartanian et al., 2012). Women are typically more extrinsically motivated for exercise
than men (Craft, et al., 2014; Egli et al., 2011). Extrinsic motivation is often not an ideal
motivation type in the physical domain, because it may not be a sustainable exercise
behavior (Buckworth et al., 2007). There might not always be a reward or appearance
benefit that accompanies exercise; therefore, it is important that recreation centers are triggering a female’s affective response to exercise for health (intrinsic) instead of for appearance (extrinsic).

Because women typically are more extrinsically motivated to be physically active, research becomes critical to explore the physiological and psychological patterns of being extrinsically motivated (Craft et al., 2014; Egli et al., 2011; Maltby & Day, 2001). Maltby and Day (2001) examined the relationship between extrinsic and intrinsic motivation in relation to psychological well-being by using the Self-Determination Model. They recruited 227 undergraduate students who reported to exercising regularly. Participants completed surveys assessing exercising motivation and psychological well-being and then researchers analyzed results based on those who exercised for less than 6 months and those who exercised for more than 6 months. The results indicated that those who exercised for less than 6 months, exercised for extrinsic motivation and had poorer psychological wellbeing than those who exercised for more than 6 months. The long-term exercisers (more than 6 months) reported intrinsic reasons for exercise. The conclusions drawn from this study indicated that those who exercise over a certain period of time, experience a motive change from extrinsic, to intrinsic motivation and psychological well-being can be improved (Maltby & Day, 2001). However, Slater and Tiggemann (2010) discovered female students may choose to stop exercising as young as 15 years old due to two concerning factors: they fear going against traditional gender roles (i.e., femininity), and being self-conscious about their appearance while exercising. The concern of the cessation of exercise at a young age is that this perceived relationship
between femininity and physical activity for extrinsic reasons could continue into adulthood and could potentially compromise exercise behavior (Buckworth et al., 2007).

Lowery and colleagues (2005) examined health behaviors in first year female and male college students. The measures taken to assess body image indicated that women had lower self-esteem and greater overall physical dissatisfaction about the way their bodies looked than the men did (Lowery et al., 2005). Strelan, Mehaffey, and Tiggemann (2003) found that women who exercise for appearance-related reasons had higher self-objectification than those who exercised for health-related reasons. Similarly, Prichard and Tiggemann (2005) compared aerobic instructors and aerobic participants, and found that the instructors had greater appreciation for their bodies than the participants. This may be because instructors were more likely to exercise for health and the participants were more likely to exercise for appearance (Prichard & Tiggemann, 2005). To increase recreation center participation in women, the goal for recreation centers should be to initiate motive change in women from extrinsic-based, to intrinsic-based because intrinsic might produce more of a positive behavioral outcome (Deci & Ryan, 1985; Maltby & Day, 2001).

Based on prior research, females who exercise for appearance and are extrinsically motivated, are going to have a harder time sustaining future exercise behavior than those who are intrinsically motivated (Buckworth et al., 2007; Deci & Ryan, 1985; Vartanian et al., 2012). However, extrinsic motivation can turn into intrinsic motivation over time (Maltby & Day, 2001). Research has shown that intrinsic
motivation or exercise for health, is a more sustainable behavior outcome and can improve psychological health (Deci & Ryan, 1985; Maltby & Day, 2001).

The psychological needs that are addressed in Deci and Ryan’s Self Determination Theory include competence, autonomy, and relatedness. These three needs are outlined as important contributors of psychological growth (Deci & Ryan, 1985). The primary influences of changing an extrinsically motivated exerciser to an intrinsically motivated exerciser are competence and enjoyment (Frederick & Ryan, 1993; Frederick, Morrison, & Manning, 1996). Competence of exercise is significant because there is a positive correlation between competence of a task and increased confidence (Pajares & Johnson, 1994). When a female student feels confident about participating in the recreation center, then she may feel more intrinsically motivated to exercise because she might be experiencing psychological growth (Deci & Ryan, 1985). Enjoyment of exercise is also a strong predictor of exercise adherence (Jekauc, 2015; Ryan et al., 1997). If a female student finds enjoyment with exercise, then her motives for exercise are more likely to develop from extrinsic (“have to”) to intrinsic (“want to”).

Recreation centers have the ability to influence a female student’s motivation to partake in an exercise just by the title of the classes offered at the facility (Brown, Miller, & Adams, 2017). Brown, Miller, and Adams (2017) analyzed the names of fitness classes with a sample of 389 women. Participants were told to choose a fitness class based on the title and description of the class. Those who chose the class with an intrinsically motivating title and description (i.e., Energy Blast, Internal Peace, Functionality Fit, Squat-tastic) reported exercising for health reasons, enjoyment, and a high perceived
competence. Conversely, those who chose the class with the extrinsically motivating title (i.e., Cardio Striptease, Beach Body Sculpt, Boot-ilicious, Fit and Flirty) reported exercising for appearance reasons and felt more pressure to do well in the class (Brown et al., 2017). This study might give some insight on the influence that promotional messaging can have on students. The ultimate goal to attract a female audience is to change her motives for exercise from extrinsic (appearance focused) to intrinsic (health focused) to sustain a physically active behavior pattern. Recreation centers have the ability to use promotional messages via social media to promote their services, but what sort of promotional messages should they be using?

**Objectification**

Current mainstream advertisements in Western media culture depicts an inaccurate idealization of what the female body should look like (Martin, 2010). Throughout the years, the societal definition of the “ideal woman” has emerged to an emphasis on unhealthy thinness (Grabe, Ward, & Hyde, 2008; Wiseman, Gray, Mosimann, & Ahrens, 1992). Because modern times are heavily media based, women of every age group are being exposed to this unattainable reflection of beauty every day (Grabe et al., 2008). This becomes problematic because the unattainable thinness that women are exposed to through the media is highly related with a negative perception of body image in women (Stice, Schupak-Neuberg, Shaw, & Stein, 1994).

Body image is a perceptual concept about how individuals view their bodies (Cash, 1990) and is a generalized phenomenon that describes how humans feel about their appearance, how their appearance influences them psychologically, what they feel
their body can do functionally, and how this outlook on appearance influences overall attitudes and behaviors (Garner & Garfinkel, 1982). Tiggemann and Zaccardo (2015) analyzed the influence that idealized body media have on young women. They recruited 130 undergraduate female students ranging from ages 19 to 30 years old and, under the theoretical framework of Social Comparison Theory, exposed them to fitness images of thin and toned women, and a control image of travelling pictures. The results indicated that by viewing images of fit women, participants felt an acute reaction of greater body dissatisfaction and an increased negative view on overall body image (Tiggemann & Zaccardo, 2015). Constant media exposure of females to thin idealized images could have a variety of negative influences on perceptions of the body. Over time, these images could have an influence on a person’s self-objectification. The concept of self-objectification is a driving variable for researchers, Fredrickson and Roberts (1997), to develop the objectification theory.

The objectification theory describes what it is like to be a female living in a society that sexually objectifies the body (Fredrickson & Roberts, 1997). Objectification can result in appearance internalization as well as influence mental and emotional health in females (Fredrickson & Roberts, 1997). The objectification theory can produce the feeling of self-objectification, which occurs when women start to believe that they are objects made to be pleasing to the eye, so they feel self-conscious about their appearance. For this reason, women may start exercising to enhance their appearance, therefore they could be exercising for extrinsic motives, which is not always a sustainable health habit (Buckworth et al., 2007; Deci & Ryan, 1985). Additionally, self-objectification has a
negative influence on overall body image and mental health, has been found to be correlated to feelings of depression, anxiety, and body shame (McKay, 2013; Miner-Rubino, Twenge, & Fredrickson, 2002).

