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The Relationship Between Physical Activity Level and Perceptions of Body Image-- A High School Female Perspective: A Convergent Parallel Mixed Methods Design

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The Relationship Between Physical Activity Level and Perceptions of Body Image—
A High School Female Perspective: A Convergent Parallel Mixed Methods Design

By
Nicole Anne Ludwa

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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Approval Page

This dissertation was submitted by Nicole Ludwa under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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Abstract

The Relationship Between Physical Activity Level and Perceptions of Body Image—
A High School Female Perspective: A Convergent Parallel Mixed Methods Design.
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Activity/Female/Sports Participation

Despite all the known social, mental, and physical benefits of physical activity, a large percentage of girls choose to engage in even less physical activity than they did as young children. Social acceptance is at its highest during the adolescent age and societal differences generated from parents, friends, and the media have created women whose general life contentment is often correlated to their perceived body image.

This mixed methods study—based on the social learning, social comparison, and feminist theories—sought to explore how physical activity level affects body image in high school females. The Physical Activity Questionnaire for Adolescents (PAQ-A; Kowalski, Crocker, & Donen, 2004), the Body Image States Scale (BISS; Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002), and the Body Appreciation Scale-2 (BAS-2; Tylka & Wood-Barcalow, 2015) were used to survey high school females' physical activity levels and perceptions of body image. After survey results were analyzed, no significant relationship was found between physical activity level and body image.

Using convergent parallel design, the researcher interviewed volunteer participants and discovered a variety of factors that contributed to the choice to be physically active and to an adolescent female's perception of body image. Future research concerning the relationship between factors identified in the study is necessary to more comprehensively understand females' choice to be physically activity and their development of body image.

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Chapter 1: Introduction

Overview

Positive correlations between being satisfied with one's appearance and general life contentment have shown that boys fare better than girls especially as they age (Hassan, Zubair, Riaz, & Tarig, 2012). Social comparison theory is built upon the belief that there is a drive within individuals to gain accurate self-evaluations by comparing themselves to others. Comparison to friends, family members, and media images against one's own opinions, produces a self-evaluation in which one learns how to define the self (Festinger, 1954).

During adolescence, social comparison, in regards to how one feels about her own body, is a common practice for females. The sports, clubs, or art activities a girl chooses to participate in are heavily influenced by what she presumes as popular, as well as the way she feels about her own body (Douglas, 2010; Kalnes, 2013; Pruis & Janowsky, 2010). Physical self-perceptions are regarded as an influential psychological construct in adolescents' self-esteem. According to Fox (2000), "The physical self-esteem has occupied a unique position in the self-esteem system because the body, through its appearance, attributes, and abilities, provides the substantive interface between the individual and the world" (p. 230).

This chapter is arranged into the following sections: background, problem statement, theoretical base, purpose of the study, research questions, research hypothesis, definition of terms, assumptions, limitations, delimitations, and summary. Together these sections provide a brief overview of relevant literature surrounding the topic, provide evidence of a problem, demonstrate how this study builds on prior research, and explains how a meaningful gap in current research literature was addressed.

Background

Physical activity is any movement incurred in daily life which includes work, leisure and sport time (U.S. Department of Health and Human Services, 2015). Although physical activity levels erode the most for all populations between the ages of 13-18, statistics have shown that the percentage of males who remain active after adolescence is significantly higher than females because numerically, more boys participate in physical activity during the childhood years (Caspersen, Pereira, & Curran, 2000; Keresztes, Piko, Pluhar, & Page, 2008; Sterdt, Liersch, & Walter, 2014). As an adolescent, one source of physical activity is manifested through participation on a sports team. Participation on a sports team has additional benefits that may or may not exist in an individual's life outside of the team setting. Jones and Jones (2015) noted, "When you take a moment to consider the data in-depth for children who exercise and play organized sports, the details of a child's future come to life" (p. 8A). Results from the Center for Disease Control's Middle School Youth Risk Behavior Survey highlighted the positive impact of sports (Zullig & White, 2010). This survey was administered to 245 male and female middle school students questioning the relationship between adolescent life satisfaction, self-rated health, and physical activity. Life satisfaction was measured on a Likert scale that ranged from terrible to delighted. Females who had participated in vigorous physical activity, such as running, during the previous seven days scored themselves significantly higher in life satisfaction than females who had not participated in vigorous physical activity in the seven days prior to the survey (Zullig & White, 2010). For pre-adolescent and adolescent girls, the achievement-oriented environment provided by sports participation carries social, mental, and physical benefits that leads to feelings of capability and confidence (Boyer, 2007).

Although there are numerous positive outcomes associated with sports participation, it is important to consider the abundant research on the influence gender role and gender socialization has on physical activity levels, particularly in females (Cockburn & Clarke, 2002; Fikkan & Rothblum, 2012; Galipeau, 2014; Grieser, Saksvig, Felton, Catellier, & Webber, 2014; Ingrao, 2014; Keresztes et al., 2008). According to Mikkola (2012), masculinity and femininity are thought to be socially constructed products of nurture. In other words, the gender characteristics males or females display do not necessarily exist at birth. Rather, they are acquired and chosen by an individual through gender socialization. Socialization of gender is communicated through parents, peers, and cultural notions which use gender-stereotypic language, such as girls are delicate and boys are strong (Mikkola, 2012). Thorne (1993) described the typical school day of children through an in-depth analysis of everything related to school, from how teachers disciplined boys and girls, to line formation and lunch table assignments. Her research indicated that physical activity stereotyping practices existed in daycares and schools. Boys were more often socialized to play sports at a young age; whereas, girls were often relegated to activities that placed a high importance on personal appearance such as dance, cheerleading, and gymnastics (Thorne, 1993).

During adolescence, both boys and girls face new experiences and challenges, such as dating and exploring a career path for the future, that test what it means to be a male or female. These experiences often lead to comparing oneself to others. Cockburn and Clarke (2002) reported that adolescent girls were more likely than adolescent boys to express displeasure in participating in physical activity during physical education classes because they believed they were not as fit as others or because they felt they looked bad while moving. If given a choice, these girls would rather sit out than play (Cockburn &

Clarke, 2002).

Despite the abundant health benefits associated with increased physical activity levels, the majority of U.S. children do not participate in enough physical activity to meet the recommended standards. According to the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008), children should participate in 60 minutes of physical activity a day and most of that 60 minutes should include engagement in moderate to vigorous physical activity. Activities such as brisk walking to fast running fall into this range. *The Surgeon General's Vision for a Healthy and Fit Nation* (U.S. Department of Health and Human Services, 2010) reported that one out of three children in the United States were overweight or obese and explained the detrimental impact this issue has on increasing rates of chronic diseases, such as diabetes and heart disease.

Individuals who experienced many jobs, hobbies, clubs, or activities while in school are most likely to be satisfied with their level of success in later life. For the majority of students, extracurricular participation comes in the form of sports (Joekel, 1985). When participation time in sports is measured, males are more likely to play sports and spend more time engaged in physical activity than females (Sterdt et al., 2014). Although the *2004-2010 NCAA Gender Equity Report*, produced by the National Collegiate Athletic Association (NCAA; 2012), advertised the number of female athletes in sports has been steadily increasing since the passage of Title IX in 1972, boys still have significantly higher participation numbers and overall opportunities to play than girls, particularly at the middle/high school levels (Women's Sports Foundation [WSF], 2013). Table 1 displays statistics for male and female athletes published by the WSF (2013) regarding athletic participation and scholarship awards for males and females.

Table 1

Statistics for Male and Female Athletes

Category	Males	Females
Athletic participation opportunities in high school	4.5 million	3.2 million
Athletic participation opportunities at NCAA institutions	256,000	193,000
NCAA athletic scholarships	\$1.15 billion	\$965,000

Source: “Title IX Myths and Facts” (WSF, 2013).

The WSF reported that female high school athletes receive 1.3 million fewer athletic participation opportunities than their male counterparts. At the collegiate level, female athletes receive 63,000 fewer opportunities and are awarded \$183 million less in athletic scholarships at NCAA Institutions (WSF, 2013).

During adolescence, both boys and girls face new experiences and challenges regarding what it means to be a male or female. Although some level of intrinsic motivation is ideal, the most significant influences to get involved in a sport originate from parents, peers, and friends (Keresztes et al., 2008). Due to societal differences which separate male and female roles, girls often place more importance on passive characteristics such as, appearing to look pretty and act in a feminine way, over desirable powerful male characteristics such as, being an independent and adventurous individual (Douglas, 2010). Girls do not always receive the encouragement they need to play sports or are bound by home-environment responsibilities, such as baby-sitting (Craike, Symons, & Zimmermann, 2009; Trilk et al., 2012). This predicament is unfortunate as sports provide a place where girls can learn necessary skills, such as working with a

variety of people to achieve a goal, to better transition from childhood to the responsibilities associated with adulthood (Ackerman, 2002; Jones & Jones, 2015).

Prior research has shown that males are more satisfied with body appearance than females (Hassan et al., 2012) and female adolescents' daily choice of activities, both in school and out, are influenced by their perceived body image (Kalnes, 2013). This situation presents a concern since the physical and psychological benefits of regular physical activity are well documented.

Although parents and peers play an influential role in the establishment of body image, media, such as TV shows, social networking websites, and advertising impact what is perceived by young adolescents as realistically representing how one should look (Grabe, Ward, & Hyde, 2008; Kalnes, 2013). In a study of high school girls rating body mass indexes, TV viewing time, and time spent comparing themselves to others, Botta (1999) found that media had a direct impact on body image disturbance. Individuals who ranked the lowest on TV viewing time were more satisfied with their bodies (Hassan et al., 2012).

An ample amount of research has identified mediating factors and multi-dimensional combinations that contribute to why one chooses to participate in physical activity or not (Craike et al., 2009; Keresztes et al., 2008; Myers & Roth, 1997; Sibley & Smith, 2000). These factors include social, psychological, and physical combinations.

Strong links between higher physical activity levels and increased self-concept have been documented (Dineen, 1998; Felicelli, 2010; Riddle, 2011). Less documented is research providing a definitive explanation of perception of body image resulting from the development of self-esteem, sports participation, and participation time in physical activity (Boyer, 2007). Modi (2010) demonstrated that the total time spent in sports is

associated with higher levels of self-esteem. Other research has complimented these thoughts through the declaration of self-esteem and body image as closely linked (Cash & Pruzinsky, 2002; Joshi, 2011). However other studies have shown sports participation was only one of the vast number of variables that influenced body image, and participation alone did not dictate positive perceptions of body image (Botta, 1999; Kalnes, 2013; Sherblom & Rust, 2004).

Adults are typically the focus of psychologists' attempts to understand the variables surrounding the development of body image. By early adolescence, typically between the ages of 12–15 years, girls' body dissatisfaction is at its highest with 40% to 70% of girls dissatisfied with two or more parts of their bodies (Cash & Pruzinsky, 2002). While there are smaller, specialized groups that advocate and offer assistance for girls' anxieties about body image, particularly weight, there was not a big city government in the United States that addressed the issue of girls' body image and self-esteem until the New York City Girls Project campaign was initiated in 2013. Although the implications of this campaign are not yet known, the initiative began through the promotion of poster advertisements celebrating all women as perfect the way they are, or depicting females in high-ranking positions such as president or police chief. In addition, the campaign planned to offer physical fitness and self-esteem classes coordinated through the parks department (City of New York, NYC Girls Project, 2015). Keresztes et al. (2008) suggested that boys cite the most important influence on physical activity levels as coming from significant others. For girls, however, it was from peers and friends (Keresztes et al., 2008). Research is lacking about relationship between physical activity levels and adolescent female perceptions of body image. In addition the influence of participation on a sports season and its influence on how adolescent females

feel about their bodies needs to be explored.

Problem Statement

This study sought to determine how high school female students' overall physical activity level and/or participation on a sports team affected perceptions of body image. Research has indicated that the steepest decline in physical activity levels occurs between the ages of 13–18 which is also when girls report struggling with body image and self-esteem (Caspersen et al., 2000; City of New York, NYC Girls Project, 2015). Females experience more societal pressure to value appearance over character, attributes, and skills. The media driven advertisements endorsing unusually thin models contributes to social comparison among women and feelings of body envy among women (Botta, 1999; Kalnes, 2013). Engagement in physical activity has been positively correlated with social, mental, and physical benefits which are associated with higher feelings of self-concept and contribute to a strong feeling of overall life satisfaction (Dineen, 1998; Joekel, 1985; Riddle, 2011; Zullig & White, 2010). In addition, girls who participate in sports throughout their high school years are more likely to associate themselves with masculine character traits such as strength, aggressiveness, competitiveness, and independence (Riddle, 2011). Furthermore, female athletes express more worldly knowledge and place less attention on appearance or personality (Douglas, 2010; Riddle, 2011). These findings cannot be overlooked as a possible link to the societal driven body image struggles especially prevalent among females. With higher participation numbers for boys, more overall opportunity available to play sports for boys, and higher general activity level for boys, a proportionally larger number of girls are missing out on the benefits derived from sports participation by choosing to be inactive (Sterdt et al., 2011; WSF, 2013).

Theoretical Base

The lens the researcher used to conduct, analyze, and draw conclusions about this research was based on three theories: (a) social learning theory (Bandura, 1977), (b) social comparison theory (Festinger, 1954), and (c) feminist theory (Spence, Helmreich, & Stapp, 1975; see also Cox, 2015; Galipeau, 2014; Randsell, 1991; Woolgar, 2011).

Most often associated with the work of Albert Bandura (1977), social learning theory explains how learning is a cognitive process that takes place in a social context. By defining human learning as a collective involvement of environmental and cognitive factors, social learning theory assimilates the principals of both behaviorism and cognitive theories of learning (Kretchmar, 2008).

Initially proposed by social psychologist Leon Festinger in 1954, social comparison theory is built upon the belief that there is a drive within individuals to gain accurate self-evaluations by comparing themselves to others. Comparison to friends, family members, and media images against one's own opinions, produces a self-evaluation in which one learns how to define the self (Festinger, 1954).

Feminist theory is different than other general theories of inequality in that it has emerged as a result of challenging and revising sociology's dominant theories through a woman's perspective (Cox, 2015). The central focus to feminist theory is not just on women's issues, but also on how the theory addresses these issues in a way that challenges, antagonizes, or alters a societal gender system that discriminates or devalues women (Randsell, 1991).

Using the theories of social learning and social comparison from a woman-centered perspective, the researcher studied the interaction between learning, comparison, and adolescent development on physical activity level and body image perception in high

school girls. A more detailed explanation of this framework is discussed in Chapter 2.

Purpose of the Study

This study examined the association between physical activity level, sports participation, and body image perceptions of adolescent females. The research focused on the high school girl because she is typically between the ages of 13 to 18 years which represents the critical age of decline in female physical activity. In addition, she is also old enough to participate and understand a body image assessment survey. In South Carolina, girls can participate on school sports teams from seventh-grade through the 12th-grade. In addition to school sports, opportunities to play on a team are further extended by the community to the participant sample through the recreation department, two dance studios, and a karate dojo. Within a 30 minute drive, many sports leagues and clubs were available to youth of all ages.

A convergent parallel mixed methods design was utilized for this study. This design involved collecting quantitative data closely followed with the collection of qualitative data and then merging the results. In the first quantitative phase of the study, physical activity and body image data was collected from participants through a survey at one rural high school in South Carolina. The survey incorporated the following three assessments: the Physical Activity Questionnaire for Adolescents (PAQ-A; Kowalski, Crocker, & Donen, 2004), the Body Image States Scale (BISS; Cash, Flemming, Alindogan, Steadman, Whitehead, 2002), and the Body Appreciation Scale-2 (BAS-2; Tylka & Wood-Barcalow, 2015).

The PAQ-A was developed to assess general levels of physical activity for high school students (Kowalski et al., 2004). The BISS measures an individuals' evaluation of their physical appearance at a particular moment in time and is correlated with various

trait measures of body image (Cash et al., 2002). The BAS-2 assesses individuals' acceptance of, favorable opinions of, and respect for their bodies (Tylka & Wood-Barcalow, 2015).

In order to gain a more in-depth understanding of the quantitative survey data, the second qualitative phase consisted of interviews with participants who provided permission during the survey phase. The researcher randomly chose individuals to be interviewed based on an individuals' activity level and sports participation. Not all students who volunteered to be interviewed were chosen to be interviewed. Interview sessions sought to explore the variables influencing physical activity level, sports participation, and the development of body image.

Research Questions

The following research questions guided this study:

1. To what extent does physical activity level influence perceived body image in adolescent females at a rural high school in South Carolina?
2. To what extent does participation on a sports team influence perceived body image in adolescent females at a rural high school in South Carolina?
3. To what extent is perceived body image influenced in adolescent females who cite "sports as having a major role in their life," at a rural high school in South Carolina?
4. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on female adolescent physical activity?

5. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on adolescent female body image?

Definition of Terms

The following terms and phrases are defined according to the way they were used in this study.

Body image. Body image is “the mental idea of your physical body and the way you look. Body image is something that constantly changes as it is based more on feeling than fact” (Body image, 2015).

Extracurricular activities. The term extracurricular activities is “used to describe extra activities (such as sports) that can be done by the students in a school but that are not part of the regular schedule of classes” (Extracurricular, n.d.).

Gender role. Gender role “is a set of behaviors, attitudes, and personality characteristics expected and encouraged of a person based on his or her sex” (Gender socialization, n.d., para 1).

Gender socialization. Gender socialization “is the tendency for boys and girls to be socialized differently. Boys are raised to conform to the male gender role, and girls are raised to conform to the female gender or role” (Gender socialization, n.d., para 1).

Physical activity. Physical activity “is any body movement that engages your muscles and requires more energy than resting. Walking, running, dancing, swimming, and gardening are a few examples of physical activity” (U.S. Department of Health and Human Services, 2015).

Moderate physical activity. Moderate physical activity “requires a reasonable amount of effort and noticeably accelerates the heart rate. Examples of moderate

physical activity include: brisk walking, active involvement in games with children, general building tasks, and carrying” (World Health Organization, 2015).

Vigorous physical activity. Vigorous physical activity “requires a large amount of effort, causes rapid breathing, and a substantial increase in heart rate. Examples of vigorous physical activity include: running, fast swimming, and competitive sports such as basketball” (World Health Organization, 2015).

Physical self-concept. Physical self-concept is “a person’s perception or description of their physical self, including their physical appearance” (Physical self-concept, 2008).

Self-concept. Self-concept is “how someone thinks about, evaluates or perceives themselves” (McLeod, 2008).

Self-esteem. Self-esteem is “a confidence and satisfaction in oneself” (Self-esteem, n.d.).

Social comparison. Social comparison is a theory built upon the belief that there is a drive within individuals to gain accurate self-evaluations by comparing themselves to others. Comparison to friends, family members, and media images against one’s own opinions, produces a self-evaluation in which one learns how to define the self (Festinger, 1954).

Assumptions

Assumptions are basic components that are out of a researcher’s control, but if they did not exist the study would be irrelevant (Simon, 2011). In this study, when participants completed the survey and/or interview, it was assumed that all participants answered truthfully. The second assumption was that when the first phase of data collection, the survey, was completed, an adequate number girls representative of each

physical activity group, would have volunteered to be interviewed. Due to the voluntary nature of participation, the final assumption was the sample participant group from which inferences have been made was representative of all high school females from the selected site.

Limitations

Limitations are weaknesses in the study that are out of the researcher's control (Simon, 2011). In this study the first limitation was that the data collection period was conducted over a three-week period and results may be dependent on conditions occurring at the high school during this time span. Conditions such as a change in personnel, an increased interest in getting more fit for an upcoming sports season, or a new fitness craze all had the potential to affect results. The second limitation was the collection of student and parent permission forms was handled by the high school physical education teachers. Although the researcher emailed these teachers daily reminders, the effort to remind interested students to return forms throughout the week was dependent on the physical education teacher's cooperation. The third limitation was that 62 of the 82 girls enrolled in physical education classes were freshman. After permission forms were collected, 23 of the 32 study volunteers were freshman. Therefore 72% of the collected survey data came from girls aged 14–15 years. The fourth limitation was the self-report design of the survey relied on individuals accurately portraying their attitudes toward their body. The fifth limitation was the instrument used to measure physical activity level, the PAQ-A (Kowalski et al., 2004), does not discriminate between specific activity intensities, such as moderate and vigorous intensities. The PAQ-A provides a summative overall activity score. The sixth limitation was the use of qualitative interviews and changes in perception that may occur during

these interviews due to the knowledge gained from the initial survey experience. For example, the first phase collects quantitative data on physical activity level, sports participation, and body image ratings. In the second qualitative phase, girls who once expressed low physical activity levels or poor body image perceptions may have downplayed their true feelings when in the presence of the researcher. Many girls were previous physical education students of the researcher and may have felt a need to impress her.

