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The Relationship between Motivations for Physical Activity and Self-Esteem of College Women

Emily Turke

Clemson University, egturke@gmail.com

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THE RELATIONSHIP BETWEEN MOTIVATIONS FOR PHYSICAL ACTIVITY
AND SELF-ESTEEM OF COLLEGE WOMEN

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Parks, Recreation and Tourism Management

by
Emily Grace Turke
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Accepted by:
Dr. Dorothy Schmalz, Committee Chair
Dr. Robert Barcelona
Dr. Karen Kemper

ABSTRACT

Physical activity can have a positive impact on several aspects of mental health, including self-esteem. Positive mental health effects of physical activity may be related to increased skill competency and social interaction (Paluska & Schwenk, 2000). Research indicates that self-esteem is also increased by participation in physical activity. Specifically, girls who participate in physical activity have higher self-esteem than girls who do not participate (Wilson & Rodgers, 2002; Schmalz, Deane, Birch, Davidson, 2007). Self-esteem that emerges from physical activity is an important factor in the health and wellbeing of college women. Social, emotional, academic and physical aspects of a young woman's life play a large part in her wellbeing during college (Ahern, Bennett, Kelly & Hetherington, 2011). College women in particular are continually faced with issues of body image dissatisfaction and low self-esteem (Forrest & Stuhdreher, 2007). Research has shown that women who are physically active for extrinsic reasons are less likely to develop strong motivational patterns throughout life and more likely to have overall lower levels of self-worth than women who are motivated intrinsically (Wilson & Rogers, 2002). Influential factors to participate in physical activity include societal impacts from friends, family, and the media. However, specific motivations for physical activity participation are less understood.

This study sought to examine the role that appearance motivation plays in the relationship between physical activity participation and self-esteem among college women. The sample consisted of 668 undergraduate women between the ages of 18-24 enrolled in classes at a mid-size southeastern university during the 2012 spring semester.

A questionnaire was developed using the International Physical Activity Questionnaire, Motivations for Physical Activity Measure – Revised and the Rosenberg Self-Esteem scale to collect information on physical activity participation, motivations and self-esteem levels of college women. Study results presented no significant relationship between physical activity participation and self-esteem. Physical activity participation and self-esteem were not mediated by appearance motivation; however, there was a significant relationship between physical activity participation and appearance motivations.

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CHAPTER ONE

INTRODUCTION

According to the National College of Health Assessment (ACHA, 2005) college students are leading lifestyles that do not meet the physical activity and dietary recommendations of health and fitness experts. Based on self-reported weight values, 29% of college students are overweight or obese (ACHA, 2005). It is unclear whether the college lifestyle promotes weight gain and reduces physical activity patterns in this demographic, or if there are other behavioral factors involved.

Young women who transition from home to college are two to five times more likely than women who do not leave home to gain 15% or more above their ideal weight (Butler, Black, Blue & Gretebeck, 2004). Other research involving weight gain during the first year of college has suggested that women are conscious of their body and thus make efforts to decrease caloric intake to maintain a healthy body weight (Forrest & Stuhldreher, 2007). While decreasing overall food consumption, college women also decreased their rate and intensity of physical activity (Butler, Black, Blue & Gretebeck, 2004). These findings suggest a discrepancy of knowledge, motivation, persistence or actions between healthy levels of nutrition and exercise.

College is a distinct period in an individual's life for development through exploration of new possibilities and life experiences (Hiester, Nordstrom & Swenson, 2009). Prior to entering college, students have been sheltered by their parents to a certain extent and have not developed their own opinions and ways of living (Giddan, 1988). A transition between childhood and adulthood, recently identified as emerging adulthood

(Arnett, 2000), takes place at this time where there are uncertainties of what directions to take in life, what profession to choose, and who to be in a romantic partnership with (Arnett, 2000). College students are considered emerging adults because they are no longer children in direct care of parents and are not necessarily considered adults because they are still learning and developing independently.

The theory of emerging adulthood considers the stage of life between 18-25 years of age in which individuals become in touch with their identity (Arnett, 2000). Emerging adulthood only exists in cultures that allow for long term periods of independence in a setting that is safe for experimentation with different life opportunities (Arnett, 2000). Upon entering adulthood, there are definite indicators that an individual has transitioned into their own person. Indicators may include financial independence, establishing residence, choosing a career path and committing to a long-term romantic relationship (Arnett, 2000). Perceptions of self are uncovered during college that either constrain or enable body image satisfaction. Young women in particular are continually influenced by surrounding friends, family and the media with body type ideals that affect their body image satisfaction (Butler, Black, Blue & Gretebeck, 2004).

Research has shown that upon entering college, first year students will gain weight over the course of the first year (Hovall, 1985; Hodge & Jackson, 1993) due to change in lifestyle from home to college that may emphasize less physical activity and unhealthier food choices. This leads to women to make efforts to decrease caloric intake as a method of maintaining a healthy weight. While decreasing overall food consumption, college women also decreased their rate and intensity of physical activity

(Butler, Black, Blue & Gretebeck, 2004). According to the 2007 ACHA-NCHA survey, 91.4% of college women self-reported their general health to be good, very good or excellent. This self-reported measurement is an overall assessment of how women perceive the physical condition of their body to be in. However, measurement of Body Mass Index (BMI) showed only 64% of college women are actually at a healthy weight. According to the National Heart Lung and Blood Institute (NHLBI, 2011), BMI is a measure of overweight and obesity, which is calculated by dividing height by weight. BMI is an estimate of body fat and a gauge of risk for diseases that may occur with increased body fat. With higher BMI, there is greater risk for detrimental health problems such as heart disease, high blood pressure, diabetes, certain cancers, and breathing problems (NHLBI, 2011). Thus, even though college women perceived their health to be in good condition, a measurement of BMI showed they were actually at an unhealthy weight and at risk for future health problems (Butler, Black, Blue & Gretebeck, 2004).

Considering the tendency for college women to reduce their participation in physical activity, it is important to explore what potential outcomes they might be missing. Campus recreation may play a vital role in increasing and maintaining physical activity levels of college students (Reed, 2007). Understanding the different motivations college women have to participate may provide valuable information to campus recreation providers who want to encourage and even increase participation among their female population.

Physical Activity effect on Self-Esteem

Increased levels of self-esteem have been identified as a psychological benefit of participation in physical activity (Sonstroem, 1984). Perceptions of physical self-concept are considered critical factors in determining global self-esteem (Fox, 1992). Physical self-worth is thought to mediate the role between physical self-concept and self-esteem (Schmalz, Deane, Birch, Davidson, 2007). Research suggests that participation in physical activity can lead to increasing self-esteem, specifically among adolescent girls with higher BMIs (Schmalz, Deane, Birch, Davidson, 2007). Furthering the research of physical activity motives and self-esteem, Wilson and Rodgers (2002) investigated motivations of college women to participate in exercise classes and found that only autonomous motives for exercise were associated with higher levels of positive self-esteem.

Motivations for Physical Activity

In a study by Wilson and Rodgers (2002), physically active women were surveyed after exercise classes on a college campus. The survey examined their intrinsic and extrinsic motivations toward exercise. Women who were extrinsically motivated by external sources such as success, friends or the media, were unlikely to develop strong motivational patterns for physical activity throughout life. These women also were likely to have overall lower levels of self-worth (Wilson & Rodgers, 2002). Thus, developing the framework of a recreation program could influence personal growth of women and their motivation to participate in physical activity. Programs that are developed to satisfy

intrinsic motivational needs may be better received than programs that only provide external rewards or outcomes.

Intrinsic Motivation for Participation

There is evidence that people are able to maintain positive physical activity behaviors overtime (Wilson & Rodgers, 2002). However, there is a need for why people are motivated to exercise in the first place and a need for understand how to facilitate that motivation. People who are motivated intrinsically to be physically active participate for sheer enjoyment and in the moment satisfaction of the activity at hand (Ryan, 2000). Quality of the performed activity needs further investigation when behaviors of the activity fail to promote high intrinsic interest and fail to create adherence to the activity or the idea of the activity.

It has been found that people who play sports are motivated more intrinsically than people who only exercise (Kilpatrick, Hebert, Bartholomew, 2005). Research shows that exercise behaviors are more extrinsically motivated as to maintain a fit body for self-presentational reasons (Kilpatrick, Hebert, Bartholomew, 2005). Perceived pressure to exercise may represent a less salient source of motivation than voluntarily endorsed reasons. Future exercise patterns may be predicted by greater perceptions of autonomy and support from friends (Colburn, 2010).

Extrinsic Motivation for Participation

When participating in physical activity, if one focuses on external appearance exclusively, this perspective may interfere with internal flow and personal goals (Ryan, 2000). One of the most common reasons women choose to participate in physical activities is the concern of self-presentation (Levine & Smolak, 2006). Women have reported that the reasons they engage in physical activity are purely self-presentational, which include weight management, body tone and general physical appearance. Self-presentation is how people will attempt to monitor and control the impressions other people may form of them (Schlenker & Leary, 1982). This is a fundamental piece to understand how people interact in relation to how people are perceived, evaluated and then treated by others (Leary & Kowalsky, 1990).

If one is motivated to be physically active for self-presentational reasons, there may be societal pressures to maintain a thin ideal. The thin ideal refers to the extent to which someone cognitively buys into ideals that are socially defined and from there engages in certain behaviors that attempt to portray those ideals (Levine & Smolak, 2006). Social reinforcement for the thin ideal occurs when individuals internalize attitudes or comments made by friends or family (Levine & Smolak, 2006). These can be either positive or negative and may define an individual's sense of self. Not only can this happen from comments from friends and family, but also from the media. The idea of the thin ideal is thought to directly foster poor body image satisfaction as the thin ideal presented from models, actresses or musical artists are not realistically attainable for most women (Leary & Kowalsky, 1990). This internalization may precipitate an onset of other

issues such as dieting or eating disorders in addition to negative body image or low self-esteem (Levin & Smolak, 2006).

Body Image Satisfaction

Physical activity has been shown to be both positive and negative in terms of psychological health for college women (Thome & Espelage, 2004). Other research involving weight gain of women during the first year of college concluded that women are very aware of their body image. In addition, 24% of college women find their personal appearance to be a stress factor and difficult to manage (ACHA-NCHA, 2007). Internalizing the views of other females in a social circle from a college campus may create new ideals for one's body (Thome & Espelage, 2004). This may create new motivation to stay current with trends or with healthy lifestyle practices (Brizendine, 2006).

Statement of Purpose

The purpose of this study is twofold. The first objective is to determine if there is a relationship between physical activity participation and self-esteem. The second objective is to determine if type of motivation to participate affects the relationship between physical activity and self-esteem. The objectives are diagrammed in Figure 1. Previous research has established that participation in physical activity has a positive effect on self-esteem (Sonstroem, 1984; Fox, 1992; Paluska & Schwenk, 2000; Schmalz, Deane, Birch, Davidson, 2007). However, less is known about how intrinsic vs. extrinsic

motivations might affect this relationship. This study is important to inform practitioners there is a need to improve ecological and educational aspects of campus recreation atmosphere in regards to promoting higher levels of intrinsic motivation that conceivably could create higher adherence rates. In addition, this study will address a gap in the literature between how specific motivation to participate in physical activity influences self-esteem. Quantitative methods were used to examine motivations to participate in physical activity, and levels of self-esteem as a potential outcome of physical activity. Results from this study could help to expand campus recreation programming to further develop and promote healthy attitudes and lifestyles of college women.

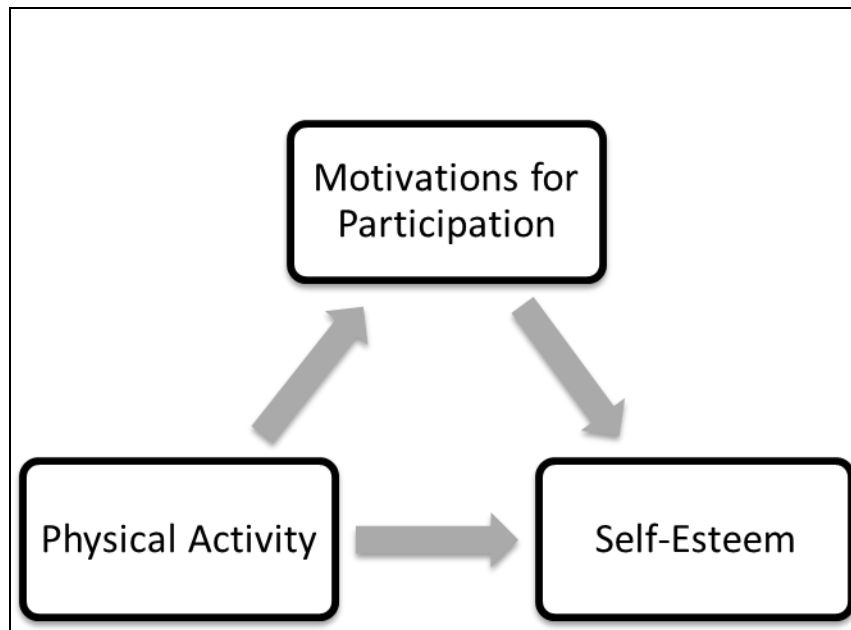


Figure 1.1: The Hypothesized Relationship between Motivation to Participate in Physical Activity and Self-esteem

Hypotheses

Based on a review of the literature, the following hypotheses will guide the study.