According to Grau, Roselli, and Taylor (2007), 81% of female based fitness advertisements are objectifying by either having the female underdressed or sexualized in some way. This statistic sends a message to other women that they are valued more for the way their bodies look rather than what their bodies can accomplish, which could lead to feelings of self-objectification. Furthermore, Aubrey (2010) highlighted the effect that fitness magazines have on their female readers. Aubrey recruited 103 undergraduate women from a public Midwestern university, ages 18 to 30 years old. Participants were instructed to view the different articles from a fitness magazine and then immediately analyze how the content of the magazine was framed (i.e., “do something in order to look better”), which is based on promotion of exercise for appearance, or (i.e., “do something in order to feel better”), which encourages women to exercise for health. For example, the content that encouraged exercise for appearance gave the reasoning that someone would look leaner in clothes and the content that encouraged health gave the reasoning that the women would feel strong and flexible if they were to exercise (Aubrey, 2010). The results indicated that those who saw content that promoted appearance scored higher on the self-objectification questionnaire than those who saw the content that encouraged health. Additionally, the women who viewed the appearance cover felt greater body shame than the women who viewed the health cover (Aubrey, 2010).
Body shame is the emotion that women feel when they feel like they cannot live up to the idealistic beauty standards that accompanies self-objectification (McKinley & Hyde, 1996). Monro and Huon (2005) tested the influence of idealized body advertisements on female body shame. Thirty-nine female students, ages 17 to 37 years old, took part in a pre-posttest study. Participants took pretest measures assessing body shame and self-objectification, and then were shown magazine advertisements depicting a mixture of body related products with the idealized body image and non-body related products. Participants were given 20 seconds to analyze each advertisement and then were instructed to take the Visual Analogue Scale measure. The results showed that when the participants viewed the idealized body image advertisement, they had an increase in body shame from their pretest measures (Monro & Huon, 2005). This information captures the potential negative acute, affective response that participants might experience when viewing advertisements. Thus, research becomes necessary to explore ways recreation centers can change their promotional efforts to elicit a positive affective response to advertisements.

**Body Functionality**

Promotional messages focusing on health instead of appearance could be a possible solution to increase recreation center participation of the female student body. The way that recreation centers could do this is by designing their promotional messages to focus on body functionality. Body functionality is a global term for everything that the body is able to accomplish physiologically (Avalos & Tylka, 2006). Advertising images
of what the body is able to accomplish may encourage women to exercise for intrinsic motives (Vartanian et al., 2012).

In addition to potentially altering motivation type, focusing on body functionality has also been shown to protect women from objectifying images. Alleva, Veldhuis, and Martijn (2016) recruited 70 undergraduate women and split them into a body functionality-focus group and a control group. Students who were in the body functionality-focus group were given 15 minutes to write down everything that their bodies were able to accomplish (i.e., running, walking, standing, lifting). The control group were instructed to write about routes that they travel. Both groups were then shown a series of thin-ideal images for 20 seconds and told to answer a self-objectification questionnaire. The women in the body functionality-focus group showed an acute reaction of greater appreciation for their bodies and lower self-objectification after the image test than those in the control group (Alleva et al., 2016). This reaction of reduced self-objectification and enhanced body appreciation might indicate that there may be a positive relationship between functionality-focused promotional messaging and positive psychological responses.

When studying the effects of health focused exercise over a span of multiple research studies, Campbell and Hausenblas (2009) discovered an overall positive body image response that accompanies body functionality. Women who were shown internet videos of other women engaging in health-related functionality-focused exercises, such as cardiovascular training, muscular strength training, and flexibility exercises, reported
an increase in appearance satisfaction as well as an acute increase in exercise intention (Mulgrew, et al., 2018).

Shifting the reasoning for exercise from appearance-based to health-based can also influence overall body satisfaction. By focusing on body functionality women reported having higher body satisfaction than those who focused on losing weight or enhancing appearance (Alleva et al., 2015; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). Furthermore, just talking about health benefits from exercise can have a major influence on the mindset of a female student (Wasylkiw & Butler, 2014). Wasylkiw and Butler (2014) concluded that by simply having a conversation with young adult women about the physical capabilities that their body was able to accomplish showed greater body appreciation than having a conversation with them about weight loss and dieting.

Additionally, positive messaging has been shown to decrease levels of objectification. Alleva, Martijn, Van Breukelen, Jansen, and Karos (2015) demonstrated this through a study based on the Expand your Horizon program which encouraged women who had a pre-existing, negative view of their bodies, to focus on body functionality through a series of writing assignments. Women were either given the Expand Your Horizon program or a control program. Body appreciation and self-objectification were a couple of the variables that were measured at pretest, posttest, and after a one-week follow-up. The results of this study show that even women who have a predetermined, negative view of their bodies, could still find appreciation with their bodies by changing their mindset to appreciation for their bodies (Alleva, et al., 2015).
Therefore, it’s necessary for recreation centers to explore the influence that functional-fitness messaging might have on female students.
CHAPTER 3

METHODS

The purpose of this study was to identify how the promotional messages utilized by college recreation centers were perceived by female students. Furthermore, this study investigated if college women perceived these messages as promotion for body functionality and body acceptance, or if they perceived them as promoting self-objectification and physical appearance.

Participants

College-aged females age 18-25 years ($M = 20.41, SD = 1.50$) were recruited from a mid-sized Midwestern university for study participation. In addition to age and gender criteria, participant criteria also included attendance at the recreation center and/or participation in at least one recreation center event outside of class (i.e., fitness classes, intramural sports, pool, fitness area) in the last 12 months. If participants did not fit the above criteria, then they were excluded from completing the study protocol. Participants were recruited via list serves obtained by university departments and 137 women ($N = 137$) met the study criteria and completed the study protocol.

Measures

Demographics

The demographic items included gender, age, race, year in school, and if they followed the recreation center on social media. A total of 179 participants completed the survey and 42 responses were omitted due to survey incompletion, leaving 137 eligible participants. The demographic data revealed that a majority of the participants were
White/Caucasian \((n = 130, 95\%)\). The mean age of participants was 20.41 years \((SD = 1.50)\), with a range of 18-25 years. Consequently, a majority of participants reported to be seniors \((n = 41, 29.9\%)\) and juniors \((n = 38, 27.7\%)\). A majority of students reported that they did not follow the recreation center on social media \((n = 103, 75.2\%)\) (Table 1).