Delimitations

Delimitations are those characteristics that limit the scope and explain the boundaries of a study that are in the researcher's control (Simon, 2011). In an effort to better understand the effect of physical activity level and/or sports participation on body image, the researcher has attempted to isolate these two main variables and their influence on body image. The researcher was aware of other variables influencing body image: (a) significant others, (b) friends, and (c) the environment but did not focus on these factors in her research. A second delimitation was the random convenience sample of participants consisted of girls enrolled in physical education (PE) classes named PE1, PE2, PE3, and PE4. PE1 is for freshman, PE2 is for sophomores, PE3 is for juniors, and PE4 is for seniors. There were 82 girls enrolled in these four sections and 62 of the 82 girls were freshman enrolled in PE1. The researcher was aware that those participants who did volunteer may not accurately represent the female population of the high school.

Summary

Examining the relationship between physical activity level and body image in adolescent girls could lead to a raised awareness of the female physical activity experience. Working to better evaluate the many facets that influence female body image

could decrease the prevalence of eating disorders, reduce the number of overweight Americans, lead to declines in chronic diseases, and most importantly, increase life satisfaction. In addition, sports participation has been shown to facilitate many life skills that are useful in personal, career, and educational domains. The documented benefits of school athletic participation may help to guide school health curriculums, provide needed funding, and influence local and state legislation. This study attempted to determine how overall physical activity level, whether it was acquired through participation on a sports team or not, affects female adolescents' perceptions of body image. The study also attempted to understand the social and cultural factors influencing physical activity levels and perceptions of body image.

Chapter 2: Literature Review

Overview

This chapter is a review of the literature related to participation in extracurricular activities with a particular emphasis on physical activity and sports participation.

Important to the examination of physical activity and sports participation is the impact that these activities have on female perceptions of body image. Research on the impact of social and cultural forces when choosing to become involved in physical activity and the how perception of body image is developed is also included. This review of the literature is comprised of the following sections: theoretical framework, benefits of extracurricular activity, decline in physical activity, participation in activity, body image, and intervention programs.

Theoretical Framework

The four key qualifications that drive the philosophical underpinnings of this research are: the adolescent age, the female gender, physical activity level, and perception of body image. The theoretical framework for this mixed methods study is constructed from social learning and social comparison theories with the researcher's orienting lens derived from feminist theory.

Social learning theory. Social learning theory (Bandura, 1977) explains how individuals learn by observing the behavior of others. Bandura's (1977) social learning theory identifies the four components of observational learning: (a) attention, (b) retention, (c) motor reproduction, and (d) motivation/reinforcement. In order to learn by observation, a person must attend to or perceive accurately the important attributes of the modeled behavior. The observer must remember the behavior and/or retain an image of the behavior. Motor reproduction refers to replicating the behavior at the same or future

time. Bandura stresses that expectation of a reward can be motivating; however, even anticipation of a reward can influence what behavior is replicated and what is not.

Environmental and cognitive factors, which include the characteristics of the model and the learner, can influence the development of these four components. As an individual interacts with the environment, it becomes a two-way progression: the environment changes the individual and the individual changes the environment. Bandura makes a specific point to acknowledge basic human nature in that people frequently imitate behaviors for which they are never reinforced. Often, simply just watching others is enough incentive for an individual to showcase the behavior him/herself (Bandura, 1977). An example of social learning through sports was demonstrated in a study by Heitler (2004) of 677 girls participating in volleyball from seventh-grade through 12th-grade. She sought to explain the influence of sport participation on the specific competencies of academic competence, social acceptance, strong friendships, self-worth, and school connectedness. Once the girls completed questionnaires, Heitler separated the girls into groups by amount of sports participation, grade, age, and playing time. Heitler discovered that girls at the seventh-grade level, who were a member of a sports team had significantly greater feelings of social acceptance (attention) than girls at any other grade level. However, girls felt more athletically competent as they got older, as they played on higher level teams, and as their playing time increased (retention and motor reproduction; Heitler, 2004). According to Heitler (2004), girls also felt more connected to school by participation on a team and when playing time increased (motivation/reinforcement). Adolescent girls' behaviors are heavily influenced by what they presume as popular, and popularity is often correlated with adherence to stereotypical activities and interests (Douglas, 2010).

Gender norms, meaning the roles and responsibilities assigned to men and women, are still apparent when calculating time spent participating in sports. Despite the continued call for gender equality, the number of females playing sports remains largely imbalanced when compared to participation numbers among males (WSF, 2013). Often the apprehensiveness that adolescent girls feel toward sports participation is attributable to the gendered messages received about who girls are and what they should try to become (Douglas, 2010).

Influence of gendered messages. Humans watch and learn the most from people with whom they identify. For younger children, parents are the most influential models but for adolescents, it is peers. During this developmental period, adolescents are constructing an understanding of who they are, academically and socially, by connecting specific meanings to what it means to be a girl or a boy. According to Mikkola (2012), masculinity and femininity are thought to be socially manufactured products of nurture that lead to the creation of gender socialized individuals. The meaning one attaches to masculine and feminine can be based on the interpretation of gender role messages which separate male and female roles. Gender role “is a set of behaviors, attitudes, and personality characteristics expected and encouraged of a person based on his or her sex” (Gender role, n.d., para 1).

In a study by Read (2011), even girls as young as seven years of age demonstrated the value placed on certain gendered characteristics. Using semi-structured interviews, 154 second grade girls were asked who they would like to be when they grew up and why. Girls chose role models they had much exposure to, such as their moms, female teachers, or female singers. The reasons girls gave for choosing their particular role model could be placed into three categories: (a) appearance, (b) personality, or (c)

accomplishments. Read found almost half the girls' answers for choosing their role model related to liking their clothes, hair, and figure. According to Read, the significance placed on aspects of appearance demonstrated the continued dominance of the socially constructed message focused on women's outward appearance. These characteristics can be interpreted to emphasize passivity over power as seen by the importance many girls placed on appearance over activity and accomplishments (Read, 2011).

Social comparison theory. Social comparison theory (Festinger, 1954) centers on the belief that there is a drive within individuals to gain accurate self-evaluations by comparing themselves to others. Comparing one's own opinions to those of family, friends, and the media affects self-evaluation. People want to know how their abilities stack up against others and the results of this self-evaluation impacts behavior. Some abilities have clear criteria (e.g., running times), but when there are only social means of comparison available, abilities are actually an opinion themselves (Festinger, 1954).

Physical activity and social comparison theory. Many researchers (Kalnes, 2013; Pruis & Janowsky, 2010; Shultz, Paxon, & Wertheim, 2002) have supported the understanding of the body comparison and social comparison process in adolescent girls. Their findings indicated that appearance-related concerns increased drastically from childhood until middle adolescence. Shultz et al., (2002) examined 545 girls and found body comparison tendencies emerged in seventh-grade, with 38% of girls indicating that they compared their bodies with others. By 10th-grade, 72% of girls indicated this comparison. In the synthesized findings of 19 research studies, Standiford (2013) deductively organized the interpersonal factors that influenced physical activity levels in adolescent girls into themes. The three most common themes affecting physical activity levels were identified. The first theme was ability comparison and competition, defined

as comparative statements and behaviors of peers, parents, and teachers that encouraged or discouraged adolescent girls from participating in physical activity. The second theme was family, peer, and teacher influence. Standiford described family, peer, and teacher influence as “expressed parent, peer, and teacher opinions of physical activity, logistic support for physical activity (e.g., rides to the gym, monetary support for sport(s), and remodeling of physical activity)” (p. 868). The third identified theme was appearance concerns. Appearance concerns are adolescent girls’ anxieties related to sustaining a feminine physical appearance before, during, and after physical activity (Standiford, 2013). Performing well at a team sport can produce feelings of accomplishment and gain expressions of approval from peers, while poor performance can lead to embarrassment and expressions of disapproval from peers (Cockburn & Clarke, 2002).

Feminist theory. Emerging from the political struggles of women in the 1960’s and 1970’s, feminist theory examines dimensions of various sociological theories from a woman’s perspective. Feminist theory has reduced sociology’s reliance on and adoption of male experiences and perspectives as human experience (Cox, 2015). From the female’s point of view, society’s system of ideas that discriminate or devalue women are challenged, neutralized, and changed (Ransdell, 1991). On a questionnaire created by Spence, Helmreich, and Stapp (1975), 530 male and female college students were asked to rate themselves on attributes possessed by the stereotypical male and female college student. These included male-valued, female-valued, and sex-specific items. For both males and females, “femininity” on the female-valued scale and “masculinity” on the male-valued scale were positively correlated to feelings of self-esteem. Although females were less likely than males to be socialized to adopt male-valued characteristics, both sexes judged masculine attributes as more desirable. These included athleticism,

independence, problem solver, adventurous, outspoken, and leadership (Spence et al., 1975). Dineen (1998) added to this research in discovering that adolescent girls who participated in strenuous activity, which is more common for males than females, reported greater confidence when associating with males.

In two different studies of similar research intent, Woolgar (2011) and Galipeau (2014) provided adolescent girls a girl-only safe space where they could think about and discuss gender discourses. In both studies, researchers ensured that girls were able to speak on their own terms, rather than the researcher asking what they thought was important. Woolgar (2011) asked girls to use journals to document who they were in relation to their social environment. After the journals were analyzed as to how the social environment influenced the girls' identities, the researcher engaged the girls in a discussion regarding emerging themes. Results indicated that girls preferred to share what they desired their ideal identity to be, not what it actually was, meaning girls were more comfortable sharing what they wanted to be over who they really were as an individual. It was only through further discussion that girls opened up about negative situations such as pregnancy scares, lack of money, domestic issues, unequal power relations, objectification, and sexism and how these experiences had affected them. Due to the short duration of these groups, girls were not yet empowered to make changes in their lived world (Woolgar, 2011).

Through case study design of 13 adolescent girls, Galipeau (2014) created a girls group and provided demonstration on how to identify gendered messages. She also asked open-ended questions about specific gender discourses that spanned the media, their families, their peers, and themselves. Through participation in these girl-only groups, girls not only learned how to identify gendered messages but also began to challenge

those messages in group discussions. The findings of these researchers regarding male and female relations helped explain how feminist theory employs gender as a social construct in society. Results also suggested the importance of girl-only critical space, and how that space contributed to social well-being for girls (Galipeau, 2014; Woolgar, 2011). Another place where students are offered time for expression and participation in related school experiences is through extracurricular activities.

Benefits of Extracurricular Activity

The term extracurricular activities is “used to describe extra activities (e.g. sports, arts, clubs) that can be done by the students in a school but that are not part of the regular schedule of classes” (Extracurricular, n.d.). Student activities are an extension of the traditional curriculum and offer time for learning new activities and skills that are of interest to the student. “A student's future can be determined in the things they do in the hours after school and before their parents get home” stated Massoni (2011, p.84). Extracurricular activities have a positive effect on students’ lives by improving behavior, academic performance, and graduation rate. Extracurricular activities provide experiences in lessons in leadership, time management, teamwork, organization, and problem solving that lead to the development of a productive adult (Massoni, 2011).

Sports participation. For the majority of students, extracurricular activity participation occurs on a sports team. Participation in sports carries social, mental, and physical benefits for youth. According to Jones and Jones (2015), children should play organized sports to (a) cultivate positive attitudes, (b) gain a sense of accomplishment, (c) improve peer relationships, (d) develop more restraint in avoiding risky behavior, and (e) encourage greater interactions with parents. In a mixed methods case study 1,052 high school students across three high schools in Texas were asked for reasons they

participated in a school sport; in order of frequency, they answered (a) for fun, (b) to socialize, (c) for competition, and (d) to stay in shape and exercise (Breithaupt, 1996; Active for Life, 2012). Based on interpretive description methodology, Neely and Holt (2014) qualitatively interviewed 22 parents of young children in order to gain their perspectives on the benefits of sport participation for their children. Parents reported sports created a mastery-oriented environment that encouraged exploration of individual abilities and an opportunity to build positive self-perceptions (Neely & Holt, 2014).

Although there are many different sports, arts, and clubs available in schools, Breithaupt (1996) found only one positive correlation as to why some students take advantage and participate in these programs while others do not. When selected student characteristics (gender, ethnicity, economic background, class tardiness, school absences, discipline referrals, grade point average, and test scores) were calculated and studied in relation to the amount of time spent in school activities, grade point average was the best predictor of participation (Breithaupt, 1996). In addition, school policies hinder participation and/or achievement for students with lower grades. Students are disqualified from sports team participation if grades are low and many who do participate resist enrollment in academically challenging classes in an effort to continue to play sports (Joekel, 1985).

Decline in Physical Activity

Moderate physical activity “requires a moderate amount of effort and noticeably accelerates the heart rate. Examples of moderate physical activity include: brisk walking, active involvement in games with children, general building tasks, and carrying (U.S. Department of Health and Human Services, 2015). Vigorous physical activity “requires a large amount of effort, causes rapid breathing, and a substantial increase in heart rate.

Examples of vigorous physical activity include: running, fast swimming, and competitive sports such as basketball” (Department of Health and Human Services, 2015, para. 4).

According to the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008) children should participate in 60 minutes of physical activity a day and most of that 60 minutes should be engagement in moderate to vigorous physical activity. *The Surgeon General’s Vision for a Healthy and Fit Nation* (U.S. Department of Health and Human Services, 2010) was written to inform U.S. citizens about the fact that one out of three children were considered overweight or obese and the impact this situation has on increased rates of chronic diseases such as diabetes and heart disease. Coupled with healthy eating, physical activity is the key to maintaining a healthy weight.

Despite the known benefits of physical activity and the concerning state of health in U.S. children, physical activity levels decline with age, with the steepest decline occurring between 13–18 years of age (Allison, Adlaf, Dwyer, Lysy, & Irving, 2007; Caspersen et al., 2000; Sallis, 2000). According to Center for Disease Control and Prevention (CDC) and the National Center for Chronic Disease Prevention and Health Promotion, about 14% of adolescents and young adults reported no recent engagement in physical activity (U.S. Department of Health and Human Services, 1996). The CDC cited inactivity levels were more common among females (14%) than males (7%) and among black females (21%) than white females (12%).

In another systematic review, Sterdt et al. (2014) analyzed 10 studies and found 16 different correlates which either promoted or inhibited activity levels. These correlates were gender, age, ethnicity, parental education, family income, socioeconomic status, perceived competence, self-efficacy, goal orientation, perceived barriers,

participation in community sports, parental support, support from significant others, access to recreational facilities, and time spent outdoors. The only two consistent correlates that positively contributed to activity level were gender and age. The gender correlate indicated that males were more physically active than females. The age correlate indicated that for both genders, younger people were more active, and physical activity decreased over the lifetime. The inconsistency of the remaining correlates to associations with physical activity demonstrated that participation in physical activity is complex, multi-dimensional, and determined by numerous factors (Sterdt et al., 2014).

Girls and physical activity. It appears that adolescence represents a time in which a large percentage of girls choose to engage in even less physical activity than they did as young children. Gender, race, body mass index, and environment can negatively affect physical activity levels while participation in organized play has led to increases in activity level (Myers & Roth, 1997). Fawkner, Henretty, Knowles, Nevill, and Niven (2014) shared global data citing that only 19% of 11-year-old girls and only 10% of 15-year-old girls were achieving the recommended 60 minutes of moderate to vigorous physical activity each day (as cited in Currie et al., 2012). In a study of more than 1,600 African American middle school girls in New York City, Ramsey's (2012) research instruments included a three-day physical activity recall survey and a student attitude toward physical education survey. Results of this study indicated the African American girls had low amounts of moderate to vigorous activity and averaged well below the recommended levels for activity each day. Girls expressed low to moderate attitudes toward physical activity and to physical education classes (Ramsey, 2012). Guerieri, Mahar, Rowe, Kemble, and Raedeke (2010) examined the relationship between body mass index and self-reported participation minutes in physical activity and found a

similar outcome. Participants consisted of 30 adolescent females in which (a) 30% were considered obese, (b) 36% overweight, and (c) 34% in the healthy weight range. None of the girls achieved the recommended 60 minutes of moderate to vigorous physical activity a day, averaging among them only nine minutes of moderate to vigorous physical activity a day. Guerieri et al. (2010) did note that this sample was almost double the U.S. average for overweight and obese Americans and felt this situation may be unique to the rural, depressed community in which the research was conducted.

A positive correlation between organized play and physical activity level was found in a large sample of 957 middle school girls; Trilk et al. (2012) used accelerometers to measure movement during time spent in physical activity versus leisure time behavior. Using cluster analysis techniques, Trilk et al. determined patterns in physical activity and sedentary time. The results of this study revealed that sixth-grade girls who were engaged in sports or organized lessons had the greatest amount of daily activity minutes. By eighth-grade, physical activity minutes declined in all clusters but those who played organized sports or activities declined less than the other clusters. Girls who were required to perform active duties related to the home environment, such as house cleaning and babysitting, also experienced less of a decline in activity from sixth- to eighth-grade (Trilk et al., 2012).

Participation in Physical Activity

There are numerous real and perceived barriers to participation in physical activity. Sterdt et al. (2014) found that self-efficacy, perceived competence, participation in organized sports, parental support, the amount of time children spend outdoors, and goal orientation motivates sports participation. Participation in physical activity is less likely if time barriers exist, there is a lack of interest, and if children are raised in socially

disadvantaged homes (Sheng, 2001; Sterdt et al., 2014). In a study of 432 college students, Myers and Roth (1997) administered questionnaires assessing current exercise participation, intention to become active, perceived benefits to exercise, and perceived barriers to exercise. The researchers utilized multiple data analysis models to evaluate the data. Only when data was compared using models with a multitude of factors were correlations found. One interesting pattern emerged. Individuals in the training stage, who actively participated in exercise but intended to increase their amount of exercise, reported the most benefits and the least barriers. Conversely, individuals who did not exercise regularly and did not intend to increase their exercise reported the fewest benefits and the most barriers. The most commonly cited barriers were time and effort barriers. Overall findings confirmed the multidimensional combinations of social, psychological, and physical factors on exercise behavior (Myers & Roth, 1997).

Gender. Due to the high number of participants, school sports have been extensively studied as an extracurricular activity. Deaner et al. (2012) conducted three studies with varied participants: one at the middle-high school level, one at the collegiate level, and one based on observations at four public parks. The study concluded that informal exercise levels are similar in males and females but American males are three times more likely to play organized sports than American females (Deaner et al., 2012). For boys, significant others were cited as the most important influence on sports-related behaviors; while significant others were also important for girls, their peers were their most important influence on sports participation (Keresztes et al., 2008). For both genders, social support, perceived competence, and a sense of enjoyment were key influences on activity levels (Treadwell, 2012).

At the beginning of adolescence, physical changes occur due to the onset of

maturation, but the rate these changes occur can vary widely among individuals. In a study that tested for differences in physical activity levels and physical self-concept in early verses late maturing girls, Cumming et al. (2012) found that the most physically mature girls in an age group reported the least involvement in physical activity. The most physically mature girls reported significantly lower perception of sport competence, lower perception of physical condition, and lower perceptions of body attractiveness (Cumming et al., 2012). In a study of 2,089 adolescent girls in the United Kingdom, breast concerns were identified as possibly decreasing the choice to participate in physical activity (Scurr et al., 2016). Through a survey, Scurr et al. (2016) reported that 46% of girls reported that their breasts had some effect on their participation in physical education classes and sports teams. Contrary to these findings, Fawkner et al. (2014) conducted a longitudinal study over an 18 month period to examine the influence of maturation on physical activity and found that neither changes in body size nor body composition related with physical activity level.