Hypothesis #1: There will be a positive relationship between participation in physical activity and self-esteem among college women.

Hypothesis #2: College women who are motivated for health and fitness related reasons will have higher self-esteem than women who are motivated to participate for appearance related reasons.

Hypothesis #3: Participation for weight loss (motivated by body image) will negatively affect the relationship between participation in physical activity and self-esteem.

Delimitations

This study is delimited to undergraduate women between the ages of 18-24 attending the selected mid-size southeastern university.

Definitions

Body image satisfaction – A perception of a subjective concept of physical appearance that is either positive or negative

College Campus – For the purpose of this study, a medium size southeastern university will serve as the study population. This particular campus is medium sized with approximately 8,000 undergraduate women

College women – Undergraduate women between the ages of 18-24 who attend Clemson University

Extrinsic motivation – The performance of an activity to receive external reward

Intrinsic motivation – Motivation associated with the individual's enjoyment or satisfaction associated with the activity

Physical activity – An activity or pastime that allows for bodily movement produced by skeletal muscles that requires energy expenditure (World Health Organization, 2011)

Self-esteem – Psychological construct that refers to how people feel about their own worthiness

CHAPTER TWO REVIEW OF LITERATURE

The present study will investigate how behavioral motivations affect the relationship between participation in physical activity and self-esteem among college women. We hypothesized that motivations to participate will affect the relationship of physical activity participation and self-esteem. Material will be presented in the literature review in specific sections in the following order: 1) physical activity, 2) college women, 3) body image, 4) self-esteem and 5) preliminary study data.

Physical Activity

According to the World Health Organization (WHO), physical activity is an essential aspect of maintaining a healthy lifestyle (WHO, 2011). In recent years, the effects of physical activity as a health-protective behavior have become clearer. WHO (2011) defines physical activity as “any bodily movement produced by skeletal muscles that requires energy expenditure.” This should not be confused with the term exercise, as it is only a subcategory of physical activity. Exercise is “planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one of more components of physical fitness is the objective” (WHO, 2011). Thus, physical activity does include exercise; however, it also includes a larger realm of activities that may be done on a daily basis such as household chores, play, work, active transportation or recreation. The focus of this study will be on the broader term physical activity.

The Centers for Disease Control and Prevention (CDC, 2008) outline physical activity parameters that are necessary to sustain a healthy lifestyle. Behaviors include

moderate-intensity physical activity for a minimum of 150 minutes per week or 75 minutes of vigorous-intensity activity per week and muscle strengthening activities that increase strength and endurance of all major muscle groups at least 2 days per week. Moderate intensity activities include walking, dancing, swimming, jumping rope, etc. Vigorous-intensity physical activity may include brisk walking, running, cycling, aerobics, swimming, or competitive sports. Muscle strengthening activities are not to be included in minimum duration requirements for maintaining or improving health (CDC, 2008). Intensity of an activity depends on the how hard a person may work to perform the activity. In addition, intensity may vary depending on the individual. The level of effort required by a person to do a physical activity is called relative intensity. When measuring intensity of physical activity, it is useful to pay attention to how the activity affects heart rate and breathing (CDC, 2008). The talk test is a simple way to measure relative intensity. If an individual is doing moderate-intensity activity, they will be able to talk but not sing during the activity. If an individual is doing vigorous-intensity activity, they will not be able to say more than a few words without pausing for a breath (CDC, 2008). Levels of intensity may depend on previous experience with the activity or their relative level of fitness (WHO, 2011). The focus of this study will be physical activity because it is a central aspect of maintaining a healthy lifestyle. Physical benefits of regular physical activity include reduced risk of heart disease, diabetes, high blood pressure, certain cancers, depression, anxiety and premature death (NHLBI, 2011), In addition, regular physical activity helps build and maintain healthy bones, muscles and joints and aspects of overall psychological well-being, such as self-esteem (CDC, 2008).

Self-Esteem

Self-esteem is a critical psychological construct in that it is a central component of an individual's daily life (Kernis, 2003). Self-esteem is an internal idea of how people feel about themselves, which has to deal with how people react to their environment, influential people and individual worthiness. When individuals feel worthy, respected, and liked, they have good self-esteem. On the other hand, when individuals feel they are pitied, unworthy or rejected, they have negative self-esteem (Kernis, 2003). There is a difference between having negative self-esteem and really hating oneself. Negative self-esteem could be feelings of confusion or uncertainty, whereas individuals could have low self-esteem and truly despise themselves (Kernis, 2003).

Research has indicated that individuals with negative self-esteem have low self-concept clarity (Campbell, 1990) where they lack consistency and confidence in themselves. High self-esteem is portrayed in individuals with characteristics of confidence, competence and self-respect (Kernis, 2003). Overall, global self-esteem is related to individual feelings of worthiness, acceptance, and value (Kernis, 2003). Contingent self-esteem refers to the degree to which an individual's self-image is conditional on approval of social influences, extrinsic expectations, or self-presentational concerns (Crocker & Wolde, 2001; Kernis, 2003).

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) was designed to achieve a one-dimensional measure of global self-esteem. Self-esteem is often investigated as an independent or intervening variable. Self-esteem is usually a stable characteristic of adults so it is not easily manipulated as an outcome in research studies.

Blascovich and Tomaka (1993) suggest that “experimentally manipulated success or failure is unlikely to have any measurable impact when assessed against a lifetime of self-evaluative experiences” (p. 117). In addition, self-esteem is not “taught” but it is developed through various life experiences (Blascovich & Tomaka, 1993).

Self-esteem and Body image

Research has found that adolescents with higher levels of global self-esteem are less vulnerable to body dissatisfaction, although individuals may develop self-perceptions and experience anxiety when faced with challenges resulting in failure (Deci & Ryan, 1995). Individuals with greater contingent self-esteem are more likely to perceive their acceptance as conditional on meeting their ideal body image standard (Crocker & Wolfe, 2001; Kernis, 2003). When an individual places the value of their self-worth on external contingencies such as appearance or social acceptance, the process of self-evaluation is more closely associated with negative mental health (Crocker & Wolfe, 2001; Deci & Ryan, 1985). Use in qualitative section

In 2009, Grossbard, et al. found that contingent self-esteem is closely related to college women with high levels of body image dissatisfaction compared to college men. Greater contingent self-esteem is a risk factor for engaging in appearance-related social comparisons for self-evaluation. Women who indicated higher contingent self-esteem felt worse after making social comparisons in everyday life than women with low contingent self-esteem (Patrick et al., 2004). Women build the basis of their self-esteem around their ability to sustain intimate relationships with other individuals (Brizendine,

2006). Research suggests that for women, self-esteem deals with sexual attractiveness, weight concern and physical condition (Franzoi & Shields, 1984). Positive self-esteem that is gained from physical activity is of particular interest for college student populations who not only have low levels of physical activity, but also have low levels of self-esteem.

Physical Activity among College Age Young Adults

Recent research has indicated that only 20% of college aged young adults participate in moderate intensity physical activity, while only 38% of college students participate in vigorous physical activity on a regular basis (Kilpatrick, Hebert & Bartholomew, 2005). Epidemiological data has shown that levels of physical activity decreases from high school to college with contrasting evidence that 65% of high school students engaged in vigorous physical activity and 26% reported moderate physical activity (Kilpatrick, Hebert & Bartholomew, 2005). Further, with these percentages of physical activity being sufficiently low, college aged young adults are not prepared to improve or maintain health and fitness (Kilpatrick, Hebert & Bartholomew, 2005). Research clearly indicates that physical activity improves physiological and psychological health (Sonstroem, 1984; Fox, 1992; Paluska & Schwenk, 2000; Schmalz, Deane, Birch, Davidson, 2007). With dramatically low participation in recreational physical activity among college students, there are large parts of the college student population that are not living active lifestyles as outlined by the (ACHA-NCHA, 2007).

Low rates of physical activity participation among college students persist, even though there are many outlets for physical activity on college campuses. A study by (Reed, 2007), found that even though there were plenty of outlets for physical activity on college campuses, a large percentage of the population didn't even know they were available. Other reasons for physical inactivity of college students may include ecological issues that prevent college students from recognizing the benefits of physical activity (Reed, 2007). In addition, time management is commonly related to participation in physical activity among college students (Tucker Center Research Report, 2007). College students balance many tasks in daily life that may rank higher in priority than physical activity (Colburn, 2010). Research has shown that college women are more susceptible to low rates of physical activity, than college men (Kilpatrick, Hebert & Bartholomew, 2005), yet reasons why have not been determined.

Physical Activity among College Women

Participation in physical activity has been found to be restricted or enabled based on enjoyment of social relationships and generally spending quality time with friends while participating in physical activities such as going to the gym, shopping, walking (Coburn, 2010). The act of being together and having unstructured fun with friends is a key aspect of motivation to persist in physical activities. According to Colburn (2010), participation in physical activity is preferred when it is done in conjunction with a social event or activity. Alternatively, when only one event could take place, physical activity suffered, because it is more fun to be with friends than to work out alone (Coburn, 2010).

In a study exploring physical activity and weight management among US college students, Lowry, Galuska, Fulton, Wechsler, Kann & Collins (2000) found that 35% of students were either overweight or obese based on their self-reported height and weight. Almost half (46%) of students surveyed reported they were actively trying to lose weight. Even though college women were less likely to be overweight than their male counterparts, more women were trying to lose weight (Lowry, Galuska, Fulton, Wechsler, Kann & Collins, 2000).

Previous studies have included methodology that measure behaviors, preferences and outcomes of physical activity (Eklund & Crawford, 1994; Wilson & Rodgers, 2002; Kilpatrick, Hebert, & Bartholomew, 2005). In 2002, Wilson and Rodgers, surveyed college women who participate in exercise classes on campus for 15 weeks. Study participants were surveyed twice, once after week 2 and once after week 12. Because the study was conducted with a captive audience, the measurement of physical activity was secondary to the primary measurements of the study consisting of motivations and self-esteem. It was found that women who are motivated extrinsically to exercise are unlikely to develop strong motivational patterns throughout life and have overall lower levels of self-worth (Wilson & Rodgers, 2002).

Eklund and Crawford (1994) reported on college women who are physically active and their level of social physique anxiety while participating in physical activity. Data was collected based on simple questions listed in the survey asking women if they enjoyed exercising and how often per week they participated in physical activity. Within

this study, 94% of women surveyed reported they enjoy physical activity and are active an average of 6.5 hours per week (Eklund & Crawford, 1994).

Kilpatrick, Hebert & Bartholomew (2005), measured physical activity demographics among college students by providing descriptive information for study participants within a four single-item indicator measuring frequency, duration, intensity and adherence. Participants responded to each based on exercise and sport participation separately. Researchers found that men were more likely to play team sports and be physically active for intrinsic reasons, while women were less likely to participate in team sports and were more likely to be physically active for extrinsic appearance related reasons.

The International Physical Activity Questionnaire (IPAQ) was developed to provide an instrument that can be used to obtain estimates of physical activity among large populations. This self-administered instrument requires study participants to indicate only physical activities lasting for more than 10 minutes and to record the frequency and duration of activities. The IPAQ is easy to administer and inquires about four different domains of physical activity including transportation, occupation, household chores and leisure time activity (Dinger, Behrens & Han, 2006). In addition, the IPAQ was developed to survey activities and to guide policy development related to public health concerns that will ultimately help to enhance physical activity opportunities across various life domains. In 2006, Dinger, Behrens and Han investigated the validity and reliability of the IPAQ among college student populations. It was found that validity

of the questionnaire was similar to other self-report physical activity questionnaires and the reliability was acceptable.

Physical Activity and Self-Esteem among College Women

When entering college, young women are emerging into adulthood and are continually learning, growing and exploring their identity that will ultimately mold their lives post-graduation (Arnett, 2000; Hiester, Nordstrom & Swenson, 2009). It is important to consider critical life domains that contribute to physical-self perceptions and self-worth perceptions. Research indicates that young women place value on the social, academic, emotional and physical domains of their life (Ahern, Bennett, Kelly & Hetherington, 2011). Furthermore, when there is a change in the allocation of competencies within these domains, physical-self perceptions may be subject to change (Wilson & Rodgers, 2002).