Participants were asked what reasons they use the recreation center or what motivates them to use the recreation center at the end of the demographic information. Themes from the Exercise Motivation Inventory-2 (EMI-2) (Markland & Ingledew, 1997) were used as a guide for the open-ended responses. The EMI-2 was designed on the basis of intrinsic and extrinsic motivation and the Self-Determination Theory (Markland & Ingledew, 1997; Molanorouzi, Khoo, & Morris, 2014). The themes that were used based on the EMI-2 were: Stress management (i.e., to release tension), revitalization (i.e., to recharge my batteries), enjoyment (i.e., to enjoy the social aspects of exercise), affiliation (i.e., to spend time with friends), competition (i.e., because I like trying to win in physical activities), ill-health avoidance (i.e., to avoid ill-health), positive health (i.e., to feel more healthy), weight management (i.e., to help control my weight), appearance (i.e., to improve my appearance), and strength and endurance (i.e., to get stronger) (Al-Eisa, et al., 2016; Markland & Ingledew, 1997).
Table 1
Descriptive Statistics for Demographic Variables by Condition Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Experimental: Body Functionality (n = 48)</th>
<th>Experimental: Objectification Group (n = 45)</th>
<th>Control Group (n = 44)</th>
<th>Total (N = 137)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Age</td>
<td>18</td>
<td>5</td>
<td>10.4</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>14</td>
<td>29.2</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>9</td>
<td>18.8</td>
<td>13</td>
<td>28.9</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>12</td>
<td>25.0</td>
<td>9</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>5</td>
<td>10.4</td>
<td>6</td>
<td>13.3</td>
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<tr>
<td></td>
<td>23</td>
<td>3</td>
<td>6.3</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>School Year</td>
<td>Freshman</td>
<td>13</td>
<td>27.1</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>8</td>
<td>16.7</td>
<td>7</td>
<td>15.6</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>7</td>
<td>14.6</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>19</td>
<td>39.6</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>2</td>
<td>2.1</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Asian</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Hispanic/Latina</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>45</td>
<td>93.8</td>
<td>42</td>
<td>93.3</td>
</tr>
<tr>
<td></td>
<td>More than one</td>
<td>2</td>
<td>4.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
<td>2.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Social Media Use</td>
<td>Yes</td>
<td>12</td>
<td>25</td>
<td>10</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>36</td>
<td>75</td>
<td>35</td>
<td>77.8</td>
</tr>
</tbody>
</table>
Questionnaires

Body perceptions, body functionality and self-objectification, were captured via two separate survey measures that were completed pre- and post-intervention. These two measures were chosen because they have shown adequate psychometric integrity and tend to be sensitive to acute psychological states (Alleva, Tylka, & Kroon Van Diest, 2017; McKinley & Hyde, 1996).

Functionality Appreciation Scale

The Functionality Appreciation Scale was developed to demonstrate the benefits of focusing on what the body can do, and how this mindset might offset the thoughts of self-objectification or body appearance (Alleva et al., 2017). Alleva et al. (2017) defined body functionality as “appreciating, respecting, and honoring the body for what it is capable of doing, extending beyond mere awareness of body functionality” (p. 7).

The validity and reliability of the Functionality Appreciation Scale (FAS) was tested with three different trials about intuitive eating on an overall sample of 490 women and 552 men (N=1042) (Alleva et al., 2017). The FAS is a 7-item survey where participants respond on a 5-point Likert scale as to how much they appreciate the functionality of their bodies ranging from 1 (strongly disagree) to 5 (strongly agree). An example item on the scale is, “I appreciate what my body is capable of doing” (Alleva et al., 2017). The internal consistency, construct validity, and criterion validity for the FAS has shown evidence of psychometric integrity across a sample of U.S. women and men (Alleva et al., 2017; Alleva et al., 2018).
The FAS has strong internal consistency reliability with Cronbach’s coefficient alpha at $\alpha = .86$ in the combined sample of males and females, and $\alpha = .87$ for female participants (Alleva et al., 2017). Alleva and colleagues used this same measure in a different study with ($N=84$) women, ages 22-70 years old, and found a strong internal consistency reliability for the FAS with Cronbach’s coefficient alpha, $\alpha = .91$ (Alleva et al., 2018). In addition to the demonstrated internal reliability, the construct validity for the FAS was established for females showing a moderate, negative relationship with self-objectification ($r = -.32, p < .001$; Alleva, et al., 2017), meaning that women who score higher on body functionality will score lower on self-objectification. Further support for construct validity was established with psychological well-being revealing a moderate, negative relationship between anxiety and body appreciation ($r = -.39, p < .001$; Alleva et al., 2017), lower anxiety scores align with higher body appreciation scores. Finally, criterion-related validity was demonstrated by a moderate, positive correlation between the FAS and overall intuitive eating habits ($r = .30, p < .001$; Alleva, et al., 2017); individuals who scored high on body appreciation also scored high on healthy eating behaviors. Overall, the FAS has shown adequate psychometric qualities across young adult female and male populations. Table 2 displays the items of the FAS.
Table 2

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I appreciate my body for what it is capable of doing.</td>
</tr>
<tr>
<td>2.</td>
<td>I am grateful for the health of my body, even if it isn’t as always healthy as I would like it to be.</td>
</tr>
<tr>
<td>3.</td>
<td>I appreciate that my body allows me to communicate and interact with others.</td>
</tr>
<tr>
<td>4.</td>
<td>I acknowledge that my body allows me to communicate and interact with others.</td>
</tr>
<tr>
<td>5.</td>
<td>I am grateful that my body enables me to engage in activities that I enjoy or find important.</td>
</tr>
<tr>
<td>6.</td>
<td>I feel that my body does so much for me.</td>
</tr>
<tr>
<td>7.</td>
<td>I respect my body for the functions that it performs.</td>
</tr>
</tbody>
</table>

Objectified Body Consciousness Scale: Body Shame Subscale

The Objectified Body Consciousness Scale was developed to identify how women view their bodies (McKinley & Hyde, 1996). Women who score high on the Objectified Body Consciousness Scale are going to have a more negative view of their bodies than those who score low on this scale (McKinley & Hyde, 1996). The Objectified Body Consciousness Scale has three subscales that comprise a woman’s experience with her body: (a) body surveillance, (b) body shame, and (c) beliefs about appearance control. For the current study, only the body shame subscale was used to identify how promotional messaging may impact a female student’s body perception.

The body shame subscale derives from the social pressure that women experience to conform to societal standards (McKinley & Hyde, 1996). This measure is an 8-item measure (e.g., “I would be ashamed for people to know how much I really weigh”) rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

McKinley and Hyde validated the Objectified Body Consciousness Scale with ($N=121$)
undergraduate women. Females scoring higher on the body shame subscale, indicated feelings of self-dislike for failing to live up to societal body expectations. The internal consistency for the body shame subscale has been acceptable ($\alpha = .75$; McKinley & Hyde, 1996).

McKinley and Hyde (1996) went further to test the construct validity of the body shame sub-scale with 278 undergraduate women participants. The items for the Objectified Body Consciousness Scale were changed from 6-point scale to a 7-point scale (strongly agree to strongly disagree). The middle, neutral anchor ($4 = \text{neither agree/disagree}$) was added so participants did not feel pressure to answer a question that they did not feel comfortable answering. In this study, the internal consistency of the body shame subscale was $\alpha = .84$ (McKinley & Hyde, 1996). In terms of construct validity of the Objectified Body Consciousness subscales, McKinley and Hyde found a moderate, positive correlation between body surveillance and body shame ($r = .48, p < .001$), meaning these two body concepts (i.e., surveillance, shame) reflect independent but related body perceptions (e.g., low multicollinearity).