Feelings of self. Due to constructs chosen by various researchers, it is important to note the subtle differences in definitions between physical self-concept, self-concept, and self-esteem. Physical self-concept is “a person's perception or description of their physical self, including their physical appearance” (Physical self-concept, 2008). Self-concept is “how someone thinks about, evaluates or perceives themselves” (McLeod, 2008). Self-esteem is “a confidence and satisfaction in oneself: (Self-esteem, n.d.).

The majority of research has shown a positive relationship between being physically active and self-esteem levels. Riddle (2011) studied the indirect relationship between pre-college sports participation and self-esteem in Caucasian and Hispanic females and the role that academic competence, body image, physical competence, and

gender-role orientation played in this relationship. A sample of 249 female college students completed various questionnaires and rating scales to assess each of these areas. This study found that when Caucasian and Hispanic females participated in sports, they had higher self-esteem levels. Another finding in this study was that girls who perceived themselves to be good movers (physically competent) were more likely to play sports regardless of their body image perception (Riddle, 2011). Felicelli (2010) learned that self-esteem levels in girls who tried out for a sport, regardless if they made the team or not, were higher than those who did not participate at all. Modi (2010) studied 260 adolescent girls in New York City to find that total time spent playing sports was significantly associated with higher physical self-concept, global self-esteem, and academic achievement.

To test various hypotheses regarding physical activity levels, stress, and self-concept in adolescent females, Dineen (1998) used rating scale assessments with 218 females who were 14 years old. A significant relationship between physical activity and certain aspects of self-concept was found. More active females had higher self-concept scores in the areas of physical ability, math, and general school activities. In addition, results indicated when girls participated in strenuous activity, they reported more confidence when interacting with males. To complement this finding, Riddle (2011) concluded that girls who participated in sports were more likely to associate themselves with the more desirable masculine character traits of strength, aggressiveness, competitiveness, independence, and worldliness than those who did not participate (Riddle, 2011).

Girls and society. The factors that influence whether one chooses to participate in sports can best be described through a social ecological framework. Craike et al.

(2009) conducted a study exploring significant individual, social, and environmental factors and how these factors impact physical activity levels in girls. Ten focus groups—six with seventh-grade girls and four with 11th-grade girls—and 10 interviews with 10 different physical education teachers were conducted. As a result of this research, Craike et al. discovered many facets that affected activity levels emerged from societal expectations and general lifestyle patterns. One dominant theme that unfolded as a result of the focus groups and interview sessions was that the sporting experience is very different for females than it is for males. Girls cited an increased emphasis on playing sports to lose weight and how holding this perception led to feelings of reduced freedom and physical activity became a chore. Physical education teachers confirmed a high frequency of male/female interaction in playing sports in seventh-grade. However, by eighth-grade, when boys became more competitive and aggressive, that interaction became less inclusive. The research indicated this time period coincides with the stage when adolescent females become more interested in socializing and engaging in less competitive forms of physical activity (Craike et al., 2009).

Over time, the female identity has become more diversified. Today, young adolescent girls are not predestined to become stay-at-home mothers, secretaries, or school-teachers. Due to federal mandates such as Title IX, girls have the right to play on a football or wrestling team if a separate girls' team is not available; however, girls who wish to play on these teams face being discriminated against by parents, coaches, and other players (Findlay, 2010). Sibley and Smith (2000) stated that part of the female experience is dealing with discrimination whether it is obvious or inferred. Girls must determine if they will let these experiences impact them and their overall sporting experience (Sibley & Smith, 2000).

According to Sibley and Smith (2000), an example of this gender inequality is how the bigger revenue producing male sports, such as football and basketball, receive more equipment and provide more scholarships. According to the Women's Sports Foundation (WSF; 2011), and contrary to popular belief, Title IX does not require equal expenditure of funds on male and female athletic programs. The only dollar for dollar expenditure requirement is in the athletic financial assistance domain, where schools are expected to spend dollar amounts proportional to participation rates (WSF, 2011). After high school, opportunities to play in women's adult leagues are significantly less than offerings for adult males. Despite the increased interests and opportunity for females to participate in sports during the middle and high school years, many girls still choose to not participate in part due to differences in gender based stereotyping experienced during childhood (WSF, 2013).

For women, employment and household chores are often an overlooked component of weekly energy expenditures. In adolescence, girls who have to take on more adult-type roles, such as baby sitting, often do not play sports but do have higher physical activity levels (Trilk et al., 2012). In a qualitative research study featuring female athletes, who were between 12–24 years old, Ackerman (2002) found main themes that co-existed regarding gender role development and sports participation for females. These themes were (a) enjoyment, (b) self-enhancement, (c) life skills development, and (d) sports participation. Sherblom and Rust (2004) found that when combining society's influences with innate feminine design, girls have more body image problems and lower activity levels than boys. In a sample of 7,214 girls, ages 12 through 18 years, Crissy and Honea (2006) found that when girls participate in stereotypically feminine sports, such as cheerleading and gymnastics, they were more likely to report

body image problems. Feeling overweight, attempting to lose weight, and using multiple weight-loss techniques were more common practices for feminine sports participants than for those who played stereotypically masculine sports or did not engage in any sports (Crissey & Honea, 2006).

Body Image

Body image is “the mental idea of your physical body and the way you look. Body image is something that constantly changes as it is based more on feeling than fact” (Body image, 2015, para.1). The processes and elements that contribute to the acquisition of body image among young people are vaguely understood. Fenton, Brooks, Spencer, and Morgan (2010) identified a range of personal and environmental variables connected to body image. Some variables were demographic (gender, age, and household composition); some were externally influenced (family communication, teacher interest); and some variables were internal (feeling intelligent). Using a self-administered questionnaire of 2,898 adolescents, Fenton et al. (2010) proposed that those students identified as having a positive body image had more health promoting variables in their lives. For example, students with positive body image were more like to experience ease of speaking with a father figure, feeling smart, having a perception of family affluence, and seeing teachers as providing positive learning experiences (Fenton et al., 2010). According to Grabe et al. (2008), negative body image or body image disturbance has been linked to the sexual objectification of females through mass media. Grabe, et al. stated that in today’s society, the media’s message is too often that to be popular or viewed as pretty, one must be sexy. This message is much stronger towards girls than boys (Grabe, et al., 2008).

When the body image ratings of younger and older women were compared, Pruis

and Janowsky (2010) found that younger women had a higher drive for thinness and experienced more societal influence on their body image. Younger women's choices in daily activities were influenced by their perceived body image (Pruis & Janowsky, 2010). Daffner (2007) conducted a qualitative study with women aged 30–45 years which measured their actual body mass index (BMI), their perception of their own body image, and their satisfaction with participation in daily life activities. The results of the study showed that when women had body image concerns, their participation in daily life activities deemed important to them decreased, and that decrease negatively impacted their quality of life (Daffner, 2007).

Feelings of self and participation. Research explaining the role of self-esteem, sports participation, and body image has found conflicting results. Some research has demonstrated that the total time spent in sports is associated with higher levels of self-esteem (Modi, 2010) and self-esteem and body image are closely linked (Boyer, 2007; Cash & Pruzinsky, 2002; Joshi, 2011). Other research has shown that sports participation is only one of the vast number of variables that can influence body image, and participation alone does not dictate positive perceptions of body image (Botta, 1999; Kalnes, 2013; Sherblom & Rust, 2004).

Joshi (2011) determined self-esteem to be a strong mediator for participation in extracurricular activities and that participation led to better body image perceptions. However, time spent playing sports was not more influential than time spent in the arts. Joshi took the type of activity, level of participation, number of different activities, and the perceived influence the activity had on body image into consideration. Activities were classified into four groups: (a) sports, (b) arts, (c) performance arts, or (d) youth clubs. Levels of participation were classified: (a) overall participation (total time), (b)

commitment (total time dedicated to each activity), and (c) diversification (amount of different activities.) Students used self-reporting techniques to record the type and amount of participation in extracurricular activities over four years of high school. They also documented their perceptions on how these activities influenced their appearance and body image. Upon evaluation, the researcher found that the greater amount of time students reported engaging in any extracurricular activity, the more positively they felt about their bodies and appearance. In order to gain a more complete understanding as to what kind of activity had the most influence on body image, Joshi formed two groups: those who participated only in appearance-oriented activities or those who participated in academic-oriented activities and/or appearance-oriented activities. Appearance-oriented activities included sports such as running, swimming, and track while academic activities included drama, art, and math clubs. Surprisingly, when Joshi separated appearance-oriented activities and the time spent in these activities verses overall extracurricular activity participation, there was no significant relationship with body image. Overall participation time, whether it was sports, arts, performance arts, or youth clubs was the only significant predictor of self-esteem (Joshi, 2011).

In a study of 363 females ages 14 to 16, Boyer (2007) sought to examine the psychological benefits of sports participation. Before even taking part in the study, 74% of participants indicated their ideal weight was less than their current weight, and 56% reported that they were currently trying to lose weight. A requirement of this study was that participants had to play a school sport and/or would testify to increasing their own physical activity levels outside of school. Upon completion of the study, Boyer determined that regardless of where physical activity time occurred, whether through participation on a sports team or physical activity minutes accrued informally outside of

school, participation increased physical self-concept. Increased feelings toward the physical-self increased body image, which led to a reported greater psychological well-being (Boyer, 2007). One reason for this effect may be explained from the results of Modi's (2010) study of 260 girls aged 13–19 in New York City. During interviews, girls described how the physical nature of moving while playing sports improved their overall physiques (Modi, 2010).

Upon evaluation of this conflicting research, the most relevant finding is the importance of extracurricular participation in developing self-confidence in adolescent girls. When targeting sports and physical activity only, Boyer (2007) discovered how sports offer opportunities to focus on objective goals such as increasing strength and coordination. The process of pursuing and accomplishing a physical goal often led to increased feelings of competence, leadership, ability to handle pressure, competitiveness, and self-reliance (Boyer, 2007).

Influence of peers, parents, and the media. Many women who experience body dissatisfaction experience it for their lifetimes. However, as women age, the degree of dissatisfaction becomes weaker (Kalnes, 2013). With increased dynamism of social media and technology, social comparison is a constant activity for many adolescent females. Using interviews conducted as purposive conversations, Kalnes (2013) investigated the influence of social media use on adolescent females' perceptions of their body image. Participants were asked to use a journal to document their minutes spent using social media and also record their thoughts and feelings after using a social media site for a three-day period. Four themes emerged in the research: (a) female adolescents' daily activities were influenced by perceived body image, (b) there was a distinct change in perceived body image with age, (c) social comparison was a constant activity for

adolescent females, and (d) the community in which one lives, including parental influence to fit the high ideal of the community, had a direct effect on body image (Kalnes, 2013).

Exploring the role of appearance-related social pressure and changes in body image over a one-year period, Helfert and Warschburger (2011) discovered parents and friends had the biggest effect on weight concerns. Parental pressure to control weight, even when it was positive encouragement for an overweight child, consistently led to the child developing a negative body image. Combining parental pressure with the ideals which were modeled by friends were the most prominent risk factors for poor body image in adolescent girls (Helfert & Warschburger, 2011).

In a similar study, Hassan et al. (2012) explored the relationship between body image, generalized life contentment, and amount of TV viewed among males and females who were 16-21 years old. According to Hassan et al., teenage boys were also increasingly preoccupied with their weight and appearance and stressed the importance in including them in his study despite what other research had demonstrated. Results found body image satisfaction, general life contentment, and TV viewing showed a variety of positive correlations. Through analysis of scores obtained from appearance evaluation and body satisfaction assessments, individuals who had feelings of attractiveness were the ones satisfied with their appearance, and appearance orientation had a strong positive relationship with general life contentment. The difference in the mean scores for boys and girls proved that boys were more satisfied with their body and appearance than girls. When TV viewing time was analyzed, Hassan et al. found both genders demonstrated that TV viewers who classified their viewing time as high were more dissatisfied with their bodies than low to moderate TV viewers. The study results indicated that the less

the TV viewing time, the more satisfied one was with life and its associated aspects (Hassan et al., 2012).

As previously discussed, Kalnes' (2013) work highlighted the detrimental effects of media use with feelings of body image on the adolescent female. Similarly, Sherblom and Rust (2004) surveyed seventh-grade female athletes regarding their self-perception of underweight or healthy weight females. Two-thirds of the girls in the study admitted to exercising, eating less food, skipping eating all together, or taking diet pills in order to avoid gaining weight or to lose weight (Sherblom & Rust, 2004). When Botta (1999) focused on 214 high school girls, she collected data regarding body mass index, TV viewing time, content of TV viewing time, and time spent comparing themselves to others. Using an anonymous survey, girls were asked how frequently (from 1 as *never* to 5 as *always*), when watching television, they question, "Why the characters need to have such perfect bodies?" and "Why the characters do not look more like how my friends and I look?" (Botta, 1999, p. 29). Results indicated that the media accounted for 15% of the drive for thinness, 17% for body dissatisfaction, and 33% for the endorsement of the thin female ideal. According to Botta, this outcome suggested that body image processing was the key to explaining how images in the media affect adolescent girls' perceptions of body image and related behaviors (Botta, 1999).

Females and weight bias. Meier (2013) examined the relationship between engagement in the social networking site, Facebook, and body image. Although her results did not demonstrate a direct association between overall Facebook use and body image disturbance, Meier did find useful information after conducting a deeper analysis which differentiated the various domains of Facebook usage. Statistical results showed that Facebook use and appearance related exposure scores correlated to internalization of

the thin ideal. Exposure scores were based on how often girls “liked” pictures of self and others in posts advertising appearance (Meier, 2013). Reflecting the high importance of music/celebrity culture, media outlets such as TV, internet, and movies have been shown to be influential models to adolescent youth. When summarizing reviews of literature on the weight-based stigma of women, Fikkan and Rothblum (2012) found that media contributed to the marginalization of overweight women. Overweight celebrities were often discussed because of their size or their battles with their weight, and were displayed as the target of humor or pity. Fikkan and Rothblum learned that few opportunities existed for overweight or obese women to view favorable reflections of themselves in mass media.

In the United States, women experience many negative outcomes as a result of weight-bias. Although this weight-bias may exist only in indirect ways, it can impact health, quality of life, and socioeconomic outcomes. Fikkan and Rothblum (2012) examined evidence from several disciplines and multiple domains with the focus on women and/or gender as an independent variable. Women who were considered overweight experienced discrimination in the job market, which led to several demonstrated trends: less likely to be hired, lower occupational attainment, and lower hourly and lifetime earnings. Another area where females were punished for their weight was in the context of romantic relationships. Fikkan and Rothblum found that starting in adolescence, young women who were overweight/obese, reported fewer opportunities to date and less participation in romantic relationships when compared to their thinner peers. Even though exercise is encouraged by health-care professionals, working out at a fitness gym or in front of peers during a physical education class was reported as a stigmatizing experience for some heavier women, and often led to avoidance of a healthy

behavior (Fikkan & Rothblum, 2012; Pruis & Janowsky, 2010).

Intervention Programs

The increasing concern to provide an effective solution to the childhood obesity problem has generated a reciprocating concern that weight management interventions may lead to emotional problems among young people, prominently in relation to the development of negative body image (Fenton et al., 2010). Certain influencing factors, such as teaching lifetime activities, daily routine changes, increasing intrinsic motivation, and setting goals could produce higher activity levels by shifting the focus from weight loss to increased activity (Craike et al., 2009; Flattum, Friend, Story, & Nalmark-Sztainer, 2011). In an exploratory study to identify significant individual, social, and environmental factors that influenced girls' participation in physical activity, Craike et al. (2009) suggested ways to increase activity levels. These factors included (a) enhancing intrinsic motivation, (b) participation in more informal physical activities that encourage socialization, (c) educating parents, (d) overcoming gender stereotypes, (e) educating physical education teachers about gender issues and motivating less active students, (f) providing accessible facilities, and (g) making physical activity more important in the school curriculum (Craike et. al., 2009).

School-based intervention programs. School-based interventions provide a venue for obesity prevention programs because almost all children go to school. Researchers Grieser et al. (2014) and Sluijs, McMinn, and Griffin (2007), found that when students took part in school-based interventions through specially designed physical education classes, activity level initially improved. Sluijs et al. (2007) concluded that the lack of high-quality evaluations of intervention programs hindered conclusions regarding their long-term effectiveness.

Programs such as the Trial of Activity for Adolescent Girls (TAAG) were designed to create environments that promoted physical activity in adolescent girls (Grieser et al., 2014). The four components of TAAG include the following: (a) physical education classes focused on maximizing moderate-vigorous activity time, (b) health education with activities and behavior skills focused on behavior skills associated with physical activity, (c) community and school collaboration to create opportunities for more physical activity before and after school, and (d) social marketing for promotion for overall physical activity and school and community programs. In a three-year intervention of 3,642 eighth-grade girls exposed to TAAG, most treatment effects disappeared by the third year, despite the fact that trained physical education teachers and university staff members were used to implement the program (Grieser et al., 2014).

Jehue (2000) aimed to increase activity levels in high school females through a three-month stage-based intervention. Stages consisted of providing written fitness information, teaching lifetime activities, discussions, reflection, and mentoring. The researcher found that although activity levels did increase, self-efficacy did not (Jehue, 2000). Jamner, Spruijt-Metx, Bassin, & Cooper (2004) found similar results in an intervention utilizing physiological tests (cardiovascular fitness, body composition, BMI) and psychosocial assessments (physical activity recall, report of lifestyle, self-efficacy). 22 students were assigned to a control group and 25 students to an intervention group for a four-month period. For the intervention group, activity did increase through participation in a special physical education class concentrating on lifetime activity and activity choices. Encouraging students to take the stairs instead of the elevator and walking instead of driving a short distance were some of the recommended changes students were encouraged to make (Jamner et al., 2004). Wang (2004) found that when

girls were issued a pedometer to track activity levels, taught goal setting information, and provided encouragement, they increased their step counts. In another school-based intervention in which girls with a median age of 15 chose to enroll in a girls-only physical education class with optional individualized counseling sessions encouraged, Flattum et al. (2011) found promising results. In all, 182 girls were instructed on how to set targeted behavior goals based on individual needs. For example, those who regularly skipped breakfast were encouraged to increase breakfast consistency, and those with low physical activity levels set goals to increase time spent in physical activity. The additional individual counseling sessions, which were encouraged but not required, resulted in a 95% satisfaction rate among participants. Counseling sessions used motivational interviewing strategies to guide discussions because research had shown this technique to be a highly effective way to promote positive behavior changes, especially in adolescents who value independence. Girls valued the personal attention to their specific needs as the most important component of these sessions (Flattum et al., 2011).

Although the long-term outcomes of true behavior change from these programs were not studied, the research showed that encouraging positive behavior changes (e.g., increasing physical activity level, incorporating healthy foods into the diet) rather than focusing on the negative side of a goal (e.g., limiting sedentary behavior, losing weight, watching less television), may be the more successful way for sustained changes (Fenton et al., 2010; Flattum et al., 2011).

Summary

In conducting this literature review, it has been shown there are numerous theories and concepts affecting how one feels about one's body. The adolescent age is a critical period in which boys and girls learn and develop behaviors which carry into

adulthood. Research has demonstrated that females are affected more by appearance-related social pressure from media, parents, and peers than males (Helfert & Warschburger, 2011; Kalnes, 2013; Mikkola, 2012). A review of the literature has also shown body dissatisfaction is higher in females than males and that this dissatisfaction leads to lower life contentment (Fenton et al., 2010; Hassan et al., 2012). Physical activity, on the other hand, has shown numerous social, psychological, and physical benefits, including increased satisfaction with life (Zullig & White, 2010). The next chapter will explain the methodology that was used to identify associations between physical activity level and perceptions of body image.

Chapter 3: Methodology

Overview

This chapter includes an explanation of the methods and procedures used in a convergent parallel mixed methods design. Detailed information regarding the research questions, research design, context of the study, participants, instruments, data collection methods, methods used in data analysis, and an explanation for data interpretation are included.

Research Questions

The following research questions guided this study:

1. To what extent does physical activity level influence perceived body image in adolescent females at a rural high school in South Carolina?
2. To what extent does participation on a sports team influence perceived body image in adolescent females at a rural high school in South Carolina?
3. To what extent is perceived body image influenced in adolescent females who cite “sports as having a major role in their life,” at a rural high school in South Carolina?
4. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on female adolescent physical activity?
5. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on adolescent female body image?