From an early age, women develop techniques that allow them to internalize social cues that will ultimately influence relationships with others around them, which in turn will create a sense of worth within themselves (Brizendine, 2006). For example, a young girl in preschool looks for vocal or facial cues from important figures around her such as parents or teachers. These responses allow her to feel sense of worth or confidence. If a parent listens closely to her, she is likely to be more engaged and competent in the world around her than if she did not receive attention from a parent. Women are continually looking for acceptance and approval from others (Brizendine,

2006). This relationship between social cues and self-worth begin at an early age with parents and teachers and continue through life with friends and romantic partners.

When entering into the stage of life of emerging adulthood, between the ages of 18-25 in which individuals become in touch with their identity, the search for approval will become even more prominent as a young woman is searching for her identity (Arnett, 2000). As a young woman enters adulthood, her social priorities change in a way where she may need friends or romantic partnership approval above the approval of a parent (Brizendine, 2006). In a college setting a young woman is no longer dependent on her parents entering time where her parents are not by her side to guide her through everyday life (Arnett, 2000). She has to begin to make her own decisions, possibly from social influence of others around her on the college campus. As new ideas emerge, her sense of self develops further, independently from the influences she had as a child (Brizendine, 2006). For the purposes of this study, emerging adults in who are college students will be studied in regards to their physical activity motivations.

A woman's development throughout the lifespan has been theorized as relational and organized in context of important interpersonal relationships (Surrey, 1991). Peer group influences are the most decisive factors of development of college women (Astin, 2004). Social connection with others brings a sense of wellbeing and pleasure. Social connections made during college are very important to young women as these friendships help to form individuals in a group setting (Brizendine, 2006). Different brain areas and circuits enable men and women to experience life events differently and react in different ways (Brizendine, 2006). From an early age, women are exercising social skills and

developing relationships. Women develop social skills quicker than men and tend to develop stronger communication skills throughout life, simply based on the way their brains are developed from the earliest moments of life. Some would argue that this is nurtured in women as a feminine characteristic (Brizendine, 2006).

Psychosocial indicators of general well-being of college women conclude that women are considerably more likely than men to enter college with feelings of being overwhelmed by many commitments, standards and daily tasks (Sax et al., 2003).

Statistics from American College Health Association National College Health Assessment (ACHA-NCHA, 2007) found that 45.5% of college women found academics to be traumatic or very difficult to handle. In terms of psychological wellbeing, Biddle & Mitrie (2008) found that stress can be reduced through high levels of physical fitness activities and that exercise is related to positive changes in self-esteem and is related to physical self-perception. However, motivations to participate may have an effect on the outcomes college women garner from participation.

Motivations for Participation in Physical Activity

Intrinsic Motivations

Intrinsic motivation refers to motivation that is driven by enjoyment or interest in an activity itself (Ryan, 2000). Intrinsically motivated people participate for sheer enjoyment and in the moment satisfaction of the activity at hand. People who play sports are motivated more intrinsically than people who only exercise (Kilpatrick, Hebert, Bartholomew, 2005). It could be argued that positive inherent results of exercising are

the key intrinsic motivators behind activities like weight lifting may not be necessarily enjoyable in the moment (Wilson & Rodgers, 2002). Wankel (1993) found that intrinsic motivation is a key factor in exercise adherence and suggested that spontaneous enjoyment of an activity leads to increased persistence, reduced stress and positive psychological feelings. In addition, Fredrick & Ryan (1993) suggest when an individual exercise for intrinsic reasons, the individual is more likely to feel energized, confident and satisfied in the activity. Thus, it is common for people to be physically active for intrinsic reasons, either pure enjoyment of a sporting event or the positive feeling that is attributed to end result of exercise.

Extrinsic Motivations

Extrinsic motivation is concerned with external values and rewards. Much of what people participate in throughout their life may be based on external pressures placed by society (Ryan, 2000). As age increases, intrinsic motivation decreases and the freedom to be intrinsically motivated is reduced by social demands that require individuals to be responsible for non-intrinsically interesting tasks (Ryan, 2000). Body image satisfaction may play a potential role as an extrinsic motivator for college women to participate in physical activity.

It has been suggested that women are more prone to be motivated extrinsically for exercise compared to men (Fredrick & Ryan, 1993). Women reported exercising for appearance and fitness related motives compared to men. Mintz and Bex (1986) found that college women were considerably less satisfied with their bodies than men. With women reporting these body-related concerns, it may be due to greater societal emphasis

on body appearance for women. In regards to the current study, body image will be evaluated as a motivation for participation in physical activity.

Body image can be defined as a positive or negative subjective concept of physical appearance (Brudzynsky & Ebben, 2010). Body image is a multidimensional concept, constructed with cognitive, affective, and behavioral aspects (Bane & McAuley, 1998). There is a strong relationship between body image and physical activity as issues such as weight management as appearance and body dissatisfaction are highly ranked extrinsic motivators to participate in physical activity (Kilpatrick, Hebert & Bartholomew, 2005).

Body image dissatisfaction is associated with health problems such as poor dietary habits, being overweight and depression (Forrest & Stuhldreher, 2007). These types of health problems are common among college students. Women in particular are continually faced with issues of body image dissatisfaction and self-esteem (Forrest & Stuhldreher, 2007). Issues of body image have been linked to social ideals of body types for women.

According to the National Collegiate Health Risk Survey (CDC, 2008), women are more likely than men to consume two or fewer foods daily with high fat content, have a higher perception of themselves as overweight, attempt weight loss through diet (not exercise) and be less physically active overall. Across the nation on college campuses, men are more likely than women to participate in weight room strengthening, vigorous physical activity and sport teams (CDC, 2008). However, women were found to be more aware than men of these activities based on knowledge gained from university classes

and information fairs than men (CDC, 2008). Women are still more likely to perceive themselves to be overweight and to actually be overweight compared to males.

Usually women who have a favorable body image will not feel as uncomfortable engaging in physical activity in a public setting versus those women who are unsatisfied with their appearance. Women with low body image satisfaction may feel pressure in a setting where they perceive evaluations of their physical appearance could take place (Lantz, Hardy & Ainsworth, 1997).

College women have low body image and participate in physical activity to lose weight (Kilpatrick, Hebert, & Bartholomew, 2005). This may negatively affect the beneficial psychological outcomes such as self-esteem that people get from participation. Little is known about how motivations affect the relationship between participation in physical activities.

Theoretical Framework

When examining motives for physical activity among college women, it is important to consider critical life domains that contribute to physical-self perceptions and self-worth perceptions. Young women have been found to place high value among certain life domains: physical, emotional, social and academic (Ahern, Bennett, Kelly & Hetherington, 2011). It has been found that when there is a change in the allocation of competencies within these domains, physical-self perceptions may be subject to change (Wilson & Rodgers, 2002). Based on physical activity patterns of college women, there

could be a positive impact based on motivations that correlates a shift of competency in specific life domains.

The theoretical framework for this study will involve Self-Determination Theory (SDT; Deci & Ryan, 1985). The purpose of this study is to determine the motivations or reasons for college age women to be physically active on the college campus. SDT proposes that motivation levels towards an activity are determined by a certain degree of self-involvement. According to Deci and Ryan (1985), the inherent needs of autonomy, competence and relatedness are the foundation for self-determined motivation. These components are necessary to facilitate the natural growth processes for social development and future personal well-being. SDT works to explore an individual's inherent growth tendencies and natural psychological needs that are the foundation for self-motivation and personality integration (Ryan, 2000). These self-determined constructs give support to the production of task persistence and psychological well-being (Wilson & Rodgers, 2002). Self-motivation is a positive outcome produced when these innate psychological needs are fulfilled.

Self-determination theory concentrates on processes that enable individuals to become truly self-determined through externally motivated behaviors. The theory also looks at the influences of a social environment specifically the process of becoming self-determined (Ryan, 2000). The term extrinsic motivation is concerned with external values and rewards. Much of what people participate in throughout their life may be based on external pressures placed by society (Ryan, 2000). An extrinsic motivator that

may encourage college women to persist in physical activity could be a pressure to lose weight to look good in comparison with their peers.

The Motives for Physical Activity Measure – Revised (MPAM-R) is a questionnaire developed by Ryan, Frederick, Lepes, Rubio, and Sheldon (1997) designed to assess motives for participation in physical activities such as weight lifting, aerobics, or team sports. There are five motives that are assessed which are: 1) fitness, referring to the desire to be physically active out of the desire to be physically strong and energetic and to live an overall healthy lifestyle; 2) appearance which refers to being physically active to become more physically attractive through muscle tone or to achieve a desired weight; 3) competence/challenge, referring to the desire to be active to take on a challenge or to develop new skills; 4) social, to be active to make new friends or to be with current friends; and 5) interest/enjoyment which refers to being active for because it is fun, stimulating, interesting and makes you happy. The scale has been used to predict various outcomes such as attendance, persistence or maintenance of physical activity (Frederick & Ryan, 1993; Ryan, Frederick, Lepes, Rubio, and Sheldon, 1997). The different motives that are assessed have been found to be associated with different outcomes related to intrinsic and extrinsic motivations. The social, competence/challenge, and enjoyment subscales generally refer to intrinsic related motivations, while the appearance and fitness subscales are related to extrinsic motivation for participation. Results indicated that competence/challenge and enjoyment motivations were greater for sport participation while appearance motivations were higher for exercise/fitness participation (Frederick & Ryan, 1993).

Internalization may occur when people are able to “take in” an experience in a way that places value on the experience itself or the produced outcome. When this process occurs, there is a good chance that the individual will develop a sense of self-identity from the experience (Ryan, 2000). In a study by Wilson and Rodgers (2002), physically active women were surveyed after exercise classes on a college campus, about their intrinsic or extrinsic motivations toward exercise. Women who are extrinsically motivated by external success or the media, to exercise were unlikely to develop strong motivational patterns throughout life, which would maintain exercise involvement. These women also were likely candidates to have overall lower levels of self-worth (Wilson & Rodgers, 2002).

Preliminary Study

A qualitative pilot test was conducted to explore the topic of physical activity participation and body image concerns of college women. This study helped to locate themes that may have been overlooked that will ultimately help to produce a quantitative survey. Participants were selected from a Leisure Skills Tennis class at mid-size southeastern university that the researcher instructed throughout the semester. The class was made up of men and women, all undergraduate students of various academic majors. Each female student in the class was asked to participate in the study (n=15). Of the women that were enrolled in the class, two-thirds (n=10) of the women agreed to participate. Each participant was informed of all implications of the intended research study and was allowed to decline from answering any question or leave the interview at

any time. Participants were informed that they did not need to participate in the study if they did want to, as they would not receive extra credit for participation.

Preliminary qualitative interview questions were developed with the Seidman concept (1998) which considers question structure presented through three chronological descriptions related to life history, description of current experience, and reflection. This type of data collection is beneficial in that conceptual frameworks can be checked for validity before quantitative surveys are employed which allows for rich and in-depth data collection (Henderson, Ainsworth, Stolarzck, Hootman & Leven, 1999). Questions centered on uncovering physical activity experiences before college and during college; perceptions of their body now; how they feel about their body before engaging in various physical activities and how they feel about their body after participating in physical activity.

Listed below are themes collected from the preliminary study.

1. Women enjoy being active with other women who share the same goals or interests
2. The media influences how women feel about their own appearance
3. When women are physically active, they have a more positive body image
4. Women desire to look in the mirror and feel satisfied with their appearance
5. Women are anxious about how they are perceived by others

Study participants listed they enjoy working out either alone, with friends or family depending on their current mood. The women reported that they enjoy camaraderie and it is helpful to have another person there to motivate them or to be able

to keep pace while running or swimming. This was also listed as a constraint to participate in physical activity, as sometimes it is hard to coordinate schedules with friends or family to be active together.

Within interviews, multiple responses showed that even though women are still active as college students; they miss the level of activeness they represented in high school. Some miss the slimmer, fitter body they had in high school from playing sports while others miss the feeling of being in shape. Along with missing a thinner body, some women reported they miss the camaraderie that they had with other women on sport teams in high school. It seems that the social aspect changes from high school to college in that women participate in different activities with their friends. In college, there is a plethora of social groups and activities to explore and thus many women feel they associate different friends with different activities.

Study participants conveyed positive images of themselves and understood that even though their body may not be a certain weight or have certain insecurities about their body, they were determined to have a healthy body. Some study participants communicated they are actively trying to lose weight; some to get down to a healthy weight and some to get down to a weight they were before college.