Body shame scores were then used to validate the degree that women internalize cultural and personal body standards (McKinley & Hyde, 1996). The constructs of the shame subscale that represent cultural standards were analyzed (i.e., gaining weight, clothes style, not looking best, not being thin, eating a large meal). The analysis of these constructs indicated that the higher the women scored on these specific variables, the more they internalized cultural body standards. Essentially, these results confirm that if a woman scores high on body shame constructs, then she is more concerned about
matching her appearance to how society’s cultural expectations for female body appearance. The results for young women’s personal standards correlated positively with body shame ($r = .51, p < .001$). This correlation validates the connection between body shame and internalization because those who had beauty standards similar to cultural standards, scored higher on body shame (McKinley & Hyde, 1996). The reliability and validity for the Objectified Body Consciousness Scale has shown adequate psychometric integrity across a sample of U.S. women (Boquiren et al., 2013; Claudat & Warren, 2014; Mehak, Friedman, & Cassin, 2018; Monro & Huon, 2005). Table 3 displays the items measured of the body shame subscale.

Table 3

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When I can’t control my weight, I feel like something must be wrong with me.</td>
</tr>
<tr>
<td>2.</td>
<td>I feel like I must be a bad person when I don’t look as good as I could.</td>
</tr>
<tr>
<td>3.</td>
<td>I would be ashamed for people to know what I really weigh.</td>
</tr>
<tr>
<td>4.</td>
<td>I feel ashamed of myself when I haven’t made the effort to look my best.</td>
</tr>
<tr>
<td>5.</td>
<td>Even when I can’t control my weight, I think I’m an okay person.</td>
</tr>
<tr>
<td>6.</td>
<td>I never worry that something is wrong with me when I’m not exercising as much as I should.</td>
</tr>
<tr>
<td>7.</td>
<td>When I’m not exercising enough, I question whether I am a good enough person.</td>
</tr>
<tr>
<td>8.</td>
<td>When I’m not the size I think I should be, I feel ashamed.</td>
</tr>
</tbody>
</table>

Note. Item 6 was reverse scored.

Procedures

After obtaining approval from the university’s Institutional Review Board (IRB) and Protections for Human Research Participants, recruitment emails were sent to
participants through the university’s student list-serves. These student list-serves were obtained from campus departments across a variety of different university programs. Students were provided information about the study and criteria for participation (i.e., female students/age/recreation center involvement) as well as a link to the survey. Full study and survey instructions were provided on the project introduction page and informed consent was secured once the participants began the survey protocol.

Participants were first asked to complete the demographic questionnaire. If participants selected a demographic answer that did not meet the inclusion criteria, then the study ended for that individual. Eligible participants were guided through the completion of the rest of the survey. Participants were not compensated for their participation and were advised that they could terminate participation at any time with no negative consequences.

The participants were instructed to complete the two body perception questionnaires, which appeared in a random order, as a pretest. Participants were then randomly shown one of the three promotional collages (44 participants were shown the control collage, 48 participants were shown the body functionality collage, and 45 participants were shown the objectification collage) that included pictures and text, for a 20 second time period. At the end of the 20 second viewing, participants were asked to complete the body perception questionnaires again (randomized order). Upon completion of the post-survey, the promotional collage that they had viewed reappeared for an additional 20 seconds, and the women were asked to identify what they believed the
collage was portraying (i.e., control, functionality, objectification) through a confirmation question.

The collages consisted of promotional messages obtained from the social media pages from about 100 U.S. university recreation centers similar to the single, Midwestern university that participants were recruited from (i.e., public university, baccalaureate or higher, similar enrollment numbers). One collage contained pictures and group fitness class titles promoting body functionality, another collage contained pictures and group fitness class titles focusing on objectification, and the third collage was used as a control with neutral images that depicted aspects of college life (e.g., pencils, books, laptops). The collages were examined for construct validity with faculty expertise in physical self-perceptions and body image as well as with sport and exercise psychology graduate students to ensure the images aligned with the underlying body perception (Appendix D). Changes to the collages were made based on the feedback. Construct validity was also demonstrated through a confirmation question at the end of the study when participants were asked what their designated collage was representing through a multiple-choice confirmation question. A large percentage (i.e., 85%) of participants correctly identified the body functionality collage as portraying physical health, 93% of participants correctly identified the objectification collage as portraying physical appearance, and 80% correctly identified the control image as portraying neither physical health nor appearance. Participants completed the study protocol in approximately 10 minutes (i.e., pre-test questionnaires, promotional message viewing, post-test questionnaires, collage confirmation).
Design

This study was designed to identify the effects of recreation center promotional messaging on college females’ acute perceptions of their bodies. The focus was on whether the body functionality-focused promotional message would result in an acute positive body perception, revealing a low self-objectification score and high functionality appreciation score. Additionally, whether the self-objectification focused promotional message would result in acute negative body perception through high self-objectification scores and low functionality appreciation scores.

This study used a 3x2 repeated measures multivariate analysis of variance (MANOVA) design. Three different university recreation promotional messages (independent variables/conditions) showcased three different body-focused messages: (a) self-objectification, (b) body functionality, and (c) body neutral (control condition) and two different body perception surveys (dependent variables): (a) body shame, and (b) body functionality. Participants took pretest measures of the FAS (FAS; $\alpha = .91$) and the body shame subscale (BSS; $\alpha = .78$) and then were randomly assigned into three groups and shown one of the three images. Participants then completed the posttest measures of the FAS ($\alpha = .94$) and the BSS ($\alpha = .84$). Qualtrics survey software was used to administer the promotional messages and body perception surveys (Qualtrics, Provo, UT).

IBM SPSS Statistics for Windows, Version 25.0 was then used to analyze the data. The statistical significance of changes was examined for the conditions. Post-hoc
Tukey tests were completed to reveal where the conditions had an effect on the dependent variable as well as the strength of the effect.
CHAPTER 4

RESULTS

The purpose of this study was to examine the relationship between recreation center messaging and female’s body perceptions. Specifically, any changes in the pretest and posttest mean scores of the dependent variables (body perception surveys) after the independent variable conditions (collages) was performed. Three hypotheses were proposed regarding the relationships:

1. Participants who viewed the body functionality collage would have significant changes in pre- to post survey scores. Specifically, significantly lower scores for body shame and significantly higher scores for body appreciation.

2. Participants who viewed the objectification collage would have significant changes in pre- to post survey scores. Specifically, significantly higher scores for body shame and significantly lower scores for body appreciation.

3. No significant body perception differences would be found for the control collage.

Themes from Recreation Center Motives

Participants were asked what reasons they use the recreation center or what motivates them to use the recreation center. Items from the EMI-2 were used to assign themes to the open-ended answers. Some answers contained multiple different themes. For example, if participants reported to using the recreation center to relieve stress and to maintain health, they were assigned the themes, “stress management” and “positive health.” A common motive behind recreation center use reported by participants was that the recreation center fee is included in tuition, therefore, “convenience and tuition” was
added as an eleventh theme. The most common themes reported were: positive health (53%), weight management and appearance (19%), stress management (12%), enjoyment (12%), convenience and tuition (10%), and affiliation (8%). According to Deci and Ryan (1985), enjoyment, positive health, stress management, and affiliation are predictors of intrinsic motivation, whereas appearance and weight management are predictors of extrinsic motivation (Frederick & Ryan, 1993).