Purpose of the Study

The Surgeon General's Vision for a Healthy and Fit Nation (U.S. Department of Health and Human Services, 2010) reported 33% of children in the United States were classified as overweight or obese. The report explained the harmful impact obesity-related conditions such as heart disease, stroke, type 2 diabetes and certain types of cancer had on the economy, the nation, and individuals (U.S. Department of Health and Human Services, 2010). The most critical age of decline in physical activity levels occurs between 13 and 18 years of age (Allison et al., 2007; Sallis, 2000). These ages correspond to the transition from middle school to high school, where participation in sports may have a larger impact on physical activity levels. Societal differences in the way boys and girls are raised, coupled with the influence of the media, may affect whether females choose to participate in physical activity (Sterdt et al., 2014). Studies have shown females exert a much higher drive for thinness and much lower general life satisfaction than males (Botta, 1999; Hassan et al., 2012; Kalnes, 2013). For females, sports participation was greatly related to enjoyment, self-enhancement, life-skills development, relationships, and femininity (Ackerman, 2002). Unfortunately, the phenomenon of physical activity and its influence on female self-concept, specifically body image, has not been fully understood by researchers. Therefore, the purpose of this study was to explore the relationship between physical activity level and its effect on adolescent females' body image. Primarily, this study addressed the impact of physical activity levels on adolescent female perceptions of body image. Secondly, this study examined whether participation on a sports team influenced perceptions of body image.

Justification of Research Design and Approach

This study was centered around the personal experiences and feelings of

adolescent females. Due to the sensitive nature of the subject matter, a convergent parallel mixed methods design was chosen. This research method involved the integration of quantitative and qualitative data during precisely the same time period. Confidential quantitative data was collected and analyzed first. Quantitative data included closed-ended responses such as those found on psychological instruments. Next, voluntary qualitative data was collected and analyzed. Qualitative data relied on open-ended interviews without predetermined responses. The expected outcome of the interviews was a more in-depth understanding of individual perspectives that helped to clarify the quantitative results (Creswell, 2014).

A mixed method approach enabled the researcher to employ social learning theory in quantitative and qualitative forms. By defining human learning as a function of both environmental and cognitive factors, social learning theory incorporates the principles of both behaviorism and cognitive theories of learning (Kretchmar, 2008). The key principle in this theory is that people can learn by observation of others' behaviors as well as learn the consequences of those behaviors. In this study, the phenomenon was female adolescents' level of physical activity and its influence on body image. Prior research has shown many mediating relationships among variables that influence females' physical activity levels. Research findings have confirmed the multi-dimensional combinations of social, psychological, and physical factors on exercise behavior and the daily activities in which one chooses to participate (Craike et al., 2009; Keresztes et al., 2008; Myers & Roth, 1997; Sibley & Smith, 2000). Riddle (2011) noted that girls who perceived themselves to be physically competent were more likely to play sports regardless of their body image perception. When targeting physical activity level and how it influenced internal feelings, such as how one feels about one's body, it was

imperative to detail the female physical activity experience.

Context of the Study

High school female students at one rural high school in South Carolina were the focus of this study. Since one of the goals of this research was to use inferential statistics to reach conclusions about the characteristics of the larger population, a mix of random sampling and convenience sampling was used. In the first phase of data collection, all girls in physical education classes were invited to participate in the study. If they were interested, they received an information packet containing a brief overview of the study, student assent forms, and parental consent forms. Girls who returned both student assent and parental consent forms to their teachers by the deadline were invited to complete the quantitative survey during their physical education classes during the following week. In the second phase of data collection, the researcher randomly selected from girls who volunteered to be placed on the potential interview list. Girls who were randomly selected were invited to participate in an individual interview.

Characteristics of the Selected Sample

The school district in which this study was conducted was situated in a mostly rural area and has the largest square mileage land area of the four districts in the county. Inside the school district boundaries are four distinct towns ranging in population from 250 residents to over 7,000 residents. According to the South Carolina State Report Card (2014), the poverty level was at 74% and has been slowly increasing. The high school in which this study was conducted served 1,156 students in grades 9 through 12 and 63% of these students are female. More than four-fifths of the students graduate on time, and 67% meet federal guidelines for free or reduced priced meals (South Carolina State Report Card, 2014). In the 2014-2015 school year, a total of 314 (40%) of girls in grades

9 through 12 participated on a school sports team (Anonymous, personal communication, February 5, 2016).

In South Carolina, all students must complete one unit of physical education to graduate high school. In this study, all female students enrolled in PE1, PE2, PE3, and PE4 were invited to participate. PE1 is for freshman, PE2 is for sophomores, PE3 is for juniors, and PE4 is for seniors. A total of 82 girls were enrolled in these classes and 62 of these 82 girls were enrolled in PE1 during their freshman year.

Role of the Researcher

All data was collected from students at one rural high school in South Carolina. The researcher, a physical education and health teacher, recently transferred to an elementary school from the one district middle school. Although at least a year has passed, the girls in this study may have once been a student of the researcher during their middle school years. The researcher was directly involved in introducing the study to all girls enrolled in physical education classes, survey administration and collection, the interview phase, and data analysis.

Summary of Participant Selection

Since the researcher does not work in the high school where the study was conducted, she utilized four physical education teachers to assist with permission form collection. During both phases of data collection, all participants were volunteers and did not receive any compensation.

Phase 1. In the first, quantitative phase, all female students enrolled in physical education classes from the selected high school were invited to participate. Physical education classes were chosen by the researcher and the high school principal because physical education was a required class that all students must complete in order to

graduate. The principal believed these classes provide a large number of girls who have varied backgrounds. The principal also expressed that using these classes eliminated any disruption of core class instructional time. The researcher visited the high school for one-full school day to briefly discuss the study with all potential participants. If a female student expressed interest in participating in the study, she was given a packet to take home containing a brief overview of the study, a student assent form, and a parental consent form. The student confirmed her participation in the study when both the student assent and parental consent forms were returned to her physical education teacher by the deadline. In the week following the deadline, the confirmed participants completed the survey during their physical education classes. The survey was distributed and collected by the researcher. Detailed information about the survey is included later in this chapter.

Phase 2. At the completion of the first data collection phase, girls who volunteered to be interviewed further provided their names and contact information and were then placed into one of three groups based on the degree their self-reported personal physical activity level met the recommended physical activity level established by the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008). According to these guidelines, children and adolescents should participate in 60 minutes of physical activity a day and most of those 60 minutes should be engagement in moderate to vigorous physical activity. For this study, the researcher defined average physical activity as meeting these guidelines. The three groups were (a) little or no physical activity, (b) average physical activity, and (c) above average physical activity level. Based on the participants' response to calculated physical activity level (PAQ-A), which was the first assessment on the phase 1 survey, the participants were placed into one of these three groups. The PAQ-A considered a score of 1 indicated low

physical activity, whereas a score of 5 indicated high physical activity. Based on the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008), the researcher considered a score of 1–1.9 to describe an adolescent who had little or no physical activity. A score of 2–3.4 indicated average physical activity and a score of 3.5–5 indicated above average physical activity. Sports participation was identified by the answers provided in the background questions at the beginning of the survey. The background questions consisted of asking a student's grade level, whether or not a student participated on a school sports team, whether or not a student participated on a sports team not connected to school, and if they felt sports had a major role in their life. At this point in the study, it did not matter if a girl participated in a sport or not, her physical activity level was determined by her score on the PAQ-A. The first question of the PAQ-A measured activity that occurred in spare time. Activity accrued during physical education classes is during the required school day and therefore is not spare time. Participation in an after-school sport is optional and therefore is considered spare time. Table 2 shows the alignment between PAQ-A score, determined physical activity level, and the relationship to the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008).

Table 2

Physical Activity Level Placement, PAQ-A Score, and Physical Activity Guidelines

Physical Activity Level	PAQ-A Score	Physical Activity Guidelines
Inactive/low physical activity	1–1.9	Does not meet guidelines
Average physical activity	2–3.4	Meets guidelines
High physical activity	3.5–5	Exceeds guidelines

Within each activity group, girls who provided consent to be interviewed, were assigned a number. If there were more than two girls who agreed to be interviewed in a group, a random number generator was used to select participants' names for the second interview phase. In addition, a fourth group was created with girls who played on a sports team and were not chosen during the first selection period. Creswell (2014) explained that the idea behind this component of qualitative research is to find the participants who will best assist the researcher in answering the research questions. The addition of the fourth group ensured that girls who played a sport had an opportunity to share their experiences if their names were not drawn during the first random selection process. The researcher asked predetermined questions in individual interviews with the selected participants. Although predetermined questions had been established, the researcher allowed for additional questions to be asked if answer clarification or a more complete understanding of the answer was necessary. Also, participants were invited to share additional information, if they chose to, at the end of the interview. According to Creswell (2014), qualitative researchers may use a protocol for collecting interview data but the research process is emergent because questions may change. For example, if a

participant did not understand the question, the question was reworded to better understand the perspective of the interviewee.

Procedures for the Protection of Participants

Participants in this study were protected from harm by being informed of the goals and purpose of the research and by addressing confidentiality concerns. By signing the student assent and parental consent forms (Appendix A), the participant and their parent/guardian understood the voluntary nature of research participation. All participants had the right to withdraw from the study at any time without penalty. Signed student assent and parental consent forms were kept in a secure location, and before interviews took place, the consent forms were reviewed a second time to make sure that both the parent and the student had given permission for the interview to take place. The first phase of the study consisted of a confidential survey. If the participant was comfortable taking part in more in-depth conversation with the researcher following survey completion, she volunteered by disclosing her name and contact information at the end of the survey. Due to the sensitive nature of the topics, at any time, if a participant felt the need to talk to a counselor, then one was available to her. Counselor information was provided on the student consent form, the parental consent form, the end of the survey, and on a debriefing handout (Appendix B) handed to the student after survey and interview completion. Verification of the support and availability of a counselor is provided in Appendix C. At the conclusion of both phases of the study, participants received a paper handout which thanked them for their time and listed contact information for guidance counselors as well as the researcher's contact information.

Data Collection

Data collection occurred in two distinct phases, which began with a survey for all

confirmed participants and was followed by an interview for selected participants. The first phase of rigorous quantitative sampling involved the use of background questions and three assessments incorporated into one survey. The researcher referred to the survey as one survey because it was given at one time. The three separate assessments in this survey were scored individually. Permission to use the surveys, estimated time to complete the survey, and more detailed information about the survey questions are provided later in this chapter.

The phase 1 survey collected concrete data on body image ratings, amount of physical activity, sports played, and the importance of sports in the respondent's life. In the second phase, qualitative data was gathered to shed more understanding on the quantitative results through the perception of the adolescent female. According to Creswell (2014), the primary idea for choosing mixed methods is to explain quantitative results with qualitative data.

Data from phase 1 was collected on prearranged days over the course of one school semester. Before any research began, the researcher contacted the four high school physical education teachers to explain how the study would impact their class time, and also to explain their role in collecting student assent and parental consent forms. All four teachers agreed to provide class time for this study and to assist with permission form collection. The researcher spent one whole day at the high school to explain the study to potential participants and distributed written information containing student assent and parental permission forms. If a student was willing to participate in the survey, student assent and parental consent forms were returned to their teachers by the end of the week. The teachers held these forms in a secure location until the researcher picked them up at the end of the same week. The researcher used a class

roster to record who has returned both the student assent and parental consent forms.

The following week, the girls who returned both forms completed the survey during their physical education class. The researcher spent a second whole day at the high school to administer and collect the survey. A checklist that the researcher read to the participants before completing the survey is located in Appendix D. The survey was distributed in paper format. Estimated completion time was between 8–11 minutes. The survey was confidential unless a student chose to write in her name and contact information in order to express her interest in being part of an individual interview.

In the second phase, participants who volunteered and were randomly selected, were interviewed. Creswell (2014) explained that the individuals in the qualitative sample should be the same individuals from the quantitative sample because the intent of the mixed methods design is to follow up the quantitative results with a more in-depth qualitative follow-up (Creswell, 2014). Phase 1 surveys were categorized into groups by the determined physical activity level and those who provided consent for an interview were separated from those who did not provide this consent. If there were more than two participants in an activity level and who provided consent, a random number generator was used to select interviewees, and these interviewees were then contacted by the researcher. All interviews were conducted in a quiet area at the high school immediately after the regular school day ended. Before the interview process began, girls were reassured that any information shared remained confidential, and that no identifying information will be connected to the data. They were informed that they do not have to answer any question that makes them uncomfortable and that they could end the interview at any time. The interviews were audio recorded, and the researcher also took simple post-interview written notes. At no time was personal physical activity level and

body image results from the survey discussed. The building administrators and physical education teachers were assured that data collection would not take any longer than necessary from school time. The phase 1 survey was administered during class time and did not exceed 15 minutes. The phase 2 individual interviews were conducted in a quiet room at the high school immediately after the regular school day ended. Figure 1 summarizes the research design and data collection methods.

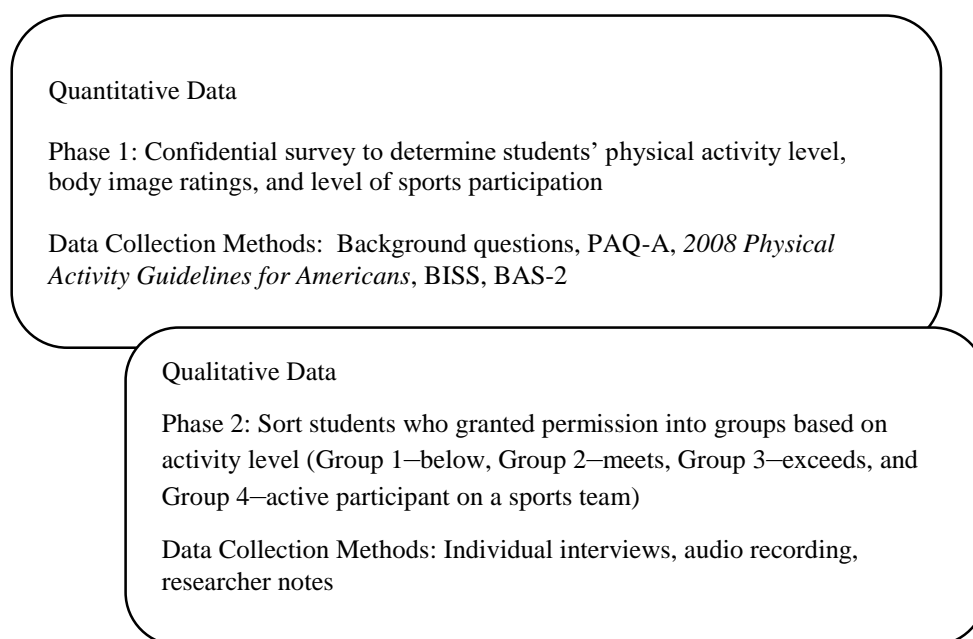


Figure 1. Research Design and Data Collection Methods

Pilot test. In order to make the arrangement for data collection successful, a pilot test with three participants was conducted. According to Creswell (2014), pilot testing is important to demonstrate content validity of scores of an instrument as well to improve format and questions. The parents of the three pilot test participants granted verbal consent. All three participants were former students of the researcher and felt comfortable with the pilot testing process. The researcher timed participants completion

times for both phase 1 and phase 2. The completion time for survey completion was between 8 and 11 minutes; whereas the completion time for the interview was between 3 and 5 minutes. The total completion time for both the survey and the interview ranged from 8 to 16 minutes. Results from the pilot test necessitated changes to the interview questions in order to better convey what the question was asking. The researcher found that some questions were not worded in appropriate language for an adolescent female. For example, the researcher adjusted four interview questions about factors influencing physical activity level and body image to first ask about the interviewee personally, then secondly to ask about a girl in general. This approach allowed an interviewee to express what she may see in others in addition to what she may feel herself. After the test was complete and based on feedback from these pilot test participants, revisions were made to the interview questions.

Instrumentation

The first quantitative phase of this research was the survey. The survey was broken into four sections: background questions, a physical activity questionnaire, and two different body assessment measures. Voluntary follow-up interviews were conducted during the second phase this research. The mixed methods approach was utilized to obtain the necessary body image and physical activity level data to answer the research questions.

Survey. In the first section of the survey, the researcher asked background information about participants' sports team participation, length of team participation, and whether she cites sports as having a major role in her life. Next, the participant completed one assessment measuring physical activity level and two assessments measuring body image perceptions. All assessments were combined into one document,

the study survey, to comprehensively collect data while providing participants with an easy to use document. Results from each assessment were scored separately and yielded three different scores. Completion time for the entire survey, which included background information and all three assessments, did not exceed 15 minutes.

PAQ-A. The first assessment employed the PAQ-A (Kowalski et al., 2004). The PAQ-A is a self-report questionnaire designed to assess general levels of physical activity during the school year for students 14 to 19 years of age. In the first question of this assessment, participants were asked to recall what activities they participated in their spare time over the past seven days. Activity accrued during physical education class is not spare time since attending school is a requirement. Activity accrued due to participation on an after-school sports time is optional and therefore is considered spare time. An overall physical activity score was derived from nine items, each scored on a 5-point scale, with higher scores indicating higher physical activity levels. The PAQ-A's measurement of overall physical activity was one of its strengths because it is difficult to accurately measure intensity, frequency, and duration of adolescent's activities using self-report techniques (Kowalski, Crocker, & Faulker, 1997). The questionnaire was found online and is free to use, provided it is referenced appropriately. The PAQ-A has consistently high validity and reliability was considered to be moderate (Kowalski et al., 2004). Scores from the PAQ-A have exhibited acceptable concurrent validity with other physical activity assessments (Kowalski, Crocker, & Kowalski, 1997). The Joint Committee on the *Standards for Educational and Psychological Testing* (American Educational Research Association [AERA], American Psychological Association, & National Council on Measurement in Education, 2014) explained validity as a unitary concept. It is the degree to which all accumulated evidence supports the intended

interpretation of test scores (AERA et al., 2014). Concurrent validity is a concept most often used in psychology, education, and social science (Concurrent validity, n.d.). It refers to the extent to which the results of a particular test correspond to those of previously established tests for the same construct. One way to test validity is to find other tests that have already been found to be valid measures of a construct, administer both tests, and compare the results of the tests to each other (Concurrent validity, n.d.). For the PAQ-A, two schools were assessed separately over a two-week period on this test and five other similar tests measuring physical activity levels. All five tests relied on students' self-reporting on their activity patterns. Results showed the PAQ-A was significantly correlated to all the other test measures, thus providing support for the convergent validity of the PAQ-A (Kowalski et al., 2004). According to the *Standards for Educational and Psychological Testing* (AERA et al., 2014), there is not a single approach to quantification of reliability because there is not a single guide that effectively conveys all the necessary information for all circumstances. The way a researcher uses an assessment to make estimations is a matter of professional judgment (AERA et al., 2014).

The next section of the survey contained two body image assessments: the BISS (Cash et al., 2002) and the BAS-2 (Tylka & Wood-Barcalow, 2015). The BISS was developed and validated by Thomas F. Cash, Ph.D., an extensive body-image researcher who is currently a retired professor from Old Dominion University in Virginia. The BAS-2 is an improved version of the original Body Appreciation Scale (BAS; Avaols, Tylka, & Wood-Barcalow, 2005). Tracy Tylka, Ph. D, is a professor of psychology at Ohio State University whose research is focused on the both the positive and negative aspects of body image. Nichole Wood-Barcalow, Ph.D, is the director of outpatient

services at Ohio State University. The researcher received permission to use both of these assessments and evidence of this permission is located in Appendix E. The phase 1 survey, which consisted of background questions, the PAQ-A, the BISS, and the BAS-2 is located in Appendix F.

BISS. The BISS (Cash et al., 2002) measures an individual's evaluation of her own appearance at a particular moment in time. According to Cash et al. (2002), the BISS is acceptably internally consistent and its construct validity has been confirmed through an experiment on differential reactivity to appearance-related information as a function of degree of dysfunctional body-image investment. The BISS is self-administered and takes approximately five minutes to complete. The BISS is comprised of six 9-point items, which are scored as a composite mean. The lower scores reflect more negative body image states while the higher scores reflect more positive states (Cash et al., 2002).