The link could be made that when college women are less physically active or motivated to be physically active because of extrinsic motivations such as body image, they have lower self-esteem. It is suggested that when college women are less physically active than they were prior to entering university, they compare their current body to their

younger body and are unhappy with the way their body looks or feels, which ultimately lowers their self-esteem.

The preliminary study was an exploratory study that enabled the researcher to gather information about physical activity endeavors of college women. Specifically how college women view their bodies in addition to their level of physical activity, what they want to potentially change about their body or how physically active they are. From the study, it is evident that college women strive to be as active as they were prior to college; however, they lack motivation to achieve these goals. It seems that when women are not physically active, their body image may suffer, which could include their self-esteem. Motivations to be active need to be assessed to maintain physical activity and to encourage positive self-esteem. The results of this preliminary study helped to frame the current study by providing evidence that when college women are more physically active, they are happier with their bodies and feel more confident. When women are not as happy with their body and are less confident when not at their ideal level of physical activity, they have lower self-esteem.

The preliminary study aided in development of the current hypotheses and determining if there is a relationship between physical activity participation and self-esteem and if type of motivation to participate affects the relationship between physical activity and self-esteem. Speculative links were developed from the preliminary study that identifies a relationship between low physical activity and low self-esteem. Previous research has established that participation in physical activity has a positive effect on self-esteem (Sonstroem, 1984; Fox, 1992; Schmalz, Deane, Birch, Davidson, 2007);

however, the current study will address how specific intrinsic or extrinsic motivations might affect this relationship.

CHAPTER THREE

METHODS

The purpose of this study was to explore the relationship between motivations to participate in physical activity and perceived self-esteem of college women. The relationship between physical activity participation and self-esteem as established in previous research may vary depending on motivations for participation. Quantitative methods were used to determine the relationship between participation in physical activity to self-esteem, and how motivations to participate might affect that relationship. The methods for the study are presented in four sections: 1) sample selection, 2) data collection, 3) instrument, and 4) treatment of data.

Sample Selection

Participants consisted of a sample collected from a student population at a mid-size university campus in the southeast United States with approximately 16,000 undergraduates, comprised of 49% women. Study participants included women who were enrolled as full time undergraduate students. Participants were recruited the university's Office of Institutional Research and then contacted through email with an invitation to participate in the online questionnaire.

Study participants varied by year in college and chosen academic major. Participants were sent a link to an online questionnaire via email. Approximately, 6,822 undergraduate women received a link to the online survey via email. Incentive to participate in the survey was a drawing for a \$50 Amazon.com gift card.

Data Collection

A self-administered online questionnaire was developed to assess the relationship between participation in physical activity and self-esteem, and the role motivations to participation might play in that relationship. The questionnaire consisted of four sections: 1) Activity Participation 2) Motivations of Physical Activity, 3) Self-esteem, and 4) Demographics.

Activity Participation

Physical activity was assessed using the International Physical Activity Questionnaire (IPAQ). The IPAQ is a reliable and valid self-report instrument, with interclass correlation coefficients ranging from .71-.89, for measuring physical activity in large populations and is comparable to other self-report validation studies of physical activity (Dinger, Behrens & Han, 2006). The recreation, sport and leisure section on the IPAQ long version questionnaire was used in this study as it measures physical activity in recreation, sport and leisure time activity with six questions about vigorous and moderate activity within the past seven days. Vigorous activities were defined as participation in activities that take hard physical effort and make an individual breathe much harder than normal. If an individual is participating in vigorous-intensity activity, they will not be able to say a few words without pausing for a breath. Moderate activities were defined as physical activities that make an individual breathe somewhat harder than normal. With moderate intensity activity, an individual will be able to talk but not sing during the

activity (CDC, 2008). This section of the questionnaire consisted of six questions asking how often participants walked, were vigorously active or moderately active in days, hours, and minutes. In addition, study participants were asked to provide the physical activity they participate in the most often.

Motivations for Participation

Fredrick & Ryan's Motives for Physical Activities Measure - Revised (1993), was used to measure motivation for physical activity. The MPAM-R is a 30-item scale that assesses five different motives for physical activity: 1) fitness, referring to being active to be physically healthy, strong and energetic; 2) appearance, referring to being active in order to improve physical appearance which includes defining muscles, and maintain or improving weight; 3) competence/challenge, which refers to being active with the desire to improve skills in an activity, to be challenged, or to acquire new skills; 4) interest/enjoyment, being active because it is fun, makes you feel happy, is stimulating or interesting; and 5) social which refers to participating in activity to be with current friends or to meet new friends (Fredrick & Ryan, 1993). Participants were asked to rank the degree to which the questions are true of them where 1 is "very untrue of me" and 7 is "very true of me". This scale was developed based on the theoretical concept of Self-Determination Theory and the components of motivation – autonomy, competence and relatedness that lead to intrinsic and extrinsic motivation. Of the five subscales, interest/enjoyment, competence/challenge and social are considered intrinsic motivations and the appearance and fitness subscales are considered extrinsic motivations. The scale

has previously been used to predict behavioral outcomes such as “persistence, attendance and maintenance of physical activities as well as mental health and well-being” (Fredrick & Ryan, 1993). Evidence suggests satisfactory internal consistency for each subscale fitness ($\alpha=.78$), interest/enjoyment ($\alpha=.92$), competence/challenge ($\alpha=.91$), social ($\alpha=.83$), and appearance ($\alpha=.88$) (Fredrick & Ryan, 1993). Additional information on specific motivations for physical activity participation was collected by asking one open-ended qualitative question “Do you have any other comments about what motivates you to be physically active?”

Self-Esteem

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The scale is a ten-item scale to which participants were asked to respond on a four point scale where 1 is “strongly disagree” and 4 is “strongly agree”. This scale is possibly the most widely used self-esteem measure in social science research (Blascovich & Tomaka, 1993; Gray-Little, Williams & Hancock, 1997). In a study conducted by Rosenberg (1986) and Blascovich & Tomaka (1993) the scale showed high test-retest reliability with an alphas of .77, .88 and .85 respectively (Rosenberg, 1986; Blascovich & Tomaka, 1993; Thome & Espelage, 2004). The scale produces scores ranging from 0-30 points, where scores between 15 and 25 are within normal range and scores below 15 suggest low self-esteem.

Demographics

Demographic information was collected to help describe the sample. Participants were asked to provide their age, what year they are in university, what their major is, their race and ethnicity, and to self-report their height and weight for BMI.

Data Analysis

Data was analyzed with statistical data analysis software, SPSS 20.0. Linear regressions were used to determine the relationships between participation in physical activity and self-esteem, and how motivations for participation affect the relationship between participation and self-esteem.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this chapter is to describe the characteristics of the sample on key variables, to describe the nature of the relationship between self-esteem and physical activity motivations of college women, and to determine the extent to which intrinsic and extrinsic motivators influence the relationship between self-esteem and physical activity levels.

Demographic Characteristics:

The subjects for this study were recruited from a population of undergraduate women between the ages of 18-24 enrolled in classes during the spring 2012 semester at a mid-size southeastern university. The sample was recruited from the general student population with the aid of university's Office of Institutional Research. An email was sent with an invitation to participate in the study with an online link to the questionnaire. All academic statuses were represented almost equally in the sample with slightly more sophomores. Questionnaires were emailed to 6,822 undergraduate women between the data collection period of 7 weekdays. Due to constraints of the email provider, only 1,000 emails could be sent in a 24-hour period. Between the hours of 12:00pm and 1:00pm each weekday during the data collection period, approximately 1,000 questionnaires were distributed. The email was only sent once to each potential participant without any reminders. Out of the 6,822 questionnaires emailed, 688

questionnaires were completed and usable after cleaning the data, thus attaining a 10% response rate.

Only study participants ranging in age from 18-24 were included in the study. The mean age of participants was 20 years old and the overwhelming majority (92%) was White, and (91%) non-Hispanic or Latino, which is representative of the entire university population with 81% White, non-Hispanic or Latino students. A table of the distribution of race and ethnicity can be found in Table 4.1. Freshmen, sophomores, juniors and seniors were represented in the sample, almost equally, with sophomores representing the single largest student status group. A breakdown of ages and status of subjects is presented in Table 4.2. Body mass index (BMI) was calculated based on self-reported height and weight of each study participant and with the formula of $\text{mass (lbs.)} / (\text{height (in)})^2 \times 703$. BMI for the sample ranged from 14 to 42 with a mean of 22.55. A breakdown of the self-reported BMI results can be found in Table 4.3.

Table 4.1: Race/Ethnicity of Sample Population

American Indian or Alaska Native	Asian	Black or African American	Native Hawaiian or Pacific Islander	White	Hispanic or Latino	Not Hispanic or Latino
9(1.30%)	19(2.80%)	36(5.40%)	9(1.30%)	615(92.10%)	15(2.20%)	648(91%)

Table 4.2: Age and Student Status Distribution of the Sample					
	Academic Status				
	Freshman	Sophomore	Junior	Senior	TOTAL
Age 18	69 98.6%	0 0.0%	1 1.4%	0 0.0%	70 100.0%
Age 19	98 55.4%	74 41.8%	5 2.8%	0 0.0%	177 100.0%
Age 20	2 1.1%	95 53.4%	74 41.6%	7 3.9%	178 100.0%
Age 21	0 0.0%	0 0.0%	75 52.8%	67 47.2%	142 100.0%
Age 22	0 0.0%	0 0.0%	2 2.4%	80 97.6%	82 100.0%
Age 23	0 0.0%	1 9.1%	1 9.1%	9 81.8%	11 100.0%
Age 24	0 0.0%	1 25.0%	0 0.0%	3 75.0%	4 100.0%
Total	169 25.5%	171 25.8%	158 23.8%	166 25.0%	664 100.0%

Table 4.3: Distribution of Self-Reported Body Mass Index of the Sample				
BMI, kg/m ²	Frequency	Percent	Valid Percent	Cumulative Percent
<18.5	18	2.7	2.7	2.7
18.5 to <25.0	531	79.5	80.8	83.6
25.0 to <30.0	80	12.0	12.2	95.7
30.0 to <35.0	18	2.7	2.7	98.5
35.0 to 40.0	5	.7	.8	99.2
≥ 40.0	5	.7	.8	100.0
Total	657	98.4	100.0	
Missing System	11	1.6		
Total	668	100.0		

Measurement Scales

Activity Participation: Physical activity was assessed using the long version of International Physical Activity Questionnaire (IPAQ). The IPAQ is a reliable and valid self-report instrument, with interclass correlation coefficients ranging from .71-.89, for measuring physical activity in large populations and is comparable to other self-report validation studies of physical activity (Dinger, Behrens & Han, 2006). The recreation, sport and leisure section on the IPAQ long version questionnaire was used in this study as it measures physical activity in recreation, sport and leisure time activity with six questions about moderate and vigorous activity within the past seven days. The scale was found to be reliable ($\alpha=.79$). Moderate intensity activity includes activities that take moderate physical effort and make an individual breathe somewhat harder than normal. When moderately active, one should be able to carry on a conversation but not be able to sing. Examples of moderate intensity activities are swimming, bicycling, or doubles tennis. Vigorous intensity activities take harder physical effort and make an individual breathe much harder than normal. When vigorously active, one should not be about to say 3-5 words without pausing for a breath. Examples of vigorous intensity activities are aerobics, running, fast bicycling, or fast swimming. This section of the questionnaire consisted of six questions asking how often participants walked, were vigorously active or moderately active in days, hours, and minutes.