Results from the qualitative analysis revealed that 12% reported to using the recreation center for enjoyment, 53% of the participants reported to using the recreation center for positive health reasons, 12% reported to using it for stress management, and 8% reported to using it for affiliation. Based on the research conducted by Deci and Ryan (1985) describing enjoyment, positive health, stress management, and affiliation as intrinsic motivators, it might be inferred that 85% participants may use the recreation center for intrinsic motives. These results align with previous research findings from Henchy (2011), students who are involved in the recreation center on a regular basis have an overall increase in enjoyment of fitness as well as a decreased level of stress. A small sample of participant intrinsic motive responses are displayed in Table 4. Conversely, 19% of overall participants reported to using the recreation center for weight management and appearance. A small sample of participant extrinsic motive responses are displayed in Table 5.
Table 4

*Intrinsic Motive Responses from Open-Ended Question*

<table>
<thead>
<tr>
<th>Participant Motive</th>
<th>Theme(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To workout and maintain healthy lifestyle</td>
<td>Positive Health</td>
</tr>
<tr>
<td>To improve my health and to reduce my anxiety</td>
<td>Positive Health and Stress</td>
</tr>
<tr>
<td>Spend time with friends</td>
<td>Affiliation</td>
</tr>
<tr>
<td>I enjoy working out!</td>
<td>Enjoyment</td>
</tr>
<tr>
<td>Workout, maintain all aspects of health (e.g., physical, mental); I often use it when I'm stressed from school</td>
<td>Positive Health and Stress</td>
</tr>
<tr>
<td></td>
<td>Management</td>
</tr>
</tbody>
</table>

Table 5

*Extrinsic Motive Responses of Open-Ended Question*

<table>
<thead>
<tr>
<th>Participant Motive</th>
<th>Theme(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't want to get fat.</td>
<td>Weight Management</td>
</tr>
<tr>
<td>I use it to maintain my weight.</td>
<td>Weight Management</td>
</tr>
<tr>
<td>I'm chubby. I want a cute summer body</td>
<td>Appearance</td>
</tr>
<tr>
<td>I have body image issues</td>
<td>Appearance</td>
</tr>
<tr>
<td>Weight loss</td>
<td>Weight Management</td>
</tr>
</tbody>
</table>
Reliability and Correlation of Scales

The internal consistency reliabilities of all pre-posttest measures were analyzed and all subscales showed adequate reliability at pre- and post-survey completion determined by criteria for Cronbach’s alpha reliability, $\alpha \geq .70$ (Cronbach, 1951). The reliability values for the body perception subscales ranged from .78 - .94 (pre-.91, .78; post-.94, .84 respectively).

Additionally, Pearson Correlation tests were conducted for all the measures across time (pre- and post-). A moderate, negative correlation found with both the pre-FAS and the pre-body shame scale, $r(136) = -.36$, $p < .001$, as well as the post-FAS and the post-body shame subscale $r(136) = -.45$, $p < .001$. The negative relationship indicates that higher perception on the functional appreciation was related to lower perceptions of body shame.

For the current study the decision to use the body shame subscale was driven by the established links between mental health, self-esteem, and body shame (Henriksen, Ranøyen, Indredavik, & Stenseng, 2017). The Objectified Body Consciousness Scale (OBCS) is comprised of three subscales: body surveillance, body shame, and belief about appearance control (McKinley & Hyde, 1996). Previous research has used the body surveillance subscale from the OBCS and the FAS together (Alleva, et al., 2017), but no published research has shown the use of the body shame subscale and FAS together. The current study appears to be one of the only experimental studies to date to use these two scales in exploring women’s body perceptions.
The moderate, negative correlation (Table 6) with the body shame subscale and the FAS is to be expected; that is the FAS reflects positive body perception and the body shame subscale reflects negative body perception. The results of this study provide further support for the FAS and the relationship between body functionality-focused promotional messaging and body shame.

Table 6

Pearson Correlations of Pre and Post FAS and Body Shame Measure

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pretest FAS</th>
<th>Pretest Body Shame</th>
<th>Posttest FAS</th>
<th>Posttest Body Shame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest FAS</td>
<td>-</td>
<td>-0.36**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pretest Body Shame</td>
<td>-0.36**</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Posttest FAS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.45**</td>
</tr>
<tr>
<td>Posttest Body Shame</td>
<td>-</td>
<td>-</td>
<td>-0.45**</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>4.41</th>
<th>3.99</th>
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<tbody>
<tr>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>0.58</td>
<td>1.09</td>
<td>0.55</td>
<td>1.21</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the .01 level (2-tailed).
Analyses of Study Hypotheses

Hypothesis 1: The Functionality Collage

It was hypothesized that participants who view the body functionality collage, would have significant changes in pre- to post survey scores. Specifically, significantly lower scores for body shame and significantly higher scores for body appreciation. To investigate the differences across the three different condition groups, a repeated measures MANOVA was utilized. Multivariate tests revealed a significance for pre- and post-measures within subjects (Wilks’ $\lambda = .94$, $F(2, 133) = 4.0$, $p < .05$, $\eta^2 = .06$). A medium effect size was discovered for the pre-and post-measures within subjects ($d = .51$). A main significant effect was found for pre- and post- measures and promotional message condition (Wilks’ $\lambda = .92$, $F(4, 268) = 2.7$, $p < .05$, $\eta^2 = .04$). A small effect size was discovered for the pre-and post-measures and promotional message condition ($d = .41$). Further analysis indicated that participants who saw the body functionality collage had a significant decrease in their pre- to post- body shame measures (Wilks’ $\lambda = .89$, $F(2, 133) = 8.5$, $p < .001$, $\eta^2 = .11$). A medium effect size ($d = .70$) revealed that there was a relationship between the body functionality collage and perceptions of body shame.

No significant differences emerged with pre- to post-functionality appreciation scores (Wilks’ $\lambda = .96$, $F(4, 268) = 1.5$, $p > .05$, $\eta^2 = .02$). The mean difference for this finding is displayed in Table 7. In sum, hypothesis one was partially supported in that a significant decrease in body shame scores occurred due to the functionality collage condition.
Table 7
*Reported Pre-Posttest Measure Reliability, Means, Standard Deviations, and Mean Differences*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Pre-Test</th>
<th>α</th>
<th>Post-Test</th>
<th>α</th>
<th>MD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M (SD)</td>
<td></td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FAS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Functionality Group</td>
<td>48</td>
<td>4.53 (.45)</td>
<td>0.86</td>
<td>4.57 (.51)</td>
<td>0.94</td>
<td>.05</td>
</tr>
<tr>
<td>Objectification Group</td>
<td>45</td>
<td>4.27 (.79)</td>
<td>0.94</td>
<td>4.29 (.62)</td>
<td>0.92</td>
<td>.02</td>
</tr>
<tr>
<td>Control Group</td>
<td>44</td>
<td>4.43 (.42)</td>
<td>0.82</td>
<td>4.52 (.48)</td>
<td>0.94</td>
<td>.09</td>
</tr>
<tr>
<td><strong>Body Shame Subscale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Functionality Group</td>
<td>48</td>
<td>3.89 (1.0)</td>
<td>0.73</td>
<td>3.57 (1.2)*</td>
<td>0.83</td>
<td>-.33</td>
</tr>
<tr>
<td>Objectification Group</td>
<td>45</td>
<td>4.23 (1.0)</td>
<td>0.77</td>
<td>4.26 (1.3)</td>
<td>0.83</td>
<td>-.07</td>
</tr>
<tr>
<td>Control Group</td>
<td>44</td>
<td>3.86 (1.1)</td>
<td>0.82</td>
<td>3.79 (1.1)</td>
<td>0.82</td>
<td>.03</td>
</tr>
</tbody>
</table>

*Note.*

*= Significant difference (p < .001)
MD= Mean Difference
FAS Responses = 1-5 point Likert Scale
Body Shame Subscale Responses= 1-7 point Likert Scale
Hypothesis 2: The Objectification Collage

It was hypothesized that participants who viewed the objectification collage would have significant changes in pre- to post survey scores. Specifically, significantly higher scores for body shame and significantly lower scores for body functionality. The repeated measures MANOVA was not statistically significant for those who viewed the objectification image (Wilks’ λ = .99, $F(2, 133) = .11 \ p > .05, \eta^2 = .00$). Therefore, this hypothesis was not supported by the findings.