BAS-2. The BAS-2 (Tylka & Wood-Barcalow, 2015) is an updated version of the original psychometrically strong instrument of body appreciation, the BAS (Avalos, Tylka, & Wood-Barcalow, 2005). There are two key improvements over its predecessor: the BAS-2 contains one form for males and one for females, and its items are more representative of current knowledge on positive body image. Confirmatory factor analysis upheld the BAS-2's unidimensionality and lack of variance between sex and sample type. Its internal consistency, test-retest reliability, and construct validity have been supported confirming it as a psychometrically sound instrument to measure body image. The BAS-2 contained 10 self-administered questions that asked participants to choose responses that best represented their behaviors and feelings. A five-point Likert scale, where 1 is *never* and 5 is *always*, was used to indicate the response. The

assessment was scored by averaging participants' responses to the 10 items. A higher score indicated higher levels of body appreciation or positive body image, whereas a lower score indicated lower levels of body appreciation, or negative body image (Tylka & Wood-Barcalow, 2015).

Table 3 presents a summary of each section of the survey. Each assessment's estimated completion time, number of questions, proof of validity, and alignment to research questions are described.

Table 3

Description of Survey Components

Survey Section	Estimated Completion Time	Number of Questions	Proof of Validity	Alignment to Research Questions
Background questions	20 sec–2 min	5	Pilot test	RQ 2, 3
PAQ-A	2–10 min	9	Pilot test; concurrent validity (Kowalski, Crocker, & Kowalski, 1997)	RQ 1, 2
BISS	1–5 min	6	Pilot test; acceptable internal consistency and construct validity (Cash, et al., 2002)	RQ 1, 2, 3
BAS-2	2–4 min.	10	Pilot test; confirmatory factor analysis upheld internal consistency, test-retest reliability, and construct validity (Tylka & Wood-Barcalow, 2015)	RQ 1, 2, 3

Interviews. According to Butin (2010), an interview can be a simple means to collecting key data from relevant participants provided the interview questions are aligned with the research questions. In this phase of data collection, the researcher asked open-ended questions to elicit meaningful responses that take the shape of narratives (Butin, 2010). Students who volunteered for this second phase of data collection were

placed into groups based on physical activity level calculated from the PAQ-A. If there were more than two participants in a group, the participants were assigned a number and a random number generator from the internet was used to decide who would be interviewed. The PAQ-A considers a score of one to indicate low physical activity, whereas a score of five indicates high physical activity. Using the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008), the researcher defined inactive to low physical activity as a score of 1–1.9. Average physical activity was a score of 2.0–3.4. High physical activity was a score of 3.5–5.0. In addition a fourth group was added for girls who play sports but were not selected in the first round of drawing numbers. The four interview groups were (a) low physical activity, (b) average physical activity, (c) high physical activity, and (d) sports team participants. Two participants from each interview group, for a total of eight, were randomly selected for an individual interview. Table 4 shows correlation between PAQ-A score and interview group placement.

Table 4

PAQ-A Score and Interview Placement

Interview Group	PAQ-Q Score
Inactive/low physical activity	1–1.9
Average physical activity	2.0–3.4
High physical activity	3.5–5.0
Sports participation	1–5

Interview questions were predetermined by the researcher based on the theoretical framework of the study and the research surrounding the variables influencing the development of body image. Each interview question was aligned with a research question. However, the researcher did ask additional questions in order to obtain a more complete understanding of the participants' responses and the participants were free to ask questions and share additional information at any time during the interview. The total time for the interview did not exceed 5 minutes. The interview questions and their alignment are displayed in Table 5.

Table 5

Interview Questions and Alignment to Research Questions

Number	Question	Alignment
IQ 1	What does the word athlete mean to you?	RQ 4
IQ 2	What kind of differences (if any) do you notice when you compare athletic females to non-athletic females?	RQ 4
IQ 3	Who or what influences <i>your</i> level of physical activity? Can you expand on this?	RQ 4
IQ 4	Are there any other factors that you can think of that influence how active a girl is or is not? If so, what are they?	RQ 5
IQ 5	Who or what influences the way you feel about <i>your</i> body? Can you expand on this?	RQ 5
IQ 6	Are there any other factors that you can think of that may influence a girl's body image? If so, what are they?	RQ 5
IQ 7	How often do your classmates compare their bodies, looks, and physical appearance to that of other classmates? Can you explain your answer?	RQ 5
IQ 8	How is your level of confidence affected by participation in physical activities? Explain.	RQ 4, 5

Social learning theory explains how people learn by observing the behavior of others (Bandura, 1977). Social comparison theory centers on the belief that there is a

drive within individuals to gain accurate self-evaluations by comparing themselves to others (Festinger, 1954). Feminist theory examines dimensions of various sociological theories from a woman's perspective and has reduced sociology's reliance on and adoption of male experiences and perspectives as human experience (Cox, 2015). Driven by an understanding of social learning and social comparison theories and viewing these theories from a feminist perspective, research has identified the variables influencing body image: parents, significant others, peers, physical activity levels, sports participation, media, and society. Although the information that was obtained from these interviews was indirect due to the nature of receiving filtered perceptual data, the researcher gained a more comprehensive understanding of the how physical activity levels influenced the development of body image. Interviews were audio recorded and transcribed by an interpreter/captionist at Gardner-Webb University. Once transcribed, all audio recordings were destroyed.

Data Analysis

Quantitative data. This study involved both dependent and independent variables. Bell (n.d.) defined an independent variable as the variable that is hypothesized to influence the dependent variable. In this study, the two independent variables were physical activity level and participation on a sports team. Bell (n.d.) defined the dependent variable as the variable that is simply measured by the researcher. It is the variable that reflects the influence of the independent variable. In this study, the one dependent variable that was measured on a continuous level was body image.

In this study, the researcher is looking to determine if differences in body image ratings (dependent variable) are influenced by level of physical activity and/or participation on a sports team (independent variables). According to Urdan (2010),

regression tests have many purposeful functions: interactions between variables, predictive power of variables, and the unique contribution of one or more variables. With the research questions in mind, data from the qualitative phase was organized according to physical activity level, sports participation, and body image ratings.

In this study, the researcher was looking to determine if differences in body image ratings (dependent variable) are influenced by level of physical activity and/or participation on a sports team (independent variables). Guided by the research questions, data was organized according to physical activity level, sports participation, and body image ratings. With the assistance of a Ph.D. student in Statistical and Measurement Methods at the University of Florida, data was analyzed using the *The R Project for Statistical Computing* (R Core Team, 2013). Simple linear regression tests and multiple regression tests were run to determine the relationship between physical activity level and body image and to determine the relationship between sports participation and body image. The chi-square test for independence was used to compare body image perceptions with (a) sports team participation, (b) lack of sports team participation, and (c) citing sports as a major role in life. In addition, the chi-square test for independence and regression tests were run to determine if participants' responses to the BISS and BAS-2 were consistent with each other. For example, the researcher wanted to verify if a participant scored a moderately high level of positive body image on the BISS that her scores were similarly reported by the BAS-2.

Qualitative data. The researcher conducted interviews to gain a deeper understanding of the variables which influence the development of body image, physical activity levels, and sports participation, through the adolescent females' perspective. Moustakas (1994) discussed the analysis of interviews to be conducted in a manner that

focuses on the essence of experiences to provide insights to social phenomenon.

Moustakas viewed real-life experiences and how one behaves as having an inseparable relationship with personal viewpoints. In this study, in order to interpret how the new information does or does not apply to the theoretical framework, the researcher drew conclusions from the themes that developed from the data. Interviews were transcribed to paper by an interpreter/captionist at Gardner-Webb University. The transcripts of the interviews were analyzed by the researcher through hand-coding. The unit of analysis, based on the research questions, were social and cultural factors on physical activity and body image. The responses of the interviewees were coded with a word that captured what the data said. According to Creswell (2014) it is important to view data analysis as a step completion process that starts with the specific statements and ends with a general interpretation. Once an explanatory schema had been established, the data was re-evaluated by a principal in the researcher's school district who has earned a doctorate in curriculum and instruction and was familiar with qualitative research methods (Appendix G). This principal, who worked at a different school, only worked with raw data and did not have contact with students or knowledge of any real names. Figure 2 provides an overview of the qualitative data analysis process employed in this study.

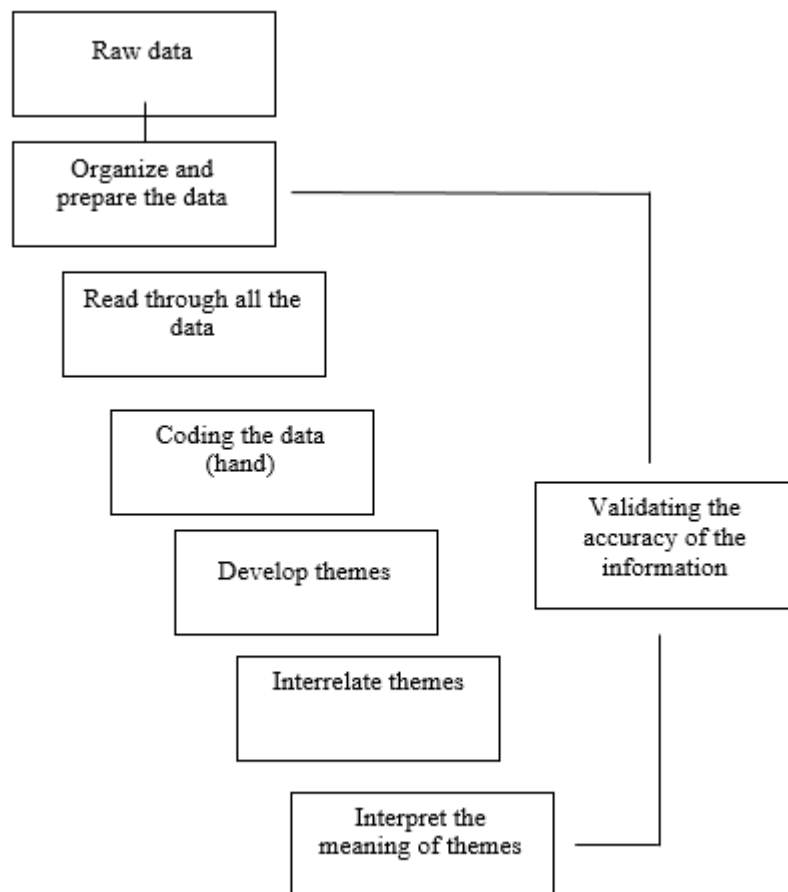


Figure 2. Overview of Qualitative Data Analysis Process (Adapted from Creswell, 2014).

Through the triangulation of survey and interview data, a greater understanding of the relationship between sports, physical activity level, body image, and importance of sports in the study participants' lives, was revealed. According to Creswell (2005), the purpose of triangulation in a mixed methods design is to collect both quantitative and qualitative data, merge the data, and use the results to provide a deeper understanding into a research problem.

Data Interpretation

According to Creswell (2014) when using the mixed methods approach, the researcher interprets the follow-up results in a discussion section of the study. This

interpretation first reports the first phase of quantitative results followed by the second phase of qualitative results. The intent of a mixed methods design is to then use the qualitative data to help to expand or explain the quantitative results (Creswell, 2014). The reason for collecting both quantitative and qualitative data in this mixed methods design was to triangulate the data and show if a correlation is present between body image perceptions, sports participation, and physical activity levels. Whether correlations exist or they do not, the qualitative data explains the quantitative results. In this study, the first phase gathered data on physical activity level, sports participation, importance of sports, and body image. The second phase, guided by the theoretical framework and a review of the literature, included interview questions that served to gain a deeper understanding of adolescent female experiences in physical activity and sports participation, and its relationship with body image ratings.

Ethical Procedures

Due to the age of the participants, the researcher obtained district permission to conduct research (Appendix H). Upon approval of the study proposal by the researcher's committee, the researcher pursued and received full Gardner-Webb IRB approval to continue to conduct research. According to Butin (2010), all research must go through an IRB committee in order to guarantee that the research meets ethical guidelines and does not in any way encroach on the rights of participants or harm them in any way. Once this study began, all data was stored at the researcher's home. Once this study was completed, all data was stored in a secure location. After three years, all data will be destroyed.

In this study, participants were protected from harm by being informed of the purpose for this research, by addressing confidentiality, and through attainment of student

assent and parental consent forms before any participation. Although the perceived benefits of this study far outweigh the potential risks, the researcher anticipated unwanted outcomes (Butin, 2010). Since there was some risk that the survey and interview questions may bring up feelings of body dissatisfaction that the participant may not know how to handle, participants and their parents/guardians were made aware in the consent forms of the availability of school guidance counselors. These counselors were prepared to talk with any student who chose to participate in the study and experienced new or disturbing thoughts and feelings about her body that she would like to discuss.

The issue of researcher bias was also taken into account during the second phase of data collection: the interviews. When asking questions, the researcher adhered to a predetermined set of interview questions but also asked additional questions if necessary in order to obtain more information or to clarify a participants' response. The interview protocol is located in Appendix I.

Summary

This study sought to determine the impact of physical activity on female adolescents' perceptions of body image. A secondary interest was on learning whether or not sports team participation affected perceptions of body image. Research has shown female athletes have far fewer participation opportunities than males to play sport, therefore limiting opportunities to be physically active on an organized team (WSF, 2013). It is also the age where the development of self-concept is rapidly maturing through social comparison of peers, media, and significant others. The most likely period of time a girl will struggle with body image is during adolescence; however, the processes and factors that contribute to the acquisition of body image in young females is poorly understood (City of New York, NYC Girls Project, 2015).

In order to best answer the research questions, a convergent parallel mixed methods design was chosen because this method allowed for the integration of quantitative and qualitative data. In the first phase of data collection, a confidential survey was administered to randomly selected girls collecting physical activity level and body image ratings. Those individuals who volunteered to be interviewed further were randomly selected to participate in a second phase of interview questions. The interview phase allowed the researcher to gain additional insight into the development of body image, the meaning of a female athlete, and factors influencing physical activity levels as seen through the eyes of the adolescent female.

A healthy body image contributes to feeling independent, assertive, strong, and accepting of one-self and others (Joshi, 2011). It was expected physical activity levels and perceptions of body image would be positively correlated. It was unknown whether sports team participation has a statistically significant correlation to body image. By stating these expected findings, this researcher could see the value of being alert to the biases that all researchers bring to the analysis of qualitative data. In the next chapter, the findings are discussed in detail.

Chapter 4: Results

Overview

This study investigated the effects of physical activity level and/or sports participation on female high school students' body image ratings. This chapter presents the results from data collected from a quantitative survey that incorporated the PAQ-A (Kowalski et al., 2004), the BISS (Cash et al., 2002), and the BAS-2 (Tylka & Wood-Barcalow, 2015). Based on the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008) and the calculated results from participants' physical activity level, four groups were created: (a) participants whose responses indicated inactive to very little physical activity, (b) participants whose responses indicated average physical activity, (c) participants whose responses indicated above average physical activity, and (d) participants whose responses indicated participation on a sports team. Individual interviews with two participants who were closely representative of each group followed survey completion. The researcher examined the perspectives of these adolescent girls as to why girls choose to be physically active or not, and the factors associated with how girls felt about their bodies. The explanatory schema derived from this research study is presented in Chapter 5.

Restatement of the Problem

Participation in sports and higher physical activity levels carries social, mental, and physical benefits for youth. Despite all the known benefits of physical activity, a large percentage of girls choose to engage in even less physical activity than they did as young children (Allison et al. 2007; Caspersen et al., 2000; Sallis, 2000). Social acceptance is at its highest during the adolescent age and societal differences generated from parents, friends, and the media have created women whose general life contentment

is often correlated to their perceived body image (Kalnes, 2013; Mikkola, 2012; Pruis & Janowsky, 2010; Shultz et al., 2002).

The purpose of this mixed methods study—based on the social learning theory, the social comparison theory, and feminist theory—was to explore whether physical activity level affected body image ratings in high school females. Research has uncovered multifaceted perceived benefits and barriers to physical activity and sports participation. However, there is limited research regarding how the level of physical activity, whether in-school or out, contributes to positive feelings of one's body in the adolescent female.

Description of the Quantitative Sample

Since participants in this study were under the age of 18, student assent and parental consent forms were distributed and returned before any participation in this study took place. Of the possible 82 candidates for study participation, 62 were freshman. After permission forms were collected, 23 of the 32 study volunteers were freshman. Therefore, 72% of the collected survey data came from girls aged 14–15 years. Table 6 shows the grade level breakdown of survey participants.

Table 6

Grade Level of Survey Participants

Grade Level	Number of Survey Participants	Percentage of Total
Grade 9	23	72%
Grade 10	5	16%
Grade 11	2	6%
Grade 12	2	6%

Quantitative Results: Phase 1

The data obtained from the survey were analyzed by the researcher with the assistance of a Ph.D. student in Statistical and Measurement Methods at the University of Florida. Results were tested using *The R Project for Statistical Computing* (R Core Team, 2013). This program is a language and environment for statistical computing and graphics. All statistical data were validated by the same Ph.D. student in Statistical and Measurement Methods at the University of Florida. Prior to research question data analysis, the researcher verified participants' responses to body image scores on the BISS and BAS-2 reflected similar outcomes. BISS scores were found to be significantly associated with BAS-2 scores, $b = 1.6540, t(30) = 9.448, p < .001$. BISS also explains a significant portion of variance in BAS-2 scores, $R^2 = 0.7485, F(1, 30) = 89.26, p < .001$. These findings support both the BISS and the BAS-2 to be valid and reliable assessments of body image because both tests have shown to give the same results when measuring an individual's body image rating. Figure 3 demonstrates the significance between data points on BISS and BAS-2.

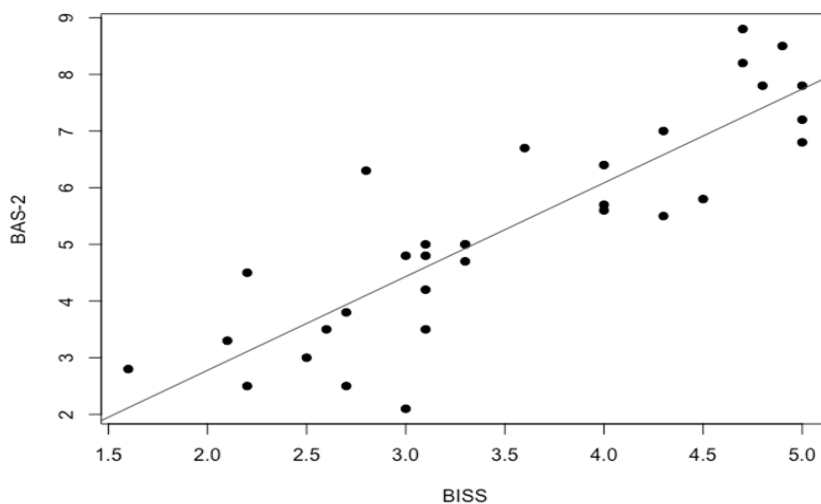


Figure 3. Relationship Between BISS and BAS-2.

The Data Analysis Model shown in Figure 4 was created to guide the researcher in correctly calculating the statistics.