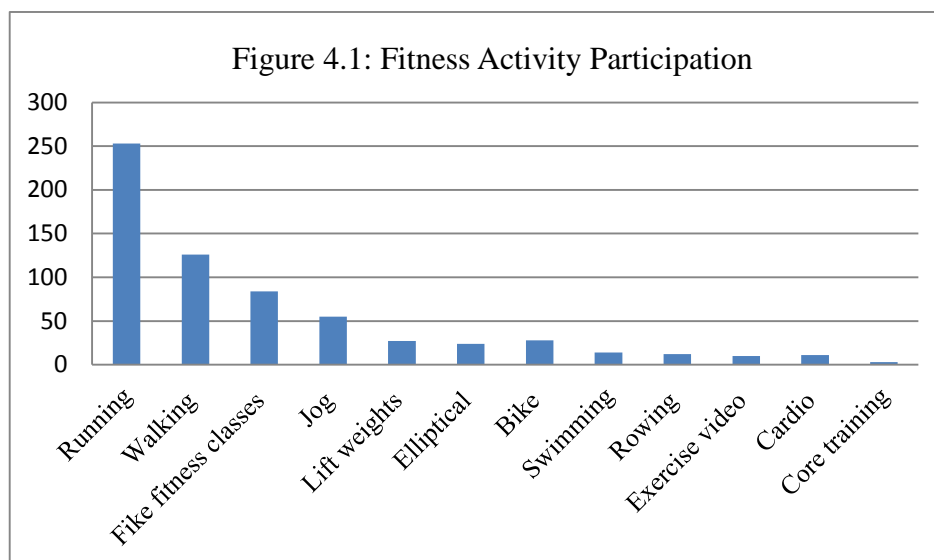
Frequency and length of participation in physical activities were measured. Subjects were asked to indicate separately how often in the last seven days they were physically active for more than ten minutes at a time by either walking, moderate

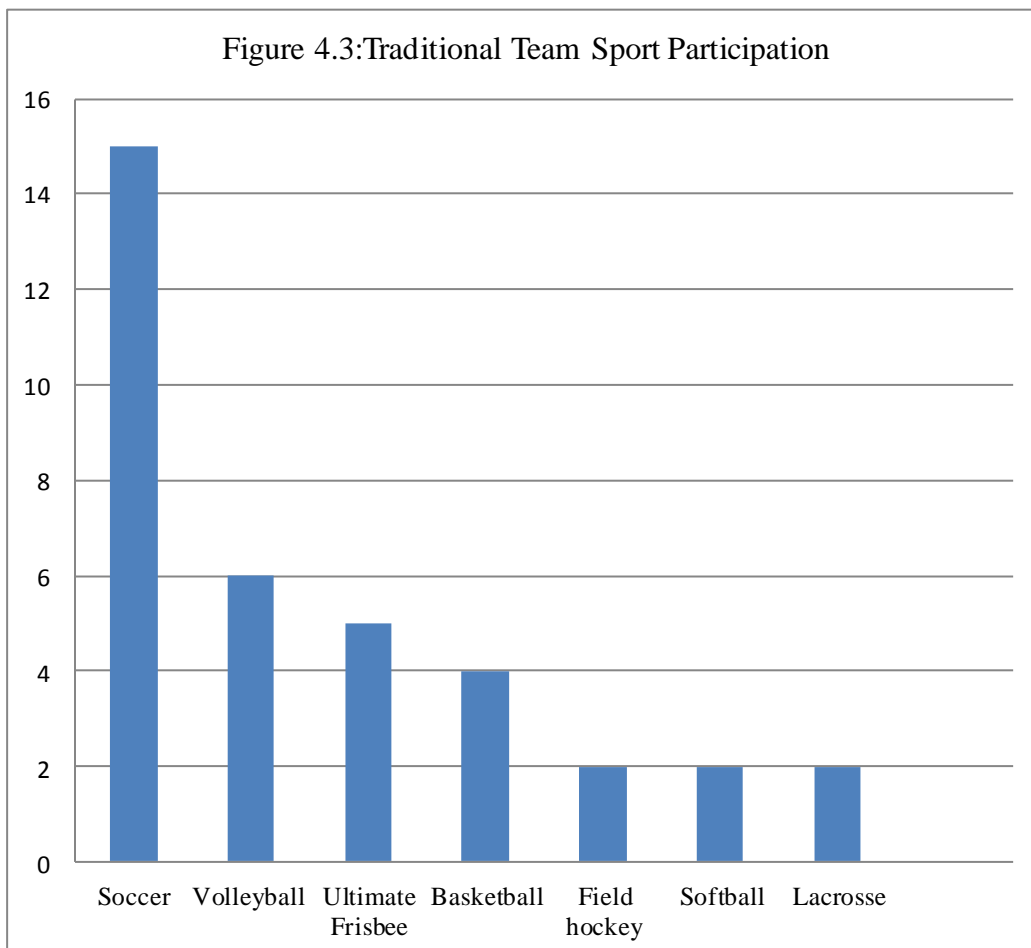
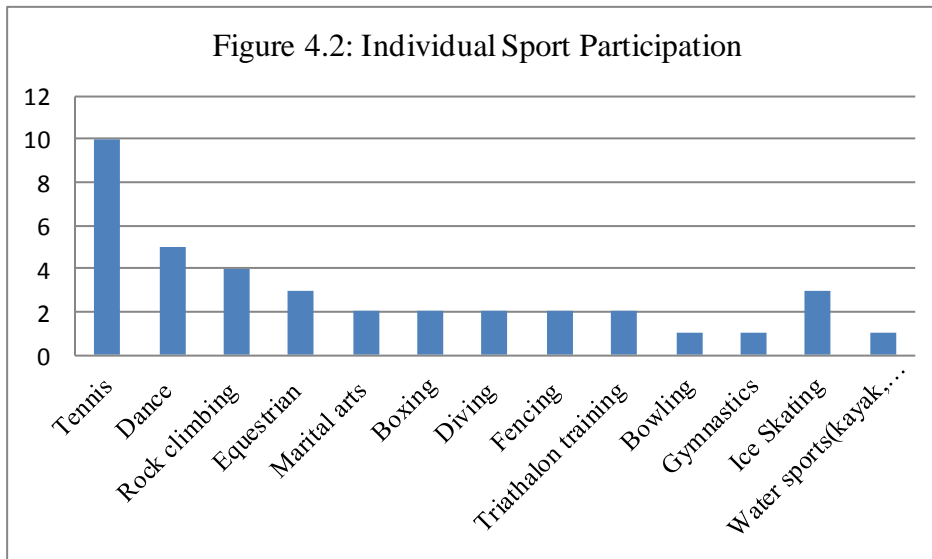
intensity activity or vigorous intensity activity. Subjects were asked to indicate how many days in the last week they were active for more than 10 minutes at a time either 0 days, 1-2 days, 3-4 days, 5-6 days or 6 or more days. In addition, subjects were asked to provide the length of time they would spend during the day being physically active at both moderate intensity and vigorous intensity, either not at all, less than 1 hour, 1-2 hours, 3-4 hours, and 5 or more hours per day.

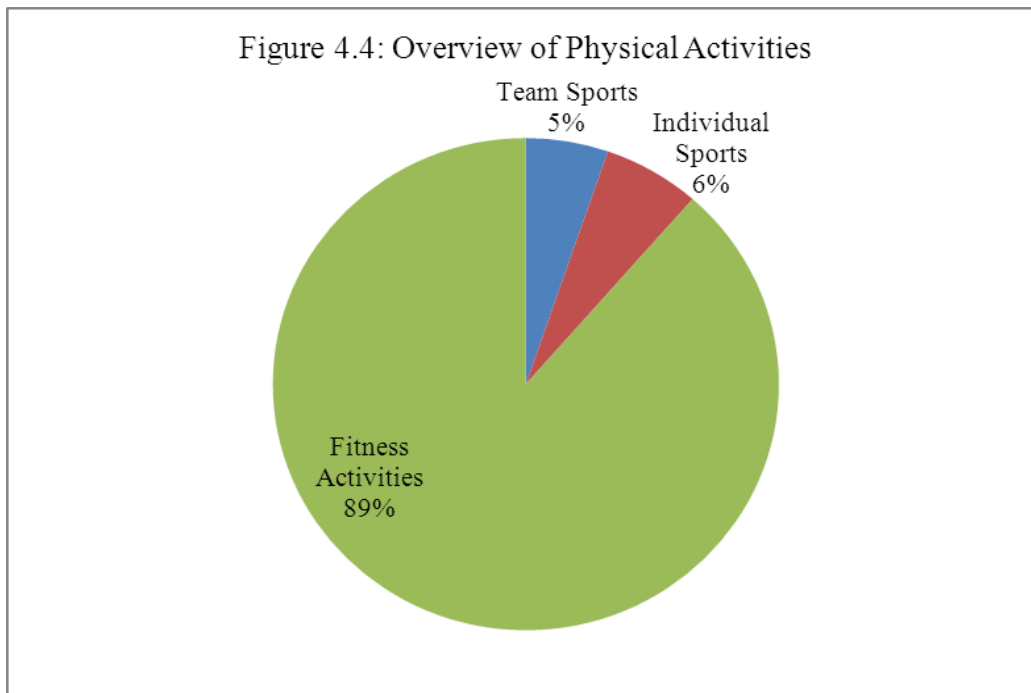
For this study, an aggregate score of total amount of activity was computed based on amount of days and hours of moderate and vigorous intensity activity. A description of intensity as it was provided above was provided to participants in the study. Four categorical variables were calculated for moderate and vigorous activity that determined the intensity level of physical activity that study participants accumulated in the last seven days. A breakdown of activity participation can be found in Table 4.4. Results of the current study show that the sample population is relatively inactive based on physical activity recommendations of the Centers for Disease Control (CDC, 2008). The variables describing physical activity are representative of CDC recommendations. Low activity represents 0-1 days a week of activity with less than an hour each day. Moderately low activity represents activity performed 2-3 days a week with 1-2 hours each day. Moderately high activity represents 3-4 days of activity per week and 1-2 hours each day. Finally, high activity represents activity performed 5 or more days a week at least 2 hours each day.

Table 4.4: Physical Activity Participation Levels		
Variable	Moderate Activity freq. (%)	Vigorous Activity freq. (%)
Low Activity	80(12%)	166(24.9%)
Moderately Low Activity	316(47.3%)	288(43.1%)
Moderately High Activity	220(32.9)	181(27.1%)
High Activity	50(7.5%)	26(3.9%)

In addition to amount of time spent participating in physical activity, study participants were asked to provide a single physical activity in which they participate in the most often. Results were categorized into three groups: Fitness Activity Participation (Figure 4.1), Individual Sport Participation (Figure 4.2), and Traditional Team Sport Participation (Figure 4.3). An overview of these activities can be found in Figure 4.4.







Motivations for Participation: Fredrick & Ryan's Motives for Physical Activities Measure - Revised (1993) was used to measure motivation for physical activity participation. The MPAM-R is a 30-item scale that assesses five different motives for physical activity: 1) fitness, 2) interest/enjoyment, 3) competence/challenge, 4) social, and 5) appearance. There were six questions on each of the five subscales. Participants were asked to rank the degree to which the questions are true of them where 1 is "very untrue of me" and 7 is "very true of me". Of the five subscales, interest/enjoyment, competence/challenge and social are considered intrinsic motivations and appearance and fitness subscales are considered extrinsic motivations. Previous research suggests satisfactory internal consistency for each subscale ($\alpha=.87$) (Fredrick & Ryan, 1993). The current study presented acceptable reliabilities for each sub scale fitness ($\alpha=.89$),

interest/enjoyment ($\alpha=.87$), competence/challenge ($\alpha=.92$), social ($\alpha=.87$), and appearance ($\alpha=.89$). Results of the MPAM-R are presented in table 4.5.

Self-esteem: Self-esteem was measured globally using the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The scale is a ten-item scale to which participants were to respond on a four point scale where 1 is “strongly disagree” and 4 is “strongly agree”. Previous evidence suggests high test-retest reliability with alphas of .77, .88 and .85 respectively (Rosenberg, 1986; Blascovich & Tomaka, 1993; Thome & Espelage, 2004). The current study presented an acceptable reliability with $\alpha=.87$. Means and standard deviations for the items in the RSE are presented in Table 4.6. The scale produces scores ranging from 0-30 points, where scores between 15 and 25 are within normal range and scores below 15 suggest low self-esteem. Within the current study, scores ranged from 10-40 points with a mean of 22.12 on a 4-point scale, which suggests the sample population has low self-esteem.