Hypothesis 3: The Control Collage

It was hypothesized body perception differences would not emerge among those who saw the control collage, (Wilks’ λ = .98, $F(2, 133) = 1.2 \ p > .05, \eta^2 = .02$). Results for the MANOVA showed no significant difference from pre- to post- survey responses. Thus, this hypothesis was supported by these findings.

Summary

A total of 137 female college students completed the study. Adequate reliability for the pre/post FAS and body shame subscale was supported. Pearson correlations supported a modest, negative relationship between the body perception measures used for this study. A repeated measures MANOVA tested the differences across all conditions, and post-hoc Tukey tests identified the significant differences emerged. The findings supported the hypothesis that those who viewed the body functionality image would have a significant decrease in their post-body shame scores. Findings also supported the hypothesis that viewing the control collage would lead to no changes in either body shame or functionality appreciation. Participants did not score significantly lower on the
FAS after viewing the objectification collage, as no statistical significance emerged in subscale scores for the objectification group.
CHAPTER 5

DISCUSSION

The purpose of this study was to examine the relationship that recreation center messaging has on female body perceptions. Recreation centers serve a two-fold importance to a university and to students. Recreation centers are important to a university because they help with recruitment, enrollment, and retention of the students (Kampf, 2010; Miller, 2011). Secondly, recreation centers are important for the student body because students who actively participate in the recreation center activities have higher mental and physical health indices than those who do not participate in recreation center activities (Callaghan, 2004; Huesman et al., 2009; Strohle, 2009; Wipfli et al., 2011). Influences that could play a role on a female student’s motivation to exercise as well as their psychological health are the promotional messages used by recreation centers (Mitchell & Olson, 1981).

Participants were asked what reasons they use the recreation center or what motivates them to use the recreation center. With the analysis of themes based off of motivation research done by Deci and Ryan (1985), overall, 85% of participants reported to using the recreation center for intrinsic motives. Although a majority of participants in the current study reported to using the recreation center for intrinsic motives, this does not mean they are insusceptible to the psychological effects of objectifying promotional messages. This information is important for recreation centers because if their participants are coming in for intrinsic motives, there is no need to use promotional messages that reflect extrinsic behavior (i.e., exercising for appearance). Motivation is
proposed to be on a spectrum ranging from extrinsic to intrinsic (Deci & Ryan, 1985) and therefore, should not be determined to be dichotomous (i.e., students are working out for appearance OR health). Although students could be exercising for appearance motives, it becomes crucial that recreation centers are using promotional messages that influence intrinsic motives as these tend to contribute more strongly to sustained exercise behavior, and in turn consistent use of the recreation center facilities (Deci & Ryan, 1985).

The first research question of the current study was to determine if functional-focused promotional messages had an acute influence on female’s perceptions of their bodies. It was hypothesized that participants would have a significant change score in the pre- to post- survey scores. Specifically, significantly lower scores on the body shame measure and significantly higher scores on the body appreciation measure. Findings from this study supported the hypothesis that women would score significantly lower on the body shame measure. This finding is important for two reasons: first, it supports research that messaging focusing on functional fitness may buffer women from objectifying images and body shame (Alleva, Veldhuis, & Martijn, 2016). Second, this finding supports the notion that if recreation centers were to utilize promotional messaging that targets body functionality, then women may feel less self-objectification and body shame. This feeling of less body shame may help increase intrinsic motivation to exercise for health rather appearance reasons which is beneficial for sustained exercise behavior (Deci & Ryan, 1985). This finding is particularly relevant for the role of recreation and wellness centers in university recruitment and retention efforts.
One explanation why women might have scored significantly lower on the body shame subscale when viewing the functionality collage could have been because women are not used to seeing functionality-focused promotional messages. Current mainstream advertisements in Western media culture tend to depict an inaccurate idealization of what the female body should look like (Levine & Murnen, 2009; Martin, 2010). Throughout the years, the societal definition of the “ideal woman” has emerged to an emphasis on unhealthy thinness (Grabe, Ward, & Hyde, 2008; Wiseman, Gray, Mosimann, & Ahrens, 1992). Ideal body images may be used by fitness centers to demonstrate the results that users could get if they were to use their facilities. However, it is typically not as common to see a promotional message using a participant who is at the beginning stages of their fitness journey or an image displaying the hard work behind exercise. Therefore, because the nature of the functional-focused images showcasing a new body concept to participants, it could have had an influence on how they responded to the body shame measure. Findings from this study did not support the hypothesis that participants would have a significance in functionality appreciation after viewing the functionality collage. This might be because a majority of participants scored fairly high on the functionality appreciation scale at pretest ($M = 4.41$).

The second research question was to determine if objectifying promotional messages had an acute influence on female’s perceptions of their bodies. It was hypothesized that there would be a change score from pre- to post- survey scores. Specifically, participants would score significantly higher on the body shame measure and significantly lower on the functionality measure. The objectification collage included
objectifying images as well as objectifying titles for fitness classes. Findings for this study did not support the hypothesis that participants would score significantly higher on the body shame measure. This finding contradicts prior research that has shown an increase in body shame in response to viewing body objectifying images (Monro & Huon, 2005). Aubrey (2010) found similar findings among women who viewed fitness magazine cover content. That is, content promoting appearance resulted in higher self-objectification scores and greater body shame among women than the content that encouraged health (Aubrey, 2010).

One of the reasons for this non-significant finding can be supported by research from Wasylkiw & Butler (2014) who found that having conversations with women about the physical capabilities of their body could enhance appreciation for their bodies. Women in this study completed the pre-test body functionality measure exposing them to positive comments about their body’s functional abilities which may have provided a buffer for any negative feelings upon viewing the objectification collage.

Additionally, this non-significant finding contrasts the proposed idea that participants had a reaction to the functional-fitness collage because they are not used to seeing functional-based images. Instead participants may not have had a response to the objectification collage because they are used to seeing objectifying images and it may have desensitized them to the extreme body ideal in these images. As previously stated, Western media culture tends to use images of thin-ideal bodies for media promotions (Levine & Murnen, 2009; Martin, 2010). A study analyzing fitness magazines found that 91% of fitness covers had captions framing enhanced appearance and 53% of these
magazines had an objectifying image or phrase on the cover (Bazzini, Pepper, Swofford, & Cochran, 2015). This could also be a potential explanation for the nonsignificant finding that participants would score lower on the functionality appreciation measure after viewing the objectifying image. Thus, participants might not have had any reaction to the objectifying collage because it is something they might be used to seeing.