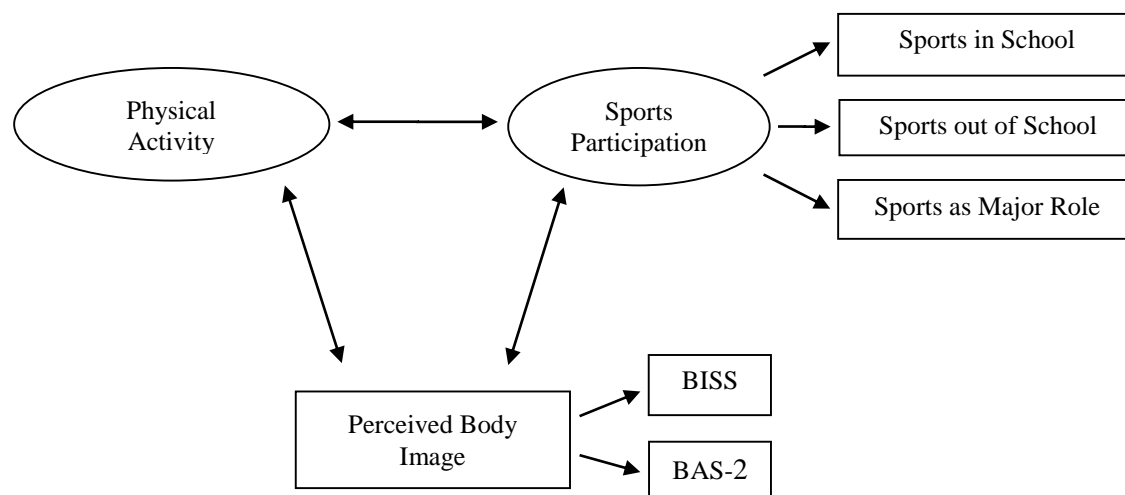


Figure 4. Data Analysis Model.

In this figure, ovals represented the independent variables of physical activity level, as measured by the PAQ-A and sports participation. Squares represented body image as determined through observable rating scales of the BISS and BAS-2. Arrows indicate direct impacts. For example, sports in school, sports out of school, and sports as a major role in one's life, all had a direct impact on general sports participation. The double-headed arrow represents a correlation, which means the researcher did not assume that one variable caused the other. For example, the researcher did not assume a high PAQ-A score caused a high BISS and BAS-2 score.

Research Question 1. To what extent does physical activity level influence perceived body image in adolescent females at a rural high school in South Carolina?

Using linear regression, results showed that participants' scores on PAQ-A and

BISS were not significantly associated at $\alpha = .05$, $b = 0.006$, $t(30) = 0.079$, $p = 0.937$. PAQ-A does not explain a significant portion of variance in BISS scores, $R^2 = 0.0002$, $F(1, 30) = 0.006$, $p = 0.937$. Results showed that participants' scores on PAQ-A and BAS-2 were not significantly associated at $\alpha = .05$, $b = 0.032$, $t(30) = 0.209$, $p = 0.836$. PAQ-A does not explain a significant portion of variance in BAS-2 scores of $R^2 = 0.001$, $F(1, 30) = 0.044$, $p = 0.836$.

In order to calculate linear regression, the first step was to determine the strength of the relationship between the two variables of PAQ-A score and BISS/BAS-2 scores. These scores are indicated by r and r is between 0 and 1; 0 indicates no relationship and 1 means perfect alignment. For this study, the values of $r = 0.006$ and $r = 0.032$ respectively indicate a very weak relationship. The second part of the linear regression was a t-test used to determine whether the slope of the regression line differs significantly from zero. In social sciences, $p = 0.05$ is the threshold which indicates significance (Urdan, 2010). In this study, $p = 0.947$ and $p = 0.836$. The values are not smaller than 0.05, indicating non-significant values (Hypothesis test for regression slope, n.d.).

Table 7 summarizes results related to Research Question 1: To what extent does physical activity level influence perceived body image in adolescent females at a rural high school in South Carolina?

Table 7

Physical Activity Level and Body Image

	p	R^2	r	Significance of Relationship
PA and BISS	.947	.0002	.006	Very weak
PA and BAS-2	.836	.001	.032	Very weak

R square represents the coefficient of determination, which explains the variance of p , which is the independent variable (physical activity level) and a dependent variable (body image). It provided the percentage of variance explained. For physical activity level and body image ratings, over 99% of the variance between variables was unexplained. The strength of the relationship is represented by r . Results indicated a very weak relationship. Physical activity level does not significantly affect adolescent females' perceptions of body image at a rural high school in South Carolina.

Research Question 2. To what extent do girls who participate in sports at a rural high school in South Carolina have positive perceptions on body image?

Results from the Welch two sample t-test showed that there was not a significant association between BISS scores from participants who participated in school sports and those who did not participate in a school sport, as indicated by $t(27) = 0.354, p = 0.7261$. The mean scores for the former and latter groups were 5.17 and 5.41, respectively. Results from the Welch two sample t-test showed that there was not a significant association between BAS-2 scores from participants who participated in school sports and those who did not participate in school sports indicated by $t(27) =$

0.268, $p = 0.7906$. The mean scores for the former and latter groups are 3.47 and 3.57, respectively.

Results from the Welch two sample t-test showed that there was not a significant association between BISS scores from participants who participated in sports out of school and those who did not participate in sports out of school indicated by, $t(29) = -0.380, p = 0.7043$. The mean scores for the former and latter groups are 5.43 and 5.17, respectively. Results from the Welch two sample t-test showed that there was not a significant association between BAS-2 scores from participants who participated in sports out of school and those who did not participate in sports out of school indicated by, $t(27) = -0.488, p = 0.6298$. The mean scores for the former and latter groups were 3.61 and 3.43, respectively.

Table 8 summarizes results related to Research Question 2: To what extent does participation on a sports team influence perceived body image in adolescent females at a rural high school in South Carolina?

Table 8

Sports Participation and Body Image

	<i>p</i>	Mean	Significance of Relationship
Sports In-school vs No sports in/BISS	.7261	5.17 Yes sports 5.41 No sports	Very weak
Sports In-school vs No sports in/BAS-2		3.47 Yes sports 3.57 No sports	Very weak
Sports Out-school vs No sports out / BISS	.7906	5.43 Yes sports 5.17 No sports	Very weak
Sports Out-school vs No sports out / BAS-2		3.61 Yes sports 3.43 No sports	Very weak

The value *p* represents the independent variable (sports participation). The mean column list average body image scores between both in-school sports participants and non-school sports participants as well as out of school sports participants and non-out of school sports participants. Results indicated a very weak relationship. Sports participation does not significantly affect adolescent females' perceptions of body image at a rural high school in South Carolina.

Research Question 3. To what extent is perceived body image influenced in adolescent females who cite “sports as having a major role in their life,” at a rural high school in South Carolina?

Results from the Welch two sample t-test showed that there was not a significant association between BISS scores from participants who cited “sports as playing a major role in their lives” and participants who did not cite sports as a major role indicated by $t(21) = -0.697, p = 0.4934$. The mean scores for the former and latter groups were

5.47 and 4.98, respectively. Results from the Welch two sample t-test showed that there was not a significant association between BAS-2 scores from participants who cited “sports as playing a major role in their life” and participants who did not cite sports as a major role indicated by, $t(22) = -0.645, p = 0.5255$. The mean scores for the former and latter groups were 3.61 and 3.37, respectively.

Table 9 summarizes results related to Research Question 3: To what extent is perceived body image influenced in adolescent females who cite “sports as having a major role in their life,” at a rural high school in South Carolina?

Table 9

Sports as an Important Role and Body Image

	<i>p</i>	Mean	Significance of Relationship
Sports as major role and BISS	0.4934	5.47 Yes sports 4.98 No sports	Very weak
Sports as major role and BAS-2	0.5255	3.61 Yes sports 3.37 No sports	Very weak

The value *p* represents the independent variable (sports as a major role in life). The mean column list average body image average scores for participants who cited sports as having a “major role in their live” and body image averages for those who do not cited sports as having a “major role in their life.” Results indicated a very weak relationship. Adolescent females, at a rural high school in South Carolina, who cite “sports as having a major role in their life” does not significantly affect perceptions of body image.

Description of the Qualitative Sample

In order for a participant to be eligible for a voluntary interview, two items had to be completed. Before any survey was administered, possible participants returned a student assent and a parental consent form. On the parental consent form, parents indicated whether they would or would not allow their child to choose to participate in an interview, if randomly selected by the researcher. Six of the 32 participants' parents provided permission for their daughter to take the survey but did not provide consent to allow for an interview. After completing the survey, students whose parents did allow for an interview had the option as to whether they would or would not provide contact information for a possible interview.

Once surveys were completed, 14 of the possible 27 students provided contact information for a possible interview. These 14 volunteers were placed into groups based on physical activity level calculated from the PAQ-A. The PAQ-A considers a score of one to indicate low physical activity, whereas a score of five indicates high physical activity. Using the *2008 Physical Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008), the researcher defined inactive to low physical activity as a score of 1–1.9. Average physical activity was a score of 2.0–3.4. High physical activity was a score of 3.5–5.0. After calculating PAQ-A scores, two participants had calculated physical activity levels that placed them into the low activity group. Ten participants had calculated physical activity levels that placed them into the average activity group. Two participants had calculated activity levels that placed them into the high activity group. Since there were only two participants in the low activity group and high activity group, all four of these participants were chosen for an interview. The ten participants in the average activity group were assigned a number and chosen

using a random number generator. In addition, a fourth group was added for girls who played sports but were not selected in the first round of drawing numbers. Out of the 14 possible interviewees, seven played sports and seven did not play sports. After choosing the first three interview groups based on activity level, three participants who played a sport, and three who did not play a sport remained. The researcher again used a random number generator to choose two participants to interview from the girls who played sports, but were not selected during the activity group selection process. Table 10 depicts the participants available for each interview group and whether or not a random number generator was used.

Table 10

Participants Available to Interview Based on Activity Group

Activity Group	Round 1	Randomly Selected	Round 2	Randomly Selected
Low	2	No	---	---
Average	10	Yes	---	---
High	2	No	---	---
Sports	---	---	3	yes

Interview Data Collection

According to Butin (2010), although interviews are a simple means for collecting concrete data, interviewing is a complex undertaking that necessitates thoroughness and strict adherence to protocols. In order to gather information on female adolescents' perceptions of social and cultural factors on physical activity levels and perceived body

image, individual interviews were the chosen method of data collection. Using an interview protocol (Appendix I), the researcher adhered to a predetermined set of interview questions but also asked additional questions if necessary in order to obtain more information to clarify a participants' response. Interviews were conducted over a two-week period following survey completion immediately following the end of the regular school day. Each interview occurred at the high school the participants attended. Eight interviews were conducted and each interview lasted between 3 and 5 minutes. A total of 32 minutes of recorded data was used to conduct the qualitative analysis. To ensure confidentiality, pseudonyms were used for identification during and following the interview. All interviews were audiotaped and once transcribed, all audio data was erased.

Qualitative Analysis

Data gathered from the interviews was coded to provide information on what social and cultural factors influence female adolescents' perceptions of body image and physical activity levels. According to Foss and Waters (2007), coding is a process in which the researcher picks out aspects of the data that is most relevant to answer the research questions. For this study, the unit of analysis was social and cultural factors influencing body image and social and cultural factors influencing physical activity levels. Once all social and cultural factors were located, the researcher then devised a code that captured what she saw in each phrase or statement. According to Foss and Waters, staying at the surface level of the text and forgetting any accumulated background knowledge prevents a researcher from coding for what he or she wants to find. Codes should capture what a researcher is seeing in a statement without attempting to decide what is going on with the data (Foss & Waters, 2007).

Qualitative Results: Phase 2

In a convergent parallel mixed methods design, the researcher merges quantitative and qualitative data in order to produce a comprehensive answer to the research problem (Creswell, 2014). In this study, both quantitative and qualitative data were collected at relatively the same time, and then the researcher integrated the information into the interpretation of the overall results. It is important to note that because the quantitative data revealed no significance between physical activity level and body image ratings, data were not explained in relation to activity group or sports participation as originally intended. Instead, data were viewed holistically in order to better understand the quantitative results. In this study, the researcher found the codes which emerged for statements regarding physical activity and statements regarding body image to be almost identical. Codes turned into factors for or against participation in physical activity and for positively or negatively influencing body image. The research questions were answered based on the number of times each factor was cited, whether the statement pertained more towards body image or physical activity, whether the factor was cited in a positive or negative way, and the theoretical framework for the study. Table 11 displays the number of times each factor was cited towards physical activity and body image.

Table 11

Total Factor Count for Physical Activity and Body Image

Factor	Physical Activity	Body Image
Significant others	7	5
Confidence	7	4
Media	1	8
Intrinsic motivation	13	9
Boys	2	3
Peers	8	7
Comparison to others	1	15

For some factors, such as confidence and intrinsic motivation, the participant cited confidence as both positive and negative influences. Table 12 shows when the factor was cited, whether it was noted in as having a positive or negative influence.

Table 12

Positive and Negative Influence of Factors

Factor	<u>Physical Activity</u>		<u>Body Image</u>	
	Positive	Negative	Positive	Negative
Significant others	7	1	5	0
Confidence	7	2	1	3
Media	0	1	1	7
Intrinsic motivation	13	1	8	1
Boys	0	2	1	2
Peers	8	0	7	0
Comparison to others	0	1	7	15

It is important to point out that one response may have had both negative and positive implication, thus that factor, although it was only said one time by a participant was noted twice in both the negative and positive columns. More detail on these interpretations are provided by direct quotes and explanations in the paragraphs that follow. All interview participants were given pseudonyms to protect confidentiality. A principal in the researcher's school district, who holds a doctorate in curriculum and instruction and was familiar with qualitative coding, validated the qualitative results.

Research Question 4. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on female adolescent physical activity?

Five social and cultural factors were identified as routinely influencing whether or

not an adolescent female chose to participate in physical activity. These factors were: significant others, intrinsic motivation for health, peers, confidence, and boys.

Significant others. Significant others was cited as an important influence on the choice to participate in physical activity. Family was mentioned six out of seven times as the most primary significant other to influence level of physical activity. Coach was the one other primary significant other that influenced a participant.

Josie mentioned that parents influence children in different ways. She said, “My dad’s a lazy person, he doesn’t do anything. My mother will go outside, she’ll do yard work, and we’ll immediately go outside. We’ll go walk the perimeter or we’ll help do chores. If somebody else is doing something physical in my house, more than likely the rest of us will get pulled into it and help out” (Josie, personal communication, April 27, 2016). Jenny stated, “My parents, they influenced me to go outside and play, and that’s how I ended up being active when I got older” (Jenny, personal communication, April 19, 2016). Erica said, “My parents, my mom, they were like get up and go. My little sisters always wanted to go outside and do something; there was no choice” (Erica, personal communication, April 21, 2016). Erica and Charlotte also mentioned parents influencing them to be active. Kate mentioned her coaches and teammates as her biggest influence on physical activity.

Intrinsic motivation. Based on Deci and Ryan’s (1985) Theory of Self-Determination, intrinsic motivation is when an individual is motivated from within to do something because it is inherently enjoyable. These intrinsic motivations are not necessarily externally rewarded but have the ability to sustain passion and sustained effort (Deci & Ryan, 1985). Positive statements related to an individual’s intrinsic motivation to be physically active were made 13 times. Only once did a participant give

an example that explained intrinsic motivation could be positive while also being negative.

Kelly mentioned that, “I just don’t want to let myself go, so I kind of try to maintain a certain balance between different things, like schoolwork and TV time and getting out and about, doing things” (Kelly, personal communication, April 25, 016). Kate thought some girls wanted to be active to stay skinny, to look a certain way, or get better at the sports they play. Charlotte said, “Oh, my coach pushes me all the time, but at the same time I love it. It’s just part of what I do” (Charlotte, personal communication, April 19, 2016). Charlotte also thought that other girls were physically active because they wanted to stay in shape. Elizabeth mentioned that “playing sports makes me feel confident and I just don’t care what people think” (Elizabeth, personal communication, 2016). Josie stated that physical activity “makes me more confident and I feel good about it, because I’m doing something instead of being lazy, like, sitting somewhere” (Josie, personal communication, April 27, 2016). Josie also mentioned that she has had people recommend physical activity as a way to de-stress or fight depression. Jenny confessed that “If I feel like I need to lose weight, I start working out” (Jenny, personal communication, April 19, 2016).

Peers. When discussing peers as a factor influencing physical activity level, peers were stated as a positive factor eight out of eight times. Josie stated that she noticed she is more likely to be active if she has somebody to be active with her. She stated, “No one likes to be active by themselves, because it makes them feel very self-conscious, like everyone’s watching them. But if they have a friend, they feel like they have a distracter, so they can be more active, more physical” (Josie, personal communication, April 27, 2016). Charlotte said if she sees an event as a social event, she is more likely to be

active. Elizabeth and Shannon all said that if friends are playing, a girl is more likely to play too.

Boys. The researcher gave boys their own factor category because unlike the positive influence of peers, their reported influence seemed to generally demotivate a girl from participation in physical activity. When it pertained to the choice to engage in physical activity or not, boys were cited two times and both of these times it was a negative influence. When peers were cited, all eight statements were positive statements towards engagement in physical activity. Kelly thought peer pressure, particularly when it comes to boys, influenced whether or not a girl chooses to be active. Kelly stated, “Boys have a lot to do with different things that a girl thinks about. If I worry because there is a boy watching, I won’t play” (Kelly, personal communication, April 25, 2016). Shannon believed that “If there’s boys around, a girl is less active but if there are females who are friends and I know them, probably more active” (Shannon, personal communication, April 19, 2016).

Confidence. Confidence is defined as a feeling or belief that one can do something well or succeed at something (Confidence, n.d.). Confidence in participating in physical activity and confidence in one’s body image was closely intertwined. When focusing on confidence associated with only physical activity, the confidence factor was discussed in two different ways. Sometimes confidence was mentioned as a prerequisite to choosing to participate in physical activity while other times confidence was gained as a result of participation in physical activity. The confidence factor was cited positively seven times and negatively two times.

Shannon thought that a girl’s level of confidence influenced whether she chose to be active. Erica felt her level of confidence was raised by participation because “I know I

can do things and feel good about my ability” (Erica, personal communication, April 21, 2016). Kelly expressed how softball was her getaway and, “when I play softball, I don’t think about anything else” (Kelly, personal communication, April 25, 2016).

Research Question 5. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on adolescent female body image?

Six social and cultural factors were identified as routinely influencing adolescent females’ perceptions of body image. These factors were: significant others, intrinsic motivation, peers, comparison to others, media, and boys.

Significant others. Similar to whether one chooses to participate in physical activity or not, significant others were shown to provide the framework from which a girl will make future judgments about how she feels about her body. Pertaining to body image, significant others were cited as a positive influence five out of five times.

Josie stated, “I do take the input of my mother, because I trust her a lot and she had a lot of trouble growing up with self-image” (Josie, personal communication, April 27, 2016). Josie explained how her mother was bulimic and her mother always wanted to make sure she felt good about herself. She also said her sisters danced for years and she would not ever be able to look like them. She said, “It was my mother who sort of helped me realize that if you like who you are, that’s all that matters” (Josie, personal communication, April 27, 2016). Jenny said her siblings always like me to run and play with them, like basketball or lacrosse, so they try to influence me. Even if I don’t want too, I do, because I already did my daily workout but it’s always better to do more workouts (Jenny, personal communication, April 19, 2016). Elizabeth mentioned her mom’s positive affirmation about her body with statements such as your “body is perfect

and I would love to have your body” (Elizabeth, personal communication, April 25, 2016). Jenny said her mom often reminded her to love herself.

Intrinsic motivation. Concerning body image, the intrinsic motivation factor was related to the central feeling a girl had for her body. Eight times out of nine, participants cited intrinsic satisfaction with their bodies was influenced by positive experiences with their environment, family, or playing sports. Only one participant, Kelly, felt that she puts herself down a lot and even if someone gives her a compliment, she does not believe it. Josie, a high school senior, attended Montessori school for grades K–8 and public high school for grades 9–12. She stated, “The Montessori environment was very different. We just didn’t care. We were who we were, and that was all that mattered. There was no boundary for us to compare ourselves to, and it was easier to understand and accept who we are” (Josie, personal communication, April 27, 2016). Josie also theorized that people who are less active are more likely to say, “Well, I like me, so that’s all that matters” (Josie, personal communication, April 27, 2016). Jenny felt she could tell how a girl thinks about her body by watching the facial expressions she makes when looking at herself in the mirror. Charlotte, a swimmer, felt that being constantly in a bathing suit around a bunch of people made her confident so she is not really bothered by feelings of body insecurity anymore. Charlotte said, “I’m here, it’s my body, look at it if you want, if you don’t, you don’t have to, I am not telling you to” (Charlotte, personal communication, April 19, 2016). Charlotte also mentioned that, “nobody puts pressure on me to do anything if I don’t want to do it, so it is mainly what I think” (Charlotte, personal communication, April 19, 2016). Kelly, who also played sports, stated “I put myself down a lot because my friends are built differently, and I just want to be built like them because I am not. I have always wanted to be a size 2 or 4 but I am really a size 8

(Kelly, personal communication, April 25, 2016).