Table 4.5: Motivations for Physical Activity Measure – Revised (MPAM – R)

Item	Mean	Standard Deviation
Fitness $\alpha = .89$	6.65	1.33
Because I want to be physically fit.	6.15	1.04
Because I want to have more energy.	5.65	1.23
Because I want to maintain my physical strength to live a healthy life.	6.04	1.09
Because I want to maintain my physical health and well-being.	6.10	1.03
Because I want to improve my cardiovascular fitness.	5.73	1.21
Interest/Enjoyment $\alpha=.87$	5.20	1.17
Because it makes me happy.	5.77	1.21
Because I enjoy this activity.	5.46	1.38
Because I think it's interesting.	4.73	1.50
Because I like to do this activity.	5.43	1.38
Because I like the excitement of participation.	4.50	1.59
Because I find this activity stimulating.	5.33	1.38
Because it is fun.	5.17	1.38
Competence/Challenge $\alpha=.92$	5.15	1.15
Because I want to improve existing skills.	5.09	1.39
Because I like the challenge.	5.21	1.43
Because I want to get better at my activity.	5.42	1.39
Because I like engaging in activities that physically challenge me.	5.71	1.37
Because I like activities which are physically challenging.	5.18	1.42
Because I want to keep up my current skill level.	5.32	1.34
Because I want to obtain new skills.	4.66	1.47
Social $\alpha=.87$	4.04	1.29
Because I like to be with others who are interested in this activity.	4.51	1.70
Because I want to meet new people.	4.07	1.56
Because my friends want me to.	2.96	1.59
Because I enjoy spending time with others doing this activity.	4.35	1.64
Because I want to be with my friends.	4.33	1.62
Appearance $\alpha=.89$	5.54	1.11
Because I want to define my muscles so I look better.	5.67	1.30
Because I want to improve my appearance.	5.82	1.26
Because I want to maintain weight so I look better.	5.87	1.27
Because I want to be attractive to others.	5.52	1.40
Because I want to improve my body shape.	5.88	1.26
Because I will feel physically unattractive if I don't.	4.52	1.79

*On a 1-7 scale $\alpha=.82$ Mean= 5.19 Standard Deviation= 1.56

Table 4.6: Rosenberg Self-Esteem Scale		
Item	Mean	Standard Deviation
I feel that I am a person of worth, at least on an equal plane with others.	2.48	0.57
I have a number of good qualities.	2.52	0.53
Overall, I am inclined to feel that I am a failure.	2.37	0.69
I am able to do things as well as most other people.	2.20	0.54
I feel I do not have much to be proud of.	2.41	0.67
I have a positive attitude toward myself.	2.23	0.62
Overall, I am satisfied with myself.	2.18	0.66
I wish I could have more respect for myself.	1.76	0.84
I certainly feel useless at times.	1.83	0.83
At times I think I am no good at all.	2.14	0.83

*On a 1-4 scale $\alpha=.87$ Mean=22.12 Standard Deviation= 4.67

Qualitative Results

Additional qualitative information describing motivations was collected from an open-ended question at the end of the questionnaire that asked, “Do you have any additional comments about what motivates you to be physically active?” This information was coded and categorized into six themes that help further illustrate specific motivations of college women to be physically active. The themes that emerged were a) social, b) confidence, c) stress relief, d) competition, e) appearance, and f) health/fitness.

Responses indicated social motivation as college women are influenced by loved ones in their lives. Women indicated they are active because their parents are active and they want to live up to their standards. “My mother is a runner and works out and I look up to her, so I’m motivated to continue running and stay in shape.” Women also described the feeling of needing to work out because of pressure from loved ones to maintain or lose weight. For example, “My parents often comment on my weight if it looks like I have gained.” Also, college women are motivated to be physically active if

their friends are active. One woman stated, “When I am physically active, it is always with friends, whether or not that means going to the gym or just playing soccer for an hour. Being with other people makes me competitive and motivates me.” These responses are in-line with previous research from Colburn (2010) that says that college women are motivated to be active when their friends are active with them.

Pressures to be active were also evident as women feel that the media influences how they are motivated “The social views of women as weak and dependent motivate me to be competitive, strong, and fit” and further, “I think this society has stressed what people should look like. Especially for young women, we have the pressure to look thin. I think this is the wrong way to go about living, yet it is hard to escape this reality.” It is evident from previous research that the media plays a large role in how women are viewed as well as how individual women view their own body (Levine and Smolak, 2006).

Many women indicated that being physically active allows them to feel more confident. Responses within this theme involved discussion about individual self-worth. Women used words such as accomplishment, success, and positive attitudes, all which lead to confidence. “I have found that since exercising regularly I am less self-conscious about my weight and have a more positive attitude and higher energy levels.”

Previous studies have found that stress relief is a significant motivator among college students (Astin, 2004). Stress relief accounted for many responses in the current study as women indicated that physical activity helped them maintain their focus during school and keep stress levels to a minimum. “I feel better, am happier, more motivated,

and in a better state of mind when I routinely go to gym.” In addition, “I mostly exercise to gain stress relief and to get time alone, in order to think. I find that having time to think and decompress is as helpful to my state of mind as exercising is to my state of health.”

Previous studies have indicated that men are usually more competitive than women, because men are more likely to participate in sporting events than women (Kilpatrick, Hebert & Bartholomew, 2005). It is interesting to note that in the current study with only women, competition a motivator for physical activity participation was also a prominent theme. Some women stated that they enjoy the challenge that sports present in their lives and are continually training for sporting events such as CrossFit, marathons and triathlons. “I am competitive, I like to be challenged, and I love how good my body and mind feel on days that I am active.” Moreover, “I have always been engaged in athletics and recently began competing in triathlons. I have never had a problem finding motivation to stay in shape or exercise” In addition, some women indicated they participate competitively because they have more motivation when they are challenged by others “I don’t have as much motivation to do things [physical activities] by myself. I like having competitions with others.” It is noted, however, that the competitions that were listed were more of individual sports rather than team sports.

Physical activity is an important variable when improving or maintaining physical health (ACSM, 2007; CDC, 2008). Health and fitness motivations were the most common response. An overwhelming majority of the women in the sample indicated they are motivated to stay healthy and in shape for current or future health concerns. “I

just want to live a long and healthy life and [to] always be comfortable and proud in my own skin.”; “I feel better, physically, when I exercise. I have Fibromyalgia, and exercise is an important part of my pain management.” Some women indicated they are tired of being unhealthy and are taking responsibility for their actions, “I’m tired of blaming others for my poor health, so I’m doing something about it.” These responses indicate that college women are aware of the benefits physical activity produces and are motivated to maintain or improve their health and fitness.

Based on the results of the MPAM-R and the self-reported top physical activity, the majority of the sample reported they participate in fitness activities. Based on the literature (Kilpatrick, Hebert & Bartholomew, 2005), it is suggested that the sample is motivated for fitness and appearance reasons. The qualitative responses go on to further describe that college women are very motivated by appearance. Many study participants listed appearance related motivations to be active. Themes that emerged included responses about wanting to look good physically to look good in a swimsuit, to look good for a boyfriend or to attract men. Some “just [want to] lose weight and be fit to fit [into] clothing better and feel better about my body image.” Another interesting response indicated a certain power to maintain appearance when life events get stressful “Working out is something that I can control. Even when life goes to shit and classes, family and friends are crazy, I can control how I look.” Appearance motivation is a major factor in why college women participate in physical activity, especially fitness activities.

A few women openly indicated they have eating disorders and are physically active because they continue to fight their condition. “I struggle with bulimia and

working out allows me to feel like I'm getting rid of enough calories without throwing up.” Previous research states that when women are focused on external rewards such as improved appearance, the opportunity for pure enjoyment of the activity is limited; therefore, fulfillment in the activity is almost never accomplished. Additionally, when an individual places the value of their self-worth on external contingencies such as appearance, the process of self-evaluation is more closely associated with negative mental health (Crocker & Wolfe, 2001; Deci & Ryan, 1985). When this happens, the woman may experience a variety of negative outcomes including eating disorders (Fredrickson & Roberts, 1997).

Of the 232 optional responses to this question, health/fitness concerns were the most frequent response, with a lot of overlap between health/fitness and appearance motivations. As women are motivated to stay healthy currently, they realize their physical appearance will improve or be maintained through healthy active lifestyles. “Yes, I'd like to look nice, but I want to do it for the long term health benefits. I have a family history of problems associated with weight.” These two themes are connected as college women are motivated to be in good physical shape, while also knowing they will look better if they are healthier physically. These results directly relate to the MPAM-R results in the current study as fitness and appearance motivation score the highest means of the five subscales, indicating a relationship between fitness and appearance motivations.

Treatment of Data

The data for this study were analyzed using a variety of statistical techniques. Data were cleaned by eliminating any study participant who did not meet the age requirement of 18-24. The data set was then narrowed by eliminating questionnaires that was not completely filled out. There were 741 questionnaires completed. After eliminating questionnaires that were not properly filled out or participants that did not meet the age requirement of the study, the population sample consisted of 668 questionnaires. The data set was coded accordingly for each scale and tested for internal reliability. The self-esteem scale and motivation subscales were checked for missing data and linear trend at point method was used to identify missing data. Missing data values were at approximately 1% for each scale. According to Tabanick and Fidell (2001), less than 5% missing data is acceptable. Frequencies of moderate physical activity and vigorous physical activity were determined. Categorical variables were created to describe moderate and vigorous activity based on days per week and hours per day. Within each variable, categories from 1-4 were created to describe how often participants participated in both moderate and vigorous activity. Additional categorical scales were created to represent high and low activity levels. Results from the question asking participants what physical activity they participate in most often were tallied and organized into three categories of fitness activities, individual sports and traditional team sports. Responses to the open-ended qualitative question (n=233) were coded into six different themes, each of which may be similar to or identify new motivators aside from the MPAM-R.

Hypothesis Testing

The first hypothesis for the study was that there would be a positive relationship between participation in physical activity and self-esteem among college women. To analyze the first hypothesis, a linear regression analysis was performed with self-esteem as the dependent variable and moderate and vigorous physical activity categories as independent variables. Descriptive statistics can be found in Table 4.7.

Table 4.7: Descriptive Statistics for Hypothesis #1		
Variable	Mean*	Std. Deviation
(Constant)	22.14	4.64
Moderate Activity	2.36	.79
Vigorous Activity	2.10	.82

DV = Self-Esteem

* Means calculated on a 4-point and 5-point scale respectively

Results showed there was no significant relationship between frequency of participation and self-esteem. A summary can be found in Table 4.8. The linear regression analysis showed that participation in activity only accounted for .017% of positive or negative self-esteem of the study participant population.

Table 4.8: Summary of Regression Analysis for the Relationship between Physical Activity Participation and Self-Esteem			
Variable	B	p-value	β
(Constant)	22.30		
Moderate Activity	0.03	.911	0.005
Vigorous Activity	-0.11	.666	-0.019
R = .017; R^2 = .000 *p<.05; DV= Self-Esteem			

The second hypothesis for the study was that college women who are motivated for health and fitness related reasons would have higher self-esteem than women who are motivated to participate for appearance related reasons. The second hypothesis was analyzed using a linear regression with self-esteem as the dependent variable and each of the five motivation subscales as the independent variables. The regression summary can be found in Table 4.9.

Results of the regression supported the hypothesis. As women were motivated for appearance, their self-esteem decreased and as college women were motivated for fitness, their self-esteem increased. Analysis results can be found in Table 4.9.

Table 4.9: Summary of Regression Analysis for the Relationship between Intrinsic/Extrinsic Motivation and Self-Esteem			
Variable	<u>B</u>	<u>p-value</u>	β
(Constant)	21.326		
Fitness	.296	.000*	.305
Interest/Enjoyment	-.002	.956	-.004
Social	-.034	.303	-.047
Competence/Challenge	-.052	.239	-.091
Appearance	-.155	.000*	-.221
R = .19; R^2 = .19; *p<.05; DV = Self-Esteem			

The third hypothesis of the study was that participation for weight loss (motivated by appearance) would negatively affect the relationship between physical activity participation and self-esteem. The third hypothesis was analyzed using a mediation model. There was no significant relationship was found between participation in physical activity participation and self-esteem when controlling for appearance motivation (Table 4.8). There was no mediation. There was no direct effect to be mediated, because the

relationship between physical activity participation and self-esteem was not significant to begin with, and the zero-order correlation between the two variables is almost zero ($r=0.01$).

Based on mediation model instruction from Baron and Kenny (1986), for mediation to occur there has to be a significant relationship between the direct pathway. In this study there was no significant relationship between physical activity participation and self-esteem, therefore according to Baron and Kenny (1986), there would be no reason to continue analyzing the model. However, in order to more fully understand the relationship between physical activity participation, appearance motivation and self-esteem, the researcher further investigated the relationships between appearance motivation and participation and appearance motivation and self-esteem. Results showed there was a significant positive relationship between participation in physical activity and appearance motivation. Specifically, participation in higher levels of physical activity is significantly related to higher appearance motivation scores. Regression analysis can be found in Table 4.10. Further, there was a relationship between appearance motivation and self-esteem, as appearance motivation increases, self-esteem decreases (Table 4.9).

Table 4.10: Summary of Regression Analysis for the Relationship between Appearance Motivation and Physical Activity Participation

Variable	<u>B</u>	<u>p-value</u>	β
(Constant)	29.17	.000	
Moderate Activity	1.73	.000	.205
Vigorous Activity	2.51	.000	.309

$R = .309$; $R^2 = .095$ * $p < .05$; DV = Appearance Motivation

Summary

Linear regression was used to determine the relationship between self-esteem and physical activity participation. There was no significant relationship between physical activity participation and self-esteem.

A second linear regression was carried out that identified a relationship between motivations to participate in physical activity and self-esteem. The regression analysis indicated that as women were increasingly motivated by appearance related concerns they would be more likely to have lower self-esteem. Additionally, as women were motivated to be active for fitness they were more likely to have higher self-esteem.