Although they did not have an acute reaction to the objectifying collage, this does not mean that consistently seeing objectifying promotional message might not have a chronic influence on women’s perception of their bodies or on their psychological health for that matter. Objectification can result in appearance internalization as well as influence mental and emotional health in females (Fredrickson & Roberts, 1997). Therefore, it is still important for recreation centers to switch their efforts to functional-focused promotional messages.

Limitations and Future Research

The current study was designed for college females, age 18-25 from a mid-sized, Midwestern university. The data for the study was collected at a single time-frame. It was assumed that those who decided to participate were honest with their survey responses.

The limitations for this study included multiple exclusion criteria. Those who were older than 26 or younger than 18 were excluded from the study. Female college students aged 18-25 years were a convenient participant pool, however, prior research supports that feelings of self-objectification tend to be higher in females who are in their 20’s (Aubrey, 2010; Kilpela, Becker, Wesley, & Stewart, 2015; Maltby & Day, 2001). Additionally, Greenleaf (2005) analyzed body shame between different ages and
discovered that older women ($M=48.95$) have significantly lower levels of body shame and self-objectification than younger women ($M=20.96$).

Specific to younger age groups, Slater and Tiggemann (2010) discovered that females may stop exercising as young as 15 because they fear that it might go against expected femininity (i.e., becoming too bulky or buff). Participants described the ideal female body as “an hour glass figure”, “tight butt”, “nice boobs”, and “a pretty face” (Slater & Tiggemann, 2010, p. 625). Therefore, future research should continue to examine promotional messages for healthy body functioning (e.g. assuaging ideal body images) especially for adolescent and pre-adolescent females. For example, promotional messaging from sporting goods or movement apparel companies might promote content that highlights fit or healthy bodies that have both masculine and feminine qualities. This research has solid utility for school- and community-based wellness activity programming.

Men were excluded from the study as well. This decision was made because much of the research that has examined body perceptions, especially self-objectification, has focused primarily on female populations (Aubrey, 2010; Grau et al., 2007, McKinley & Hyde, 1996; Monro & Huon, 2005; Strelan et al., 2003; Tiggemann & Zaccardo, 2015). This does not mean that college-age male populations are immune from body perception concerns. Agliata and Tantleff-Dunn (2004) analyzed the effects that ideal-male image-based television advertisements had on male viewers. These researchers discovered that those who saw the ideal-male image advertisements had higher levels of muscle dissatisfaction and higher levels of depression than those who saw the neutral
Young adult males tend to seek out and engage in primarily strength-based workout options; workouts that specifically target muscular development and definition (Gao & Xiang, 2008; LaCaille, Dauner, Krambeer, & Pedersen, 2011). This type of narrowly-focused fitness workouts tend to neglect cardiovascular health and flexibility, which are strongly related to lifetime, health-related fitness parameters (Moratalla-Cecilia et al., 2016). Future research might explore possible differences between males’ and females’ perceptions to recreation and/or fitness center promotional messaging and the influence of messaging on exercise and physical activity motivation.

Additionally, the objectifying nature of specific gym space or exclusive weight rooms would be of interest in examining female and male body perceptions. Research has shown a relationship between body image and time spent in a recreation center (Prichard & Tiggemann, 2008). Many universities have an exclusive weight training gym spaces that could be explored for gender difference in use as well as perceptions of the workout climate (e.g., male-dominated, intimidating), especially since males tend to engage in strength-based workouts more often than females (Gao & Xiang, 2008; LaCaille, Dauner, Krambeer, & Pedersen, 2011).

Another exclusion criterion included participants who had not been to the recreation center once within the last year. Future research might investigate participant reasons, motives, and barriers to using university recreation centers. This may provide deeper perspectives on students who do not use these university fitness resources. Perhaps, research might even look at participants who did not score very high on the body shame measures or those who scored very low on the body functionality measure. This line of
research would be of particular interest to both university and recreation center administration as these facilities are often believed to be student recruitment and retention amenities (Kampf, 2010).

Participants were also from a single Midwest university with low diversity (i.e., primarily Caucasian, 95%). Future research might replicate this study at larger and more diverse universities and colleges in order to examine differences in recreation center messaging and possible impact on body perceptions across multiple races and ethnicities. Research has shown racial differences in body image/perceptions. Kronenfeld, Reba-Harrelson, Von Holle, Reyes, and Bulik (2010) recruited 4,023 females, ages 25-45 years, to identify body preferences across different racial and ethnic groups. Participants were told to report their current BMI and then were shown different silhouettes. They were asked to identify which silhouette they related to most and which one they preferred. The results showed a perceptual difference between women on how they viewed their bodies in comparison to what their bodies actually looked like. Asian and African American women chose a smaller silhouette to represent their size, and Caucasian women chose larger silhouettes to represent their current size. However, both African American and “Other” race women preferred a larger silhouette than Caucasian women (Kronenfeld et al., 2010). These results may demonstrate a cultural difference for body perceptions between race and ethnicities; therefore, future research should examine a racially diverse group of women in order to truly gauge different body perception responses to recreation center promotional messaging.
This study was able to capture acute responses that females had from the recreation center messaging and did not examine any long term (chronic) responses or feelings about body perceptions. Longitudinal studies could integrate recreation facility management and university administration efforts in exploration or development of different types of healthy body perception messages and their influence on participant attendance and enjoyment, as well as young adult body image. The overall health and wellness of the student body is often paramount to a university’s mission.

**Practical Implications**

The findings from this study offer important implications for recreation center directors and fitness instructors. Gaining a richer understanding on how to enhance recreation center usage, increase intrinsic motives for exercise, and enhance psychological health in users can influence recreation program development and student recruitment messaging. This study focused primarily on the promotional messages of recreation centers, however the findings from this study could be applicable to a broader range of areas within the overall recreation center operating system.

The main finding for this study was that functional-based promotional messages have the ability to reduce feelings of body shame. Intrinsic and extrinsic motives for exercise based on health and appearance were represented as two body perception extremes (i.e., functionality, objectification) for this study. However, it is very possible for participants to be both extrinsically motivated and intrinsically motivated (i.e., motivated for health AND appearance). It is also possible for exercisers and physical activity participants to be intrinsically motivated to exercise, yet still have a negative
perception of their bodies. Thus, recreation center directors should find ways to encourage intrinsic motivation for sustained exercise through the lens of body functionality rather than body appearance as this has potential to enhance psychological well-being in participants and reduce the negative perceptions they might have of their bodies. This can be done through promotional messages, fitness class titles, or in conjunction with training for their fitness instructors.