Peers and comparison to others. The researcher separated the peer factor and comparison to others factor in the original numbers counts to show that peers do provide many positive comments and reassurance. However, interviewee responses focused on interactions with peers, such as friends and classmates, who were providing opinions on how they physically look or how others talk about them. For this reason, these factors are discussed together. Peers were cited as a positive influence on body image seven out of seven times. Comparison to others was cited 15 times, and all 15 times this factor had a negative influence on body image. However, seven of these 15 responses, contained both positive and negative connotations.

Charlotte felt that the people she hangs out with are “cool with the way they are” and don’t really compare themselves to anybody (Charlotte, personal communication, April 19, 2016). She also added that she had a feeling that “there’s [*sic*] other classmates that are in my class that do it more often” (Charlotte, personal communication, April 19, 2016).

Many responses described situations where compliments were given to an individual but then the girls who provided the compliment negatively compared themselves against this compliment. For example, Kate said people will say things like, “You have such nice this, I wish I had your nice hair or something else or I wish I had your skinny legs” (Kate, personal communication, April, 21, 2016). Erica felt that peers’ opinions and what other people say about her influences how she feels about her own appearance. Jenny said her friends often tell her, “You are so active, and that’s why you have, like, big muscles, and you control your weight” (Jenny, personal communication, April 19, 2016). Jenny followed this statement with, “and sometimes I feel like I’m

overweight” (Jenny, personal communication, April 19, 2016). Elizabeth thought the locker room situation when getting dressed for physical education class was a common time for comparison. She would often hear a girl say, “Oh my God, I love their body” or “I am getting so fat” then, the other girls around her would start comparing themselves to the given example (Elizabeth, personal communication, April 25, 2016). Josie’s comments reflected agreement with hearing “I’m so fat” when girls are changing (Josie, personal communication, April 27, 2016). She also stated that, “I’ve seen girls who are probably a third my weight think they look awful” (Josie, personal communication, April 27, 2016). Kelly expressed the thought that “it’s human nature to compare yourself to others” and “I always compare myself to people, because I am not where I want to be” (Kelly, personal communication, April 25, 2016). Josie felt body image is not something internally produced by a girl but rather body image is “driven on how other people talk about them” (Josie, personal communication, April 27, 2016). She said girls in our “opinion-based society, if somebody else talks about them, they’re immediately like, oh my God, I have got to fix myself” (Josie, personal communication, April 27, 2016). Josie continued to explain that girls “don’t really take into account how they think about themselves. They just want to meet everyone else’s standards” (Josie, personal communication, April 27, 2016).

Media. Media influence is introduced at a young age through TV, books, and movies. During childhood, electronic media, such as apps, are often incorporated into daily routines. During adolescence, social media usually takes a big presence in daily life. When media was cited relating to body image, seven out of eight responses were not favorable to a positive body image. Only once was the media cited for positively helping a girl to feel better about herself, although this positive feeling may not have been the

media's intention.

Kate mentioned that the media showed her "how people are supposed to look" (Kate, personal communication, April 21, 2016). Charlotte stated, "the media is everywhere, the pictures I mean, there's really no way to not see them" (Charlotte, April 19, 2016). Shannon tied the media into comparison with others as well as confidence. She stated, "If I see a female on social media who looks better than I do, I want to look more like her" (Shannon, personal communication, April 19, 2016). Josie expressed how one popular celebrity recently got shamed for gaining weight and how she believed this celebrity has a great body image because she told the world that she doesn't care about her weight, and she is going to eat what she wants. Josie thought the words of this outspoken celebrity were "actually helping a lot of girls, because they are like, she looks great, so I don't have to worry about eating a lot of things because it doesn't matter, she can still look great" (Josie, personal communication, April 27, 2016). Josie also added that "The media has a big direction on how people view themselves, and social media itself is terrible" (Josie, personal communication, April 27, 2016).

Boys. Although not a highly discussed factor, boys were mentioned three times, once positively and twice negatively, regarding their influence on how a girl feels about her body. Josie felt that having "a boyfriend helps a girl feel better about themselves [*sic*] because it's somebody who unconditionally like [*sic*] you" (Josie, personal communication, April 27, 2016). Shannon cited boys as her primary reason a girl may not feel good about her body. She said, "Boys say a lot of things about a girl's looks and call girls things that, a lot of times, are not very flattering and since it seems boys are all girls think about, a girl might feel really bad about herself if a boy said something mean (Shannon, personal communication, April 19, 2016). Josie also tied boys and the media

together when she informed the researcher of a social app that allows a user to take and send a photo to someone but that photo is not a fixed photo because it will disappear in a few minutes. Josie said many girls take risqué pictures of themselves and send to boys. Often these girls spend lots of time on their looks and also flaunt certain body parts in these photos (Josie, personal communication, April 27, 2016).

Confidence. Participants' responses to interview questions about confidence revealed some connections between one's body confidence and how it affects a girl's choice to participate in physical activities. Three out of four times, confidence towards one's body was cited negatively. Only once was confidence cited positively. Responses were similar to the comparison to others factor; frequently a girl would say a positive statement about their own confidence level but then would follow it with a comment that demonstrated they also questioned their confidence level.

Shannon said, "I'm very confident in myself, but I feel if I was more confident, I would participate more in sports and things" (Shannon, personal communication, April 19, 2016). Elizabeth similarly stated, "I feel like if I was more confident in the way I look I would participate more in sports. But because I am not as confident, I don't" (Elizabeth, personal communication, April 25, 2016). Josie, the prior Montessori student, recalled her first time participating in a traditional PE class and completing fitness warm-ups. She stated, "I don't like to participate, only because I feel very non-athletic. They were asking us to do lunges and pull our knees to our chest when walking and I was like, I look ridiculous, I look absolutely stupid" (Josie, personal communication, April 27, 2016). Josie also shared how she used to refuse to show her legs by wearing shorts. "Only recently, I started getting more confident in feeling like I was able to wear shorts. I still say I love myself and I love who I am, but there are parts of me I just don't like"

(Josie, personal communication, April 27, 2016). Kate expressed that some girls shy away from sports because they do not want to be muscular. She said “if you are an athlete, the muscles will make you weigh more, so people get really self-conscious about that and would rather not play” (Kate, personal communication, April 21, 2016).

Shannon expressed how her confidence affected by what people wear when she stated, “If I see a female at school who has more confidence and can wear certain things that look good on her that wouldn’t look good on me” (Shannon, personal communication, April 19, 2016).

Triangulation of Data

The first phase of data collection, the survey, revealed no significant relationship between physical activity level and body image. The survey also revealed no significant relationship between participation in sports and body image. The second phase of data collection, the interviews, revealed social and cultural factors that affect an adolescent female’s physical activity level and perceptions of body image. According to Creswell (2005), the purpose of triangulation of data in a convergent mixed methods design is to simultaneously collect both quantitative and qualitative data, merge the data, and then use the results to provide a deeper understanding into a research problem. Through the triangulation of survey and interview data, a greater understanding of the complex relationship between physical activity level and body image perceptions had been formed.

Summary

As demonstrated by the survey results, there was not a significant relationship between physical activity level and body image; there was not a significant relationship between participation on a sports team and body image; there was not significant

relationship between citing sports as an important role in life and body image ratings. Once the qualitative interviews were analyzed, a variety of social and cultural factors emerged that influenced an adolescent female's choice to be physical active and her perceptions of body image. These factors were: significant others, confidence, media, intrinsic motivation, boys, peers, and comparison to others. In order to best explain the results of this study, the researcher combined factors cited for physical activity and body image into one explanatory schema because the factors coexisted. This explanatory schema is presented in Chapter 5.

Chapter 5: Conclusions

Overview

This study sought to determine how high school female students' overall physical activity level and/or participation on a sports team affected perceptions of body image. Using a convergent parallel mixed method study design, through the use of surveys and interviews, the researcher collected data on physical activity level, sports participation, and body image ratings. After a statistical analysis of the quantitative data, results demonstrated there was not a significant relationship between physical activity level and body image; there was not a significant relationship between participation on a sports team and body image; nor was there was not significant relationship between citing sports as an important role in life and body image ratings.

Following the recommendations of Foss and Waters (2007), the researcher organized qualitative interview data into seven themes, and ordered them according to the frequency with which each theme occurred. These themes became the factors that contributed to whether or not an adolescent female at a rural high school in South Carolina chose to participate in physical activity. These same seven factors emerged as the primary influences on an adolescent female's perceived body image at a rural high school in South Carolina.

This chapter provides an interpretation of quantitative results pertaining to physical activity and body image, an interpretation of qualitative results concerning physical activity and body image, provides an explanatory schema, discusses limitations, and provides suggestions for future research.

Interpretation of Quantitative Results

In Chapter 2, the researcher introduced conflicting evidence about the role of

physical activity, sports participation, and perceptions of body image in the adolescent female. The researcher also discussed the theoretical framework consisting of social learning theory, social comparison theory, and feminist theory. Research has indicated that the steepest decline in physical activity level occurs between the ages of 13–18 which is also the age when girls report struggling with body image and self-esteem (Caspersen et al., 2000; City of New York, NYC Girls Project, 2015). Research findings indicate positive correlations between engagement in physical activity and increased feelings of self-concept that contribute to a strong feeling of overall life satisfaction (Dineen, 1998; Joekel, 1985; Riddle, 2011; Zullig & White, 2010). In addition, girls who participate in sports throughout their high school years are more likely to associate themselves with desirable masculine character traits such as strength, aggressiveness, competitiveness, and independence (Douglas, 2010; Riddle, 2011).

Despite all these positive outcomes associated with increased physical activity and sports, this study has shown physical activity level and/or sports participation has no significance on how an adolescent female feels about her body. In fact, when looking at the purpose of this study in an almost identically backwards fashion, meaning the effect of body image on the choice to participate in physical activity, some research has uncovered body concerns as a detriment to participation in physical activity.

Standiford (2013) conducted a systematic review of 19 studies that focused on the secret struggles of the active girl. Standiford's findings of interpersonal factors were organized into three major influences: (a) interpersonal influences, (b) perceptual influences, and (c) situational influences. Interpersonal influences, which included comparison, family, peers, and boys, were ranked as the most important influence on physical activity because adolescent girls discussed these influences the most often.

Perceptual influences, which could be negative or positive, included appearance concerns when participating, personal barriers to physical activity, and enjoyment in physical activity. Situational influences included the availability to participate as well as physical activity participation relating to gender role. Based on her synthesis, Standiford theorized that appearance concerns may influence the choice to be physically active but participating in physical activity did not alleviate appearance concerns. Quite often, appearance concerns were first expressed to parents, peers, and boys before any engagement in physical activity (Standiford, 2013). Parents, peers, and boys who offer praise and support may motivate an adolescent female to overcome any appearance concerns against activity. Conversely, some feedback from parents, peers, and boys can be non-beneficial and even damaging to a self-conscious adolescent female. If Sandiford's (2013) theory is correct, then an adolescent female may not believe participation in physical activity will help her feel good about her body and she may, therefore, avoid physical activity.

A second body concern that may result in decreased physical activity in the adolescent female is the onset of puberty. Breast concerns were identified in a study of 2,089 adolescent girls in the United Kingdom; Scurr et al. (2016) used surveys to obtain data about the associations between participation in physical activity and breast size, sports bra use, and breast insecurities. The study found 46% percent of girls reported their breasts had some effect on their participation in physical education classes and sports teams. Breast concerns were even more pronounced in girls aged 13–14 years (51%), and in larger-breasted girls (63%). Scurr et al. stated that 87% of girls wanted to know more about breasts. These researchers concluded breast education could alleviate breast concerns and its influence on sport and exercise participation (Scurr et al., 2016).

Interpretation of Qualitative Results

In a convergent parallel mixed methods design, the researcher merges quantitative and qualitative data in order to produce a comprehensive answer to the research problem (Creswell, 2014). It is important to note that because the quantitative data revealed no significance between physical activity level and body image ratings, data were viewed holistically in order to better interpret the quantitative results.

The qualitative results are discussed by research question, through the lens of influencing factors revealed through individual interviews, and through how these factors relate back to the theoretical framework. This section begins by addressing the research questions through an interpretation of factors affecting physical activity level and/or sports participation. It is important to note that factors are discussed according to an explanatory schema produced by the researcher through the study's results. This schema is shared following the discussion of the factors.

Factors and Physical Activity

Research Question 4. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on female adolescent physical activity?

Significant others. Social learning theory (Bandura, 1977) focuses on observational learning through accurate perception of modeled behaviors. Since significant others was most often cited as family, the researcher believed that this factor laid the foundation for future choices and habits formed by an adolescent. If an interviewee did cite significant others, it was most often in a positive way, meaning these individuals encouraged engagement in physical activity.

Family is the first and most important social group to which an individual

belongs. Ideally, family remains loyal, can be trusted, and can provide support to keep a person's confidence level high. Family affects the emotional strength of a person and their future choices largely depend on how they have been nurtured. Although peers outranked significant others by one, the researcher believed that family provides the framework for peer relationships as a child grows and therefore considered significant others as a foundational factor.

Intrinsic motivation. For participants in this study, intrinsic motivation seemed to be driven by enjoyment in activity and participation for health reasons such as weight control and stress management. The researcher believed that the strong influence of significant others, specifically the family, in determining how active an individual is or is not, contributed to the development of intrinsic motivation. Individuals raised in environments where family members prioritize exercise, sports, or activity time will more likely continue to engage in physical activity as they age.

Peers. Peers are an important factor in an adolescent's life that positively influences physical activity level. Childhood family life provides a framework for the development of important life skills but peers provide unstructured time to further develop one's life narrative. The sports, clubs, or art activities a girl chooses to participate in is heavily influenced by what she presumes as popular and that the act of comparing oneself is at its highest during adolescence (Douglas, 2010; Pruis & Janowsky, 2010). The researcher believed peers are a highly influential factor in determining how physically active an individual is, during the adolescent years.

Boys. Based on feminist theory, society's continued dominance of gendered messages focused on a woman's appearance, and interviews with study participants, the researcher believes boys contribute to a girl's choice of whether or not to engage in

physical activity.

Confidence. The researcher believed confidence is not an innate attribute but rather a result of one's environment and the interactions existing within this environment. These interactions included the factors of significant others, intrinsic motivation, peers, and boys.

Factors and Body Image

This section contains an analysis of factors affecting perceptions of body image. These qualitative results are discussed by research question, the factors discovered through individual interviews, and how these factors related to the theoretical framework.

Research Question 5. What social and cultural factors do adolescent females at a rural high school in South Carolina perceive to be influential on adolescent female body image?

Significant others. Social learning theory (Bandura, 1977) focused on observational learning through accurate perception of modeled behaviors, and our first models are our family. Family, particularly mom, was mentioned as the primary significant other who influenced how a girl felt about her body. As stated previously when discussing physical activity, family is the most important social group to which an individual belongs. Family affects the emotional strength of a person, which includes body image, and their future perceptions of their body image largely depend on how they have been nurtured. The researcher believed that the influence of significant others, specifically the family, has a foundational influence on whether or not an adolescent female had positive feelings about her body. This central feeling is a primary factor that begins in childhood and continues to be nourished through adolescence.

Peers and comparison to others. Social comparison theory (Festinger, 1954)

centered on the belief that there is a drive within individuals to gain accurate self-evaluations by comparing themselves to others. Since peer relationship is one of the most important features of adolescence, the peer factor and the comparison to others factor existed conjointly. The researcher separated the peer factor and comparison to others factor in the original numbers counts to show that peers do provide many positive comments and reassurance. However, when organizing an explanatory schema for the results, the researcher felt that these factors were capable of having dual meanings. For example, when a peer provided a complement to another female, they often followed the positive compliment by a negative thought or statement about themselves. For this reason, when viewing factors influencing body image holistically, peers and comparison to others appear to be intertwined.

Another interesting interpretation of the influence of peers on body image is the timing when puberty actually begins. Research has shown that both the early and late onset of puberty in the adolescent female can be psychologically damaging (Simmons & Blyth, 1987). The most important influences in an adolescent's journey through puberty are peers, family, and school. Any disturbance in these three influences can create a heavy burden on a developing adult. Many females who start puberty earlier than their same-age peers tend to view their body negatively. These females are usually rejected by their peers. As discussed in Chapter 2, this feeling may be attributed to the social pressures that women face to have a thin figure (Botta, 1999; Kalnes, 2013). A girl who experiences puberty early tends to be bigger and fatter than a girl who has not gone through puberty. According to Simmons and Blyth (1987), this girl will stand out in comparison to the rest of her friends and will usually have a low self-esteem, which in turn may negatively influence how she feels about her body.

Media. When the researcher asked interviewees the question about factors influencing a girls' body image, all eight interviewees cited some form of media as their first example. This response demonstrated the influential presence of the media and its power to affect how an adolescent female views her body.

Boys. Based on feminist theory (Spence, Helmreich, & Stapp, 1975), the results of research on society's continued dominance of gendered messages which focus on a woman's outward appearance, and interviews with study participants, the researcher believes boys contribute to how a girl feels about her body. With the availability of social media apps that encourage a focus on physical appearance, many adolescent females spend a lot of time getting pretty for a quick photo or sending risqué photos to boys. Murnen and Seabrook (2012) discussed feminist philosophy and the sexist oppression that comes from the body and appearance ideals that are placed on females. Feminist philosophy addresses how the body is not an unadulterated, biological entity but instead, is shaped by culture. In turn, the culture shapes the body ideal to support the status quo. In the study, boys were cited as a deterrent to physical activity because a girl became self-conscious about how her body looked in certain positions. The research also showed boys were cited as a positive influence due to the unconditional partnership they may offer to a romantic relationship (Murnen & Seabrook, 2012).

Confidence. Through interview responses, the researcher believed confidence was an important factor as to whether or not a girl chooses to participate in sport and how she feels about her body. Confidence is developed from the interactions of the other factors: (a) significant others, (b) intrinsic motivation, (c) comparison to others, (d) peers, (e) boys, and (f) media.

Explanatory Schema

Figure 5 represents the explanatory schema of the qualitative data based on the quantitative results using social and cultural factors revealed through the interview phase.