Finally, a mediation model with linear regressions was used to determine if there was a relationship between physical activity participation levels and self-esteem and if appearance motivation would mediate that relationship. The model indicated there was no significant relationship between physical activity participation and self-esteem. There was however, a significant relationship between physical activity participation and appearance motivation. Participation in higher levels of physical activity is significantly related to higher appearance motivation scores. However, no significant relationships exist between appearance motivation and self-esteem, and no significant relationship exists between participation in moderate physical activity and self-esteem when controlling for appearance motivation. There was no mediation.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine how specific motivations to be physically active affect self-esteem of college women. The first objective of the study was to determine if there is a relationship between physical activity participation and self-esteem of college women. The second objective was to determine if type of motivation to participate affects the relationship between physical activity and self-esteem.

Information in this chapter will be presented in five areas: 1) summary of procedures, 2) summary of findings, 3) conclusions, 4) implications and discussion, and 5) recommendations for future research.

Summary of Procedures

The sample population consisted of 668 undergraduate women between the ages of 18-24 attending a mid-size southeastern university in during the spring 2012 semester. Study participants were recruited by the university's Office of Institutional Research. Questionnaires were distributed via email with an online link to the questionnaire to 6,822 women who fit the demographic qualifications of the study. Instructions for completion were included in the email. The questionnaire sought information including a) physical activity participation, b) motivations for participation, c) level of self-esteem, and d) demographic information.

The final sample population represented ages 18-24. Each study participant was either a freshman, sophomore, junior or senior, with the majority of study participants

indicating sophomore level status. Demographic information that was collected consisted of age, academic year in university, race/ethnicity, academic major, and body mass index. Study participants were a diverse range of age, academic year in university and academic majors. The sample was representative of the university's population based on race/ethnicity percentages.

An overall index of physical activity participation was created. Study participants were relatively inactive based on the physical activity recommendations of the CDC (2008). Adequate physical activity recommendations consist of at least 150 minutes of moderate intensity activity each week along with at least two or more days of muscle conditioning activity. An index of "most frequent physical activity participated in" was also created, with the majority of study participants participating in fitness related activities as compared to team or individual sports for daily activity.

An index was also created to identify a range of specific motivations for activity participation based on five sub-categories: 1) fitness, 2) competence/challenge, 3) interest/enjoyment, 4) social and 5) appearance. Based on the results of the MPAM-R, the sample was found to be motivated mainly by fitness and appearance. Additional qualitative information was collected that allowed participants to go into detail about what motivates them to be active. The themes that emerged were a) social, b) appearance, c) confidence, d) stress relief, e) competition, and f) health/fitness. The majority of the study participants indicated in their responses that they are motivated by health/fitness along with appearance. The results from the qualitative section matched the results of the MPAM-R as both research methods came to the same conclusion;

women are motivated to live a healthy lifestyle and by being physically active, they understand that another benefit of participation is an improved physical appearance.

Lastly, an index was created to identify level of self-esteem represented by the sample. Results showed the sample had low levels of self-esteem with a score of 22.12 on a 4-point scale.

Summary of Findings

To present the findings clearly and concisely, the original hypotheses and test results are provided.

Hypothesis #1: There will be a positive relationship between participation in physical activity and self-esteem among college women.

Results: A linear regression analysis was performed with self-esteem as the dependent variable and moderate and vigorous physical activity categories as independent variables. Data showed there was no significant relationship between physical activity participation and self-esteem.

Hypothesis #2: College women who are motivated for health and fitness will have higher self-esteem than women who are motivated to participate for appearance.

Results: A linear regression was performed with self-esteem as the dependent variable and each of the five motivation subscales as the independent factors. Data indicated that college women who are motivated to be physically active for appearance, have lower levels of self-esteem than those who are motivated for other reasons. In addition, women who are motivated by fitness related reasons have higher self-esteem.

Hypothesis #3: Participation for weight loss (motivated by appearance) will negatively affect the relationship between participation in physical activity and self-esteem.

Results: A mediation model with linear regressions was used to analyze the third hypothesis. No significant relationships were found between participation in physical activity participation and self-esteem when controlling for appearance motivation. There was no mediation. There was no direct effect to be mediated, because the relationship between physical activity participation and self-esteem was not significant to begin with, and the zero-order correlation between the two variables is almost zero ($r=0.01$). Thus, there was no mediation. However, there was a relationship between appearance motivation and participation and appearance motivation and self-esteem. Results showed there was a significant positive relationship between participation in physical activity participation and appearance motivation. Specifically, participation in higher levels of physical activity is significantly related to higher appearance motivation scores. Further, there was a relationship between appearance motivation and self-esteem, as appearance motivation increases, self-esteem decreases.

Conclusions

The results of this study suggest: a) self-esteem is not related to physical activity participation of college women at this university; b) college women who are motivated to be physically active for appearance, have lower self-esteem than college women who are motivated by fitness; and c) participation in physical activity does not have any significant relationship to self-esteem of college women. Even though women are

motivated by appearance to be physically active, appearance does not mediate the relationship between physical activity participation and self-esteem.

Implications and Discussion

An interesting result of the current study was that participation in physical activity is not related to self-esteem of college women. Previous studies have determined there is a positive relationship between physical activity participation and self-esteem (Sonstroem, 1984; Wilson & Rodgers, 2002; Schmalz, Deane, Birch, Davidson, 2007). Researchers studying adolescent girls and college women have consistently found a relationship between women participating in physical activities such as sport or fitness activities and their level of self-esteem. Results from the current study directly contradict previous findings and could be due to a few reasons.

Population samples from previous studies have been younger in age and have been targeted sample populations. Specific motivations to participate in physical activity differ among age groups (Morris et al, 1995; Brodtkin & Weiss, 1986). The population sample in the current study is at the stage of life considered emerging adulthood, which considers a transition stage between childhood and adulthood when emerging adults are exploring new possibilities and life directions (Arnett, 2000). College students are considered emerging adults because they are no longer children in direct care of parents but are not necessarily adults because they are still considered adolescents, many of which are still supported by their parents. College women in this transition stage are exposed to new ideas from the media and social influences that may enable or constrain

their self-esteem. Therefore, this may have affected results of the current study as college women may have different interests and motivations than younger populations.

Another difference in sample could account for the contrary findings concerning self-esteem and participation in physical activity. The sample in the current study was a sample from all college women on campus, whereas previous studies of with college women have targeted specific groups, such as regular participants in fitness classes on campus (Wilson & Rodgers, 2002). The difference may be that in the current study, the sample represents women who may or may not be active currently, whereas previous studies have measured the effect of physical activity on women who are already active.

To understand the results of the self-esteem index of the current study, the construct of self-esteem must be further examined. An individual's self-esteem is made up of many components that ultimately determine whether an individual feels they are of worth. The basis of self-esteem is based on a social world perspective of whether an individual feels they are of some level of worth that contributes to society (Kernis, 2003) and is a complex construct that varies across different realms of experience and personality characteristics (Coopersmith, 1981). With this consideration, self-esteem may be situational depending on different areas of life and how individuals react to those moments and their level of self-esteem may be high in one life area and low in another (Rosenberg, 1985). Additionally, if an individual has a baseline level of self-esteem, but because of different life areas that may present challenges, she may feel lower or higher self-esteem at different times (Rosenberg, 1985). For example, a woman may have high self-esteem while in the classroom because she is intelligent and earns good grades

consistently. However, in another area of her life, perhaps in athletics, she may not possess adequate skills that allow her to feel confident in participation, which may ultimately lead her to have lower self-esteem in the realm of athletics. There are many components that make up an individual's self-worth including academics, relationships, athletics, and body image (Crocker & Wolfe, 2001; Kernis, 2003). In the current study, physical activity was not related to level of self-esteem. This may be due to the structural makeup of self-esteem that is comprised of many different attributes. Thus, physical activity levels cannot account for all of a college woman's self-esteem as there are many other daily experiences that contribute to how she feels about her own level of self-worth.

The second interesting piece of the study comes from the motivations for physical activity section. Previous research concludes that different types of physical activity promote different motivations (Fredrick & Ryan, 1993; Gill et al 1983; Morris et al, 1995). The questionnaire asked participants which physical activity they participate in most often and then to answer the following questions based on that activity. The majority of why participants in the study were motivated to be active stems from the motivation to be physically fit for health related reasons and then to maintain or improve their appearance. Study results indicated that college women know there are many health benefits to gain from participation in physical activity, such as improved cardiovascular system, lower blood pressure, and lower stress levels. In addition, the population sample was also physically active with the secondary goal of being more physically attractive. The results of the current study confirm previous research findings as an overwhelming majority of the study participants indicated they participate in fitness related activities

rather than sport activities, and their motivations to be active for fitness matched the type of physical activity they participate in the most often (Kilpatrick, Hebert & Bartholomew, 2005).

The interesting piece in this section is that as women are more motivated to be physically active for fitness reasons, they are more likely to have higher self-esteem. Conversely, when women are motivated to be physically active for appearance reasons, they are more likely to have lower self-esteem. This conclusion agrees with the literature as women who suffer from body image dissatisfaction, social physique anxiety, and eating disorders, all of which are considered to be linked to appearance related concerns, have lower self-esteem than women who do not suffer from these specific health concerns (Schlenker & Leary, 1982; Wilson & Rogers, 2002; Levine, M., & Smolak, L., 2006; Forrest & Stuhldreher, 2007).

However, the MPAM-R indicates that fitness and appearance motivations are both extrinsic variables. This is difficult to understand as the results of the current study show fitness motivation and appearance motivation moving in opposite directions along the regression with self-esteem.

The sample in the current study was found to be motivated for physical activity, with a majority reporting fitness related activities, by extrinsic motivators such as fitness and appearance related concerns. These results align with previous research that has concluded that competence and enjoyment motivations are greater for sport participation while appearance motivations are higher to exercise for fitness reasons (Fredrick & Ryan, 1993). The majority of college women who participated in the current study were

motivated mainly by extrinsic reasons such as fitness and appearance, not by intrinsic motivators such as social, competence or pure enjoyment of the activity. If these are the most important benefits women perceive they are receiving from physical activity participation, then what kind of message are we sending to young women about the importance of physical activity in their daily lives? Are the messages that young women are receiving communicating that the only benefits of being active are fitness and appearance? Could this be why so many women suffer from eating disorders, exercise addiction or social physique anxiety?

Previous research has indicated that physical activities must serve a greater purpose in an individual's life, such as fitness or appearance reasons, in order for one to invest time and effort in the activity (Kilpatrick, Hebert & Bartholomew, 2005). If this is the case, physical activity as a pure leisure time activity may be overlooked. Participation in physical activity can happen for other reasons – for social interaction, skill competency, or just for fun. Perhaps if physical activities on college campuses were promoted for these benefits instead of for appearance related concerns, there may be higher adherence rates for physical activity participation among college women due to the role intrinsic motivation plays in that relationship (Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997). The question needs to be asked if extrinsic motives can encourage physical activity participation over a longer period of time.

This conclusion leads to a need for programmers to encourage participation in physical activities to college women through developing and marketing programs that foster both individual and team growth in environments that are supportive, engaging and

promote skill competency and most of all, fun. Developing the atmosphere of a recreation program could influence personal growth of women and their motivation to participate in physical activity. Programs that are developed to satisfy intrinsic motivational needs could have potential to be better attended than programs that only provide external rewards or outcomes. If physical activity programming is designed in a manner that promotes these items, women may be more inclined to participate for more intrinsic related reasons such as, social interaction, skill competency and fun. This may promote higher levels of self-esteem over a longer period and possibly lower rates of body image dissatisfaction, exercise addiction, and eating disorders.

Limitations

This study is limited by its cross-sectional nature, as the questionnaire presented results that cannot be interpreted for long-term physical activity adherence. The questionnaire also presented results that cannot interpret specific motivations towards all different types of physical activities.

The IPAQ was used to collect participation rates of physical activity, however it only accounted for activities performed in the last seven days, therefore not measuring previous or future participation which could present different results. The MPAM-R presents limitations as the items on the questionnaire can be interpreted differently by each individual study participant. The RSE was also limited in that it is a measure of global self-esteem and is not able to tease out the different attributes of the greater self-esteem construct.

Additionally, the low response rate could have been limited because only one email was sent to potential participants. The study was limited in that the data collection period only lasted one week. The study was also limited in that the questionnaire was distributed the week after spring break. The questionnaire asked questions regarding physical activity participation as a self-report about activity participation in the last seven days. Activity participation could have been different during spring break than during a normal week.

Recommendations for Future Research

An interesting result of the study that has been presented is that even though fitness and appearance are considered extrinsic motivators, self-esteem increases for fitness related motivations while self-esteem decreases for appearance related motivations. The researcher hypothesized that as college women are motivated extrinsically, their self-esteem will decrease. Based on the study results, there is a relationship between self-esteem and appearance and fitness motivations. However, there needs to be better definitions of what these variables actually entail, whether it is the feeling of being fit and in the moment satisfaction (intrinsic) or the measureable outcome working towards a goal of being physically fit and being in shape (extrinsic). The items on the current MPAM-R, specifically the fitness subscale, are very much intrinsically oriented variables. Further examination of the items is needed to verify whether the fitness subscale is intended to be extrinsic or should be changed to exemplify intrinsic motivation.