Fitness instructors have the ability to influence the climate of their class as well as the behavior of their clients (Brown & Fry, 2015). It might be necessary for recreation center directors to explore different functionality-focused trainings for fitness instructors. These trainings might include teaching fitness instructors to encourage improved health in their class rather than improved appearance outcomes from class engagement. For example, fitness instructors could set the tone of their class by telling participants, “this class is going to contribute to reducing your overall stress and improving your health” rather than telling participants “this class is going to get you ready for that spring break body.” Given that recreation centers are a part of the university system and student experience, many of the fitness instructors at the recreation center are college students themselves. Therefore, by providing these functional-focused trainings to student fitness instructors, it may influence both the students’ perceptions and the fitness instructor’s approach to specific work-out classes. Additionally, learning and practicing how to motivate clients for improved physical and psychological health will better equip these instructors for their future endeavors.
Recreation center directors can also use this information to enhance a non-intimidating culture of a recreation center. One reason that participants might not use the recreation center could be because they find the nature of it daunting, especially if they are beginners with exercise. A recreation center that promotes an atmosphere of overall functionality as well as physical and psychological health instead of targeting appearance might reduce pressure for a user to feel like they need to have a certain body type or physical competency in order to participate in recreation center activities. An example of how this can be done is by training staff in readiness on teaching participants how to use the machines or the free weights as well as specific health benefits from usage. However, some users might be embarrassed to ask for help, therefore recreation centers might post “how to” guides with added health benefits around the workout areas for each machine or free exercise.

CONCLUSION

The current study provided some preliminary findings on how different types of campus recreation center messaging for fitness classes/programs influence body perceptions and perhaps ultimately, recreation center usage. Specifically, for female recruitment and participation since research has shown that women college students use the recreation centers significantly less often than males (Miller et al., 2008). Additionally, female students’ mental health can be negatively impacted during college years and fortunately, improved mental health and exercise are positively linked (ACHA, 2019; Callaghan, 2004; Ströle, 2009; Wipfl et al., 2011). Therefore, it is important to
explore how recreation centers can get female students into the facility and feel psychologically safe in engaging in physical activity.

Hopefully, future research will look to expand on the findings of this study and explore additional, unanswered questions regarding the importance of body functionality and body appreciation in facilitating more intrinsic motives for sustained exercise behavior and adherence (Deci & Ryan, 1985). College years are typically a critical transition time for young adults and may contribute to mental health challenges, which is why recreation centers serve such an important role to a university. Exercise can improve mental and physical health and recreation centers have the ability to target these health outcomes among their students. Thoughtful promotional messaging by recreation centers has the potential to increase student participation, enhance intrinsic motivation, influence sustained exercise behavior, and promote body positivity, especially for their female student body.
REFERENCES


Johnson, J., & Rochkind, J. (2009). With their whole lives ahead of them: Myths and realities about why so many students fail to finish college. *Public Agenda, 1*-47.


APPENDIX A

INFORMED CONSENT

UNIVERSITY OF NORTHERN IOWA
HUMAN PARTICIPANTS REVIEW

INFORMED CONSENT

Project Title: College Recreation Center Messaging

Name of Investigator(s): Sydney Cindrich, Dr. Kimberly Hurley

If you are a female student, age 18-25 who has participated in the recreation center outside of class requirement at least once within the last 12 months, you are invited to participate in a research project conducted through the University of Northern Iowa. The following information is provided to help you make an informed decision about whether or not to participate.

The purpose of this study is to identify how university promotional messages utilized by college recreation centers are being perceived by female college students.

Participation requires completion of one online survey, approximately 10 minutes in length.

Risks of participating in this study are minimal. If you feel discomfort at any time, you may exit the survey. The UNI Counseling Center can be reached at 319-273-2676 or you can visit the website at counseling.uni.edu. No direct benefits to participants are expected, but this research may generate important information about recreation center messaging.

Confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The summarized findings, with no identifying information, may be published in an academic journal and/or presented at a scholarly conference.

Participation is completely voluntary. You are free to decline participation or to terminate participation at any time by closing the browser window or program. Partial data will not be analyzed.

If you have any questions regarding your participation in this study or about the study generally, please contact Sydney Cindrich (B.A. Kinesiology) at 319-939-7028 or the project investigator’s faculty advisor, Dr. Kimberly Hurley at the Department of Kinesiology, University of Northern Iowa, at Kimberly.hurley@uni.edu. For answers to questions about the rights of research participants and the research review process at UNI, you may contact the office of the IRB Administrator at 319-273-6148.

Agreement:

I am fully aware of the nature and extent of my participation in this project as stated above and the possible risks arising from it. I hereby agree to participate in this project

CLICK YES (start survey)

CLICK NO (exit out)
Hello,

My name is Sydney Cindrich and I am a graduate student in the Department of Kinesiology at the University of Northern Iowa. We are conducting a research study about female students and campus recreation center advertisements. If you are a female student, age 18-25 who has participated in the recreation center outside of a required class at least once within the last 12 months, you are invited to participate in a research project conducted through the University of Northern Iowa. Study participation will take about 10 minutes. You will complete an online survey for this research project. Participation is completely voluntary, and your answers will be anonymous.

If you are interested, please click on the link for the survey and additional information:

www.linktosurvey.com

If you have any questions, please do not hesitate to contact me.

Thank you for your time!

Sydney Cindrich
APPENDIX C

QUESTIONNAIRES

Demographics

1. What do you identify as?
   ___ Male
   ___ Female
2. Age:
   ___ 18
   ___ 19
   ___ 20
   ___ 21
   ___ 22
   ___ 23
   ___ 24
   ___ 25
3. Have you used the campus recreation center for physical activity, exercise, or another event in the last 12 months?
   ___ Yes
   ___ No
4. Which one or more of the following would you say best describes your race?
   ___ White
   ___ Black or African American
   ___ American Indian or Alaska Native
   ___ Asian
   ___ Hispanic/Latina
   ___ Native Hawaiian or Other Pacific Islander
   ___ Other
   ___ More than one of the above
5. Year in School
   ___ Freshman
   ___ Sophomore
   ___ Junior
   ___ Senior
   ___ Graduate
6. Do you follow the campus recreation center on social media (i.e., Facebook, Instagram, Twitter)?
   ___ Yes
   ___ No
7. WHY do you use the recreation center? OR What motivates you to use the recreation center?
FAS (Alleva et al., 2017)

I appreciate my body for what it is capable of doing.

<table>
<thead>
<tr>
<th>1. I am grateful for the health of my body, even if it isn’t always as healthy as I would like it to be.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. I appreciate that my body allows me to communicate and interact with others.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. I acknowledge that my body allows me to communicate and interact with others.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. I am grateful that my body enables me to engage in activities that I enjoy or find important.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. I feel that my body does so much for me.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. I respect my body for the functions that it performs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>
Body Shame Subscale (McKinley & Hyde, 1996)

1. When I can’t control my weight, I feel like something must be wrong with me.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neither Agree/Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
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</tr>
</tbody>
</table>

2. I feel like I must be a bad person when I don’t look as good as I could.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neither Agree/Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>4</td>
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<td>6</td>
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<td>7</td>
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</tr>
</tbody>
</table>

3. I would be ashamed for people to know what I really weigh.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neither Agree/Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
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</tr>
</tbody>
</table>

4. I feel ashamed of myself when I haven’t made the effort to look my best.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neither Agree/Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>7</td>
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</tbody>
</table>

5. Even when I can’t control my weight, I think I’m an okay person.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neither Agree/Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>4</td>
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</tr>
</tbody>
</table>

6. I never worry that something is wrong with me when I am not exercising as much as I should.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neither Agree/Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>6</td>
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<tr>
<td>7</td>
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</tbody>
</table>

7. When I’m not exercising enough, I question whether I am a good enough person.

<table>
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8. When I’m not the size I think I should be, I feel ashamed.

<table>
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