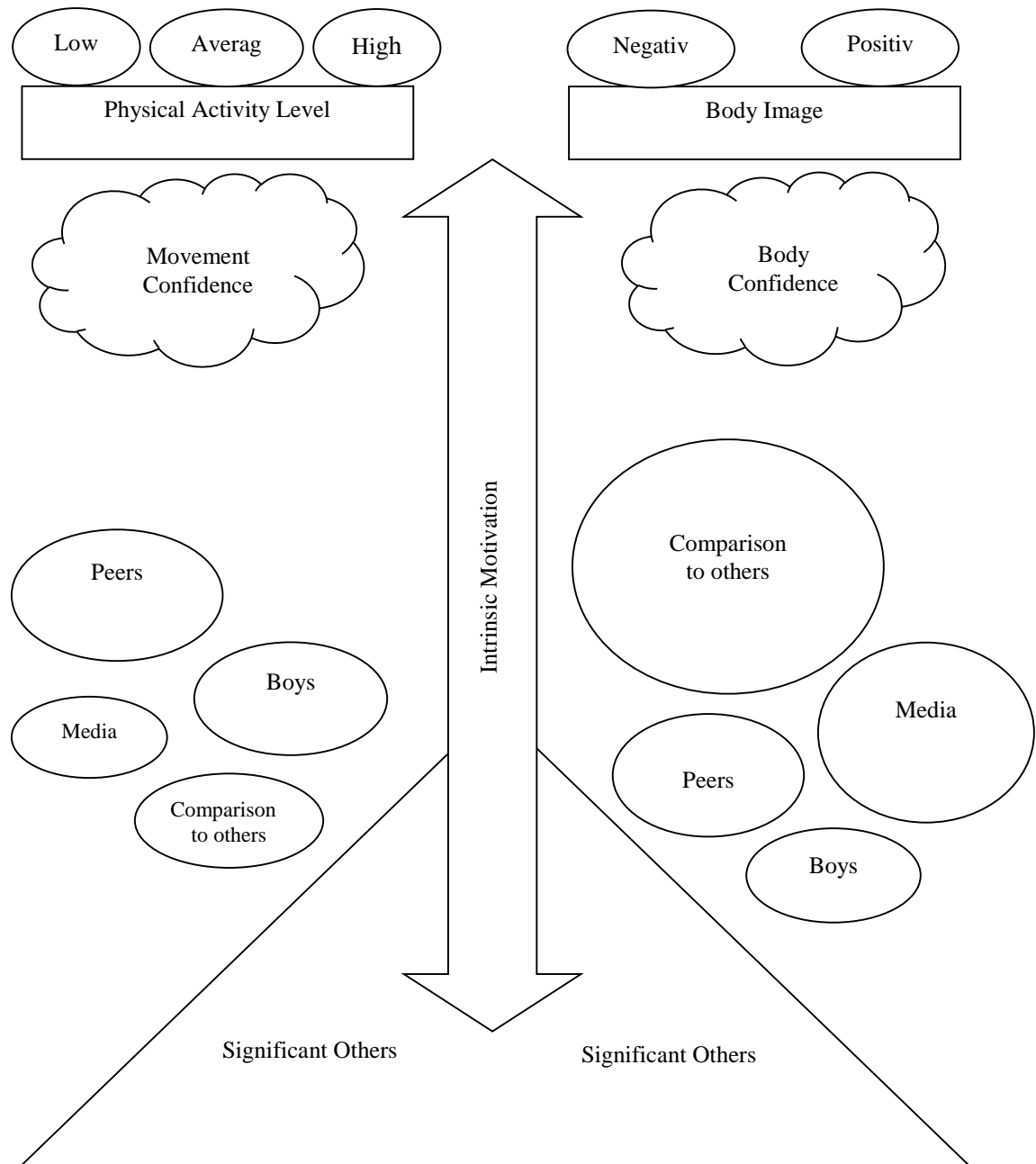


Figure 5. Explanatory Schema.

Figure 5 presents the connections among the factors and contributing relationships between factors on the overall effect on physical activity level and body image perceptions. The schema should be read from the bottom, up. The bottom indicates the foundational years of childhood, while moving up indicates aging through adolescence. For example, significant others were cited seven times during interviews for affecting physical activity level and five times for affecting body image. Significant others were most often exemplified as family members and since family is an individual's first and most loyal social group, this factor served as the foundation for the explanatory schema. Significant others provide the framework for future peer interactions. As an individual ages, peers tend to replace significant others as the most important social group, however significant others' influence is still present. This influence is noted in the schema by the increasingly narrowing of the significant others position as age increases. Intrinsic motivation is shaped by interests and values often instilled at an early age by our caregivers; however, intrinsic motivation is not a fixed value and can change based on other factors such as peers, media, boys, and comparison to others. The model also demonstrates how physical activity level and perception of body image had the same seven influencing factors. Although physical activity level does not directly alone influence body image, a combination of the factors may indirectly influence body image. The four factors of: (a) peers, (b) boys, (c) media, and (d) comparison to others were separated from the other factors because their influence can change over time and life situation. When looking at these four influencing factors, their strength of influence, which is based on the number of times a factor was cited by participants, is represented by circle size. For example, the factor comparison to others, was the most often mentioned factor when questions about body image were discussed and therefore,

comparison to others is the largest circle when focusing only on body image. In addition, the overall interaction of the six factors of significant others, comparison to others, intrinsic motivation, media, peers, and boys determines a person's level of confidence which may affect physical activity level and body image. Confidence, whether it is movement confidence or body confidence, is indicated by a cloud because it is a feeling that is internal to an individual and often not something an outsider can correctly infer. Although not a part of this research study, the researcher did note that some participants who outwardly appeared to be very body confident actually scored low on body image tests and expressed a lack of confidence in their bodies during the interviews. The researcher theorizes that higher movement confidence would lead to higher physical activity levels and higher body confidence would lead to perceptions of positive body image. It is also important to note that an individual's movement confidence or body confidence is not fixed. Based on any change in a factor and that factor's amount of influence, the outcome of physical activity level and perception of body image may be different.

Discussion of Limitations

Limitations of this study included a small sample size from only one high school in a rural area of South Carolina. Physical education classes were the only classes the high school principal would allow the researcher to use for this research. In addition, the researcher did not work at the high school, and despite daily emails to the physical education teachers, it appeared there was little effort to remind students to return permission forms if they were interested in participation. Working at the study site and obtaining permission to gather a larger sample size may have improved the strength of this study's results.

A second limitation was that this study used a simple, self-report questionnaire to calculate a participants' physical activity level during a typical week in the school year. Assuming all participants answered honestly, there is still room for misinterpretation of overall activity level. For example, if a girl played volleyball in the fall, then basketball in the winter, but did not participate on a sports team in the spring, her score may not have provided enough information. If her activity level fluctuated over the course of a year, then her calculated activity level in the non-sport spring, may not have been an accurate representation of her overall activity.

Another limitation that the researcher was aware of before beginning any research, was that PE classes were predominately freshman, and this fact may have impacted findings. Since grade level data was collected, the researcher did run a regression analysis to test if grade level had any correlation to physical activity level and any correlation to body image scores. Results demonstrated there was not a significant main effect for grade on PAQ-A, $F(3, 28) = 0.995, p = 0.410$. There was not a significant main effect for grade on BISS, $F(3, 28) = 0.424, p = 0.737$. There was not a significant main effect for grade on BAS-2, $F(3, 28) = 0.567, p = 0.641$. Even though no relationship was demonstrated, 72% of the participants were freshman, 16% sophomores, 6% juniors, and 6% seniors. With a larger sample size, results may have been different.

Suggestions for Future Research

We are living in an age where we cannot ignore the nation's growing obesity epidemic. According to Flegal, Kruszon-Moran, Carroll, Fryer, and Ogdon, (2016), 38% of U.S. adults are obese and men and womens' obesity rates have historically remained about the same. However, for the first time in a decade, there has been an

alarming increase among women. From surveys completed in 2013–2014, 40% of women are considered obese, 35% of men, and 17% of children (Flegal et al., 2016). Obesity, meaning seriously overweight, is considered one of the nation's leading health problems because it can cause heart disease, diabetes, and other serious health problems (U.S. Department of Health and Human Services, 2010). With the high prevalence of overweight and obese Americans, one cannot ignore the need to engage in physical activity on a regular basis for effective weight control. In this study, the participant group averaged a PAQ-A score of 2.52. This average indicated that this participant group was considered to have average physical activity levels. As discussed in the literature review, prior research has shown that these participants are at the critical period where activity level drastically declines. Adolescence is an age where many positive lifelong health physical activity habits can be formed (Williams & Tinsley, 2011). Future research could focus on increasing physical activity in children and maintaining physical activity throughout adolescence and into adulthood.

The researcher hypothesized that a female who is highly active would most likely be of a healthy weight, and therefore would feel good about her body. However, as this study has shown, physical activity level and perceptions of body image are unrelated. Research has indicated that a large number of females believe body image and general life contentment are related (Kalnes, 2013; Mikkola, 2012; Pruis & Janowsky, 2010; Shultz et al., 2002). Research has also indicated that as a female ages, her perceptions of positive body image increase, and she becomes more comfortable with herself (Kalnes, 2013). In this study, on the body image assessments, participants averaged a BISS score of 5.28 (on a scale of 10) and a BAS-2 score of 3.52 (on a scale of 5). For both assessments the highest score, 10 and 5 respectively, indicated positive perceptions of

body image. The lowest score of 1 indicated negative perceptions of body image. In this study, participants overall had scores indicating their perceptions of body image contained a mix of negative and positive perceptions. Future research into the cultivation of positive body image in the adolescent female is necessary.

This study has not determined how the factors that were revealed as a result of interviews interact with each other. It is unknown how much influence each factor has and what factors are necessary for achieving recommended physical activity levels and a positive body image. Future research can use the explanatory schema to focus on each factor independently in order to determine if it is possible through a more in-depth understanding, to affect physical activity and body image outcomes.

Future research could focus on the single-sex environment and study long-term outcomes relating to physical activity and body image. Prior research has indicated the importance of girl-only critical space, and how that space contributed to social well-being for girls (Galipeau, 2014; Woolgar, 2011). Hoffman (2016) interviewed health experts who suggested that effective physical education classes for adolescent females should be single-sex classes which are led by a female teacher. Program objectives should focus on confidence-building programs, have single-sex athletics, and should even provide recommendations for sports bras. This separation of the sexes may be helpful during this time when adolescent girls have a heightened awareness of others looking at their bodies (Hoffman, 2016).

In addition to in-school education, in-home support is also necessary in the development of healthy life patterns. As this study has indicated our relationships—whether family, peers, or boys—greatly affect the choices and feelings of an adolescent female. Beginning with the family, future research could specifically focus on the

significant relationships in an adolescent female's life and their effect on physical activity and body image.

Another outcome noted in this study was the large negative effect of the media and boys on how a girl perceives her body. The interviews provided insight into society's dependence on technology to communicate in today's world and how it has negatively affected the quest for female equality. Most of a child's experiences with media are controlled by parents, and when a child reaches adolescence, it is still important for parents to monitor and help their child navigate the social media world. As this study and prior research by Kalnes (2013) has shown, the media has a direct effect on perceptions of body image. Even when an adolescent girl acknowledges its negative influences, she is still surrounded by it, and its influence can be difficult to ignore. More research is needed on family interventions that address the influence of media, and how to better understand how to teach children to grow up loving who they are and accepting themselves despite what they may hear and see in the world around them.

As discussed in the literature review, intervention programs have shown some success but the limited follow-up of these programs reveals uncertain outcomes. It is unknown if it is possible to influence an adolescent female through targeted girl-only intervention programs focused on positive wellness development. Wellness consists of mental health, social health, emotional health, and physical health. Positive wellness development is a proactive, preventive approach, grounded in consistent self-care, which is designed to achieve optimum levels of health (What is wellness, n.d.). More long-term research on educational programs, possibly girl-only intervention programs aimed at achieving wellness, is necessary.

Summary

This study has shown that physical activity level and perceptions of body image are multifaceted and depend on how the combination of multiple factors interact with each other to influence future thoughts, feelings, philosophies, and actions. There is great potential for this study to produce interest in studying any one of the factors influencing physical activity level and body image in the adolescent female.

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Appendix A

Student Assent Form

Parental Consent Form

Assent Form for those under 18 years of age

Hello, my name is Nicole Ludwa. I am a student at Gardner-Webb University working on my doctoral degree. You may already know me as a Physical Education teacher and tennis coach, but this study is separate from those roles.

With the help of the physical education department, I will be studying high school girls' levels of physical activity and/or sports participation on body image perceptions. I am inviting all high school girls enrolled in PE1, PE2, PE3, and PE4 to participate in this research. You do not need to play sports to participate.

I am looking for your help with this project by asking if you would complete a survey on your physical activity levels and perceptions of body image. Expected completion time for this survey should not exceed 15 minutes.

Risks and discomforts

The questions I will ask are only about thoughts concerning physical activity and body image. There are no right or wrong answers because this is not a test. I anticipate that student participation in this survey presents no greater risk than everyday use of the Internet or normal conversation between peers. As a precaution, the school guidance counselors will be available to any student who chooses to be a part of this study. After participation, if any student has thoughts or feelings they would like to discuss, she may speak to a counselor.

Depending on your last name, these are the high school counselors. Their offices are located inside the main reception office.

Students with last names A-C: [REDACTED]

Students with last names D-G: [REDACTED]

Students with last names H-Mc: [REDACTED]

Students with last names ME-Se: [REDACTED]

Students with last names Sh-Z: [REDACTED]

Benefits

For the participant, there are no direct benefits for participation in this research. Participation is not a graded assignment, and there are no adverse consequences for deciding to not participate.

Information from this study may benefit people now or in the future. The researcher hopes to learn more about how physical activity and/or sports participation affects body image.

Being in this study is up to you; no one will be upset if you don't sign this paper.

If you sign this paper, it means that you have read this assent form and that you want to be in the study. If you don't want to be in the study, don't sign this paper.

Your signature: _____ Date _____

Your printed name: _____ Date _____

Signature of person obtaining consent (Nicole Ludwa): _____

Date _____

Printed name of person obtaining consent (Nicole Ludwa): _____ Date _____

Additional optional information: If you would be willing to be interviewed further with the researcher, you can write in your name and contact information at the end of the survey. Please note that interviews will be audio recorded in order to assist with the understanding of interview responses. If you are not comfortable with having your interview recorded, you do not have to volunteer for an interview. If you have any questions you may contact me at [REDACTED] at [REDACTED] or by email at [REDACTED]. You may also contact Dr. Doug Eury, Dean of the School of Education at Gardner-Webb University. His contact information is: aeury@gardner-webb.edu or 704.406.4402.

Parent/Guardian Consent Form

Hello, my name is Nicole Ludwa. I am a student at Gardner-Webb University working on my doctoral degree. You may already know me as a Physical Education teacher and tennis coach, but this study is separate from those roles.

With the help of the physical education department, I will be studying high school girls' levels of physical activity and/or sports participation on body image perceptions. Specifically, students will be asked to identify what physical activities and how often they participated in these activities over a seven day period. The study will also examine perceptions of body image and whether or not physical activity level influences body image.

I am inviting all high school girls enrolled in PE1, PE2, PE3, and PE4 to participate in this research. Students do not need to play sports to participate. All input is valuable.

Procedures:

If you and your student agree to be in this project, then the student will be asked to:

Complete one confidential survey during school hours.

This survey consists of background questions, one physical activity assessment, and two body image questionnaires. Expected completion time should not exceed 15 minutes.

The survey is the end of the first phase of this project; however,

If the student would be willing to discuss this topic more thoroughly in an informal interview, she can write her name and contact information in the requested space at the end of the survey. From those who consent to the interview, twelve participants will be randomly chosen. Interviews will be conducted at the high school immediately following the regular school day. At no time will any identifying names or information be used in the final project.

Risks and discomforts

The questions I will ask are only about thoughts concerning physical activity and body image. There are no right or wrong answers because this is not a test. I anticipate that student participation in this survey presents no greater risk than everyday use of the Internet or normal conversation between peers. As a precaution, the school guidance counselors will be available to any student who chooses to be a part of this study. After participation, if any student has thoughts or feelings they would like to discuss, she may speak to a counselor.

Depending on your last name, these are the high school counselors. Their offices are located inside the main reception office.

Students with last names A-C: [REDACTED]

Students with last names D-G: [REDACTED]

Students with last names H-Mc: [REDACTED]

Students with last names ME-Se: [REDACTED]

Students with last names Sh-Z: [REDACTED]

Benefits

For the participant, there are no direct benefits for participation in this research. Participation is not a graded assignment, and there are no adverse consequences for deciding to not participate.

Information from this study may benefit people now or in the future. The researcher hopes to learn more about how physical activity and/or sports participation affects body image.

Compensation for participation

There is no payment for taking part in this study.

Privacy/Confidentiality/Data Security

Signed assent and consent forms will be kept separate from the data and the two will not be connected. Data will be kept for three years, as required by Gardner-Webb University. However, no identifying information will be kept with any raw data. After three years, it will all be destroyed.

If you have questions

The only researcher conducting this study is Nicole Ludwa. If you have any questions you may contact me at [REDACTED] at [REDACTED] or by email at [REDACTED]. You may also contact Dr. Doug Eury, Dean of the School of Education at Gardner-Webb University. His contact information is: aeury@gardner-webb.edu or 704.406.4402.

Audio Recording

If the participants volunteer, and are chosen to be a part of the second interview phase, an audio recording device will be used. This device is needed for the researcher to go back and listen to what was said. These recordings will be destroyed at the completion of this study.

After completing the confidential survey, the student can decide if she wishes to write in her name and contact information to show she is willing to be interviewed. If she does indicate she is willing to take part in an interview, she may or may not be randomly selected for an interview.

Please sign below to indicate your willingness to have this interview audio recorded if the student is randomly selected. Even if you are not willing for the student to be interviewed, she may still participate in this study by completing the survey.

Survey Consent

- ☐ I give consent for the student to complete the confidential survey.
☐ I **do not** give consent for the student to complete the confidential survey.

Interview Consent

- ☐ I give my consent for the student to be interviewed if she wishes, and I grant permission to have this interview audio recorded for research purposes. The audio recording will be transcribed to paper and then destroyed.
- ☐ I **do not** give my consent for the student to be interviewed.

Statement of Consent I have read the above information, and have received answers to any questions I asked. I consent to allow the student to take part in the study.

Student name: _____

Parent/Guardian printed name: _____ Date _____

Parent/Guardian signature: _____ Date _____

Relationship to student: _____

Appendix B

Debriefing Handout

Debriefing Statement

Thank you for taking the time to participate in this study. I would like to remind you that data from this study will be kept for three years, as required by Gardner-Webb University. However, no identifying information will be kept with any raw data. After three years, it will all be destroyed.

Guidance Department

The guidance department is aware of your participation in this study. After participation, if you have any thoughts or feelings you would like to discuss, you may speak to a counselor.

Depending on your last name, these are the high school counselors. Their offices are located inside the main reception office.

Students with last names A-C: [REDACTED]

Students with last names D-G: [REDACTED]

Students with last names H-Mc: [REDACTED]

Students with last names ME-Se: [REDACTED]

Students with last names Sh-Z: [REDACTED]

If you have questions

The only researcher conducting this study is Nicole Ludwa. If you have any questions you may contact me at [REDACTED] at [REDACTED] or by email at [REDACTED]. You may also contact Dr. Doug Eury, Dean of the School of Education at Gardner-Webb University. His contact information is: aeury@gardner-webb.edu or 704.406.4402.

Appendix C

Verification of Counselor Support and Availability

Looking for the support of the Guidance Department :)

Nicole Ludwa

Fri 2/26/2016 1:42 PM

To: [REDACTED]

Good afternoon,

My name is Nicole Ludwa and I am a physical education teacher at [REDACTED]. I am also a student working on a dissertation through Gardner-Webb University.

For my study, I will examine the association between physical activity level, sports participation, and body image perceptions of high school females. I have focused on the high school girl because she is typically between the ages of 13 to 18 years which represents the critical age of decline in physical activity. In addition, she is also old enough to participate in and understand a body image assessment survey.

I have received permission from Mr. [REDACTED] and Dr. [REDACTED] to conduct this research. All girls enrolled in physical education classes this semester will be invited to participate. Girls who return student assent and parental consent forms will complete an anonymous survey about physical activity levels and body image perceptions during her PE class. These girls may also choose to grant permission, by disclosing their name, to be interviewed by me at a later date.

In order to plan to protect the participants, I need to assure parents and students that a counselor will be available if a participant feels the need to talk as a result of participation in this study.

Would you please respond that you are aware of this research and are willing to provide assistance to the participants if there is a need? Also if you have any further questions, please feel free to ask.

Thank you for your time,

Nicole Ludwa

Responses from counselors:

[REDACTED]
Nicole Ludwa; Fri 2/26/2016 1:46 PM
Good to go.

[REDACTED], M.ED
School Counselor (last names Me-Se)

[REDACTED]
Nicole Ludwa; Fri 2/26/2016 2:35 PM
Yes, I got the email and I have no problem meeting with students about this.

Hi! Hope all is well.

Yes..we are willing to provide assistance to the participants if there is a need. Good Luck!

Thanks,
[REDACTED]

Ok with this study and I'm good to go. [REDACTED]

That's fine by me. [REDACTED], MA, M.Ed. School Counselor

Appendix D

Checklist for Researcher-Survey Administration Day

Checklist for Researcher-Survey Administration Day

- 1. Double check names** of participants with student and parental consent forms list.
- 2. Students should be separated** so they cannot discuss their answers to the survey questions.

- 3. Read this aloud to participants**

“Remember this survey is for research purposes only. Please answer as honestly as possible. This survey is completely confidential. Completing this survey has no influence on your grade in PE. You can end participation at any time. If you wish to speak to a counselor, one is available for you.

At the end of the survey, there is a space for you to indicate that you would be willing to be interviewed to discuss these topics further. If you do not want to be considered for an interview, do not write your name in the provided space. If you do wish to