The appearance motivation subscale could not be teased out from the fitness subscale because they move in opposite directions, as appearance motivation increases, self-esteem decreases and as fitness motivation increases, self-esteem increases. If appearance and fitness subscales are considered by the MPAM-R to both be extrinsic, then why do they move in opposing directions when controlling for self-esteem? This could be due to evidence from the qualitative results that concluded that improved appearance is directly related to physical activity, in addition to improved fitness. The majority of the responses to the open-ended question produced answers that indicated that college women are motivated to be physically active for health/fitness related reasons. These responses indicated that college women know they need to be physically active to lead a healthy lifestyle, which will ultimately help their future health. Many of the responses indicated that college women understand that when their bodies are healthy, they also look better physically, which was also a prominent motivator. The responses were always pointing towards health/fitness first, and then appearance as an added bonus. Women that mentioned both motivators always listed health/fitness as the initial benefit and then appearance as a secondary benefit. These qualitative results help to explain the co-linearity concern that was produced in the quantitative results of the MPAM-R. Additionally, it helps to understand why appearance and fitness motivations have been so difficult to tease out.

Additionally, results of the fitness and appearance motivations indicated that a woman can be in excellent physical shape, but may still not have the ideal body type or shape, which may still make her strive to improve her appearance. On the other hand, a

woman may have the perfect body type and shape and be completely satisfied with her appearance; however, she may be completely out of physical shape. It is interesting that these two variables can be so opposing in motivation and present different perceived levels of self-esteem, yet they move together on the continuum of extrinsic motivation.

In addition to the fitness and appearance subscales, the social subscale of the MPAM-R also needs further examination. There are many different ways to understand social motivations of college women to participate in physical activity (Colburn, 2010). The questionnaire items of the social subscale mainly question if the study participant is active because they want to be with friends and if they want to meet new people. According to the literature, participation in physical activity has been found to be restricted or enabled based on enjoyment of social relationships and generally spending quality time with friends while participating in physical activities such as going to the gym, shopping, walking (Coburn, 2010). The act of being together and having unstructured fun with friends is a key aspect of motivation to persist in physical activities. The current study presented results that indicated college women are less motivated by social aspects of being with friends than they are by fitness or appearance motivations.

However, from the qualitative results of the current study, it is evident there are many more social influences to participating in physical activity such that include more negatively skewed answers. Responses included being motivated to be physically active because parents have commented on the study participant's weight and indicated that they do not approve of further weight gain. The other very powerful social motivation is the act of seeing other people, whether they are friends, family or strangers, being

physically active. This drives college women to be motivated to be more active themselves, and perhaps motivates them to improve themselves through the challenge of keeping up, with their fitness and appearance, with the people by which they surround themselves. In this sense, social motivations would not be an intrinsic motivator, as there is an external pressure from others to achieve a certain standard, which certainly makes the social motivator an extrinsic factor.

The missing piece in the MPAM-R may be another subscale that would outline societal motivations to be physically active. Previous research suggests there is pressure from the media for women to be both physically fit and attractive (Levine & Smolak, 2006). Results from the qualitative section of the current study presented responses that indicated that college women are motivated to be physically active because of the way women are portrayed in the media, and their own desire to live up to those depictions. “The social views of women as weak and dependent motivate me to be competitive, strong, and fit.” Some responses presented that college women are motivated to be physically active from the media including popular social networking websites such as “Pinterest” and popular television programming “The Biggest Loser”, both of which present images of extreme weight loss through diet and exercise.

Lastly, future research should include more longitudinal studies as it would be interesting to see if there is a difference in motivation for participation among the different academic statuses. There could possibly be a change in motivation from freshman to senior year, which could help to further explain how and why women participate in activity.

Summary

The current study suggested that even though the study population had low levels of self-esteem, it is not related to physical activity participation of college women. The study also suggests that college women who are motivated by appearance are more likely to have lower self-esteem than college women who are motivated by fitness. Even though physical activity is was shown to not be directly related to self-esteem, it is important to understand how and why college women are motivated to be physically active. Recreation programmers can utilize this information to provide opportunities for college women to gain stress relief, skill competency, and to have fun, while gaining the benefits of physical activity such as health, fitness and improved appearance. If programmers can understand why college women want to be active and can understand how to motivate college women to be active for intrinsic reasons, adherence rates of physical activity participation among college women could increase, which could lead to healthier lifestyles.

APPENDICES

Appendix A

Informed Consent Form

Consent Form

You have been selected to take part in a research study. Please follow the link below to participate in the survey:

<https://www.surveymonkey.com/s/5WHGTBW>

Upon completion of this survey, you will be entered into a drawing for a \$50 Amazon.com gift card!

Description of the Study and Your Part in It

Dr. Dorothy L. Schmalz and Emily Turke are inviting you to take part in a research study. Dr. Schmalz is an Associate Professor at Clemson University in the Parks, Recreation, and Tourism Management (PRTM) Department. Emily Turke is a graduate student at Clemson University in PRTM, conducting this study with the help of Dr. Schmalz. The purpose of this research is to explore motivations for physical activity among college women and outcomes they get from their participation. Your part in the study will be to complete an online survey that will take approximately 10-12 minutes. Please take your time to answer the questions thoughtfully.

Risks and Discomforts

We do not know of any risks or discomforts to you in this research study.

Possible Benefits

Results from this study may be used to better program for the needs, motivations, and outcomes experience by college women on University campuses.

Incentives

Upon completion of the survey, you will have a choice to be entered in a drawing for a chance to win a \$50 Amazon.com gift card. Drawing will be held upon completion of data collection at the end of the spring 2012 semester. The winner will be contacted via email or telephone.

Protection of Privacy and Confidentiality

Your participation in this study will be completely anonymous. The only identifying information you may provide is your name and email address for a chance to win the drawing for a \$50 Amazon.com gift card. Your name will never be associated with your responses, and your participation will be confidential. Only members of the research team will have access to email addresses provided for the drawing.

Choosing to Be in the Study

You do not have to participate in this study. You may choose not to take part and you may choose to stop taking part at any time. There will be no penalties if you decide to withdraw from the study.

Appendix B
Questionnaire

Motivations for Physical Activity Participation of College Women

1. These questions will ask you about the time you spent being physically active in the last 7 days. Please answer each question even if you do not consider yourself an active person. Please think about the activities you do in your spare time for recreation, exercise or sport.

During the last week, on how many days did you walk for at least 10 minutes at a time in your leisure time? This could include walking for transportation purposes or walking for a leisure time activity.

- ☐ 0 days
- ☐ 1-2 days
- ☐ 3-4 days
- ☐ 5-6 days
- ☐ 6 or more

2. How much time did you usually spend on one of those days walking in your leisure time?

- ☐ Did not walk at all for leisure
- ☐ Less than 1 hour
- ☐ 1-2 hours
- ☐ 3-4 hours
- ☐ 5 or more hours

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3. Think about the physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do MODERATE physical activities like bicycling at a regular pace, swimming at a regular pace, or doubles tennis in your leisure time?

Moderate activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. When you are moderately active, you should be able to carry on a conversation with a friend, but not be able to sing.

- ☐ 0 days
- ☐ 1-2 days
- ☐ 3-4 days
- ☐ 5-6 days
- ☐ 6 or more days

4. During the last week, on the days when you were moderately active, on average, how long were you active for?

- ☐ Was not moderately active within the last week
- ☐ Less than 1 hour per day
- ☐ 1-2 hours per day
- ☐ 3-4 hours per day
- ☐ 5 or more hours per day

5. Think about physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do VIGOROUS physical activities like aerobics, running, fast bicycling, fast swimming in your leisure time?

Vigorous physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. When vigorously active, you should not be able to say 3-5 words without pausing for a breath.

- ☐ 0 days
- ☐ 1-2 days
- ☐ 3-4 days
- ☐ 5-6 days
- ☐ 6 or more

Motivations for Physical Activity Participation of College Women

6. During the last week, on the days when you were vigorously active, on average, how long were you active for?

- ☐ Was not vigorously active within the last week
- ☐ Less than 1 hour per day
- ☐ 1-2 hours per day
- ☐ 3-4 hours per day
- ☐ 5 or more hours per day

7. What physical activity do you participate in most often? Please provide only ONE answer. For example, walk, jog or run on campus, play tennis, play soccer, life weights, fitness classes, etc.

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8. When answering the next set of questions, think of the physical activity that you most often participate in, the activity you listed in the box above. Respond to each question based on if it is extremely untrue or extremely true of you.

	Extremely untrue	Very untrue	Somewhat untrue	Neutral	Somewhat true	Very true	Extremely true
Because I want to be physically fit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because it's fun.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I like engaging in activities that physically challenge me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to obtain new skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to maintain weight so I look better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to be with my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I like to do this activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to improve existing skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I like the challenge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to define my muscles so I look better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because it makes me happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to keep up my current skill level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to have more energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I like activities which are physically challenging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I like to be with others who are interested in this activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to improve my cardiovascular fitness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to improve my appearance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I think it's interesting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to maintain my physical strength to live a healthy life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to be attractive to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to meet new	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Motivations for Physical Activity Participation of College Women

people.

Because I enjoy this activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to maintain my physical health and well-being.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to improve my body shape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I want to get better at my activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I find this activity stimulating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I will feel physically unattractive if I don't.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because my friends want me to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I like the excitement of participation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because I enjoy spending time with others doing this activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please respond to each of these questions if you strongly agree or strongly disagree with the statements.

	Strongly disagree	Disagree	Agree	Strongly agree
I feel that I am a person of worth, at least on an equal plane with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a number of good qualities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I am inclined to feel that I am a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to do things as well as most other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I do not have much to be proud of.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a positive attitude toward myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I am satisfied with myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I could have more respect for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I certainly feel useless at times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At times I think I am no good at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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10. Read each item carefully and indicate how characteristic it is of you according to the following scale.

	Extremely unlike me	Very unlike me	Somewhat unlike me	Moderately like me	Somewhat like me	Very like me	Extremely like me
I am comfortable with the appearance of my physique or figure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would never worry about wearing clothes that make me look too thin or overweight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I wasn't so uptight about my physique or figure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I look in the mirror, I feel good about my physique or figure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unattractive features of my physique or figure make me nervous in certain social settings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the presence of others, I feel apprehensive about my physique or figure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable with how fit my body appears to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It would make me uncomfortable to know others were evaluating my physique or figure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When it comes to displaying my physique or figure to others, I am a shy person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually feel relaxed when it's obvious that others are looking at my physique or figure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in a bathing suit, I often feel nervous about how well-proportioned my body is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. What is your age?

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12. Currently, what year in university are you?

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Graduate Student

13. What is your academic major?

14. Do you live on or off campus?

- ☐ On campus
- ☐ Off campus

15. If you live off campus, how far away from campus do you live?

- ☐ Within 5 minute walk
- ☐ More than 5 minute walk
- ☐ Within 5 minute drive
- ☐ More than 5 minute drive

16. Please specify your ethnicity.

- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino

17. Please specify your race. Check all that apply.

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Pacific Islander
- ☐ White

18. What is your height?

Feet

Inches

19. What is your weight in pounds?

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20. Do you have any additional comments about what motivates you to be physically active?

21. Participant contact information

This information will be used only to contact you if your name has been drawn for a prize. This information will not be used for anything outside of this drawing and will be erased once the drawing is completed.

Please provide information for how you would like to be contacted if your name is drawn for a prize. Include your name, email address, and/or phone number.

Appendix C

Preliminary Study Questionnaire

1. What kinds of recreational physical activities do you participate in?
2. What motivates you to be physically active?
3. Thinking back to when you were young, what kind of physical activities did you pursue?
4. How do you participate in physical activity with friends or family? What is their role in your physical activities?
5. Tell me about your experience of how you chose to go to school at Clemson?
6. Was your choice of university influenced by recreational physical activities?
7. Have your physical activities changed over your time at Clemson?
8. How do you feel about the new “women only” weight room (cardio room in Fike)?
9. What kind of environment allows you to have the best possible workout or feel the best about yourself?
10. How do you feel about the way your body looks? Do you have a favorite or least favorite part?
11. Do others’ perceptions of image influence you? Why or why not?
12. How does body weight factor into this image?
13. What does being satisfied with your body image mean to you? What does it feel like?
14. Are there other things you would like to share about your physical activities as a college woman?
15. How would you rather answer these questions? Speaking to a researcher, handwritten on a survey or typed on a computer survey?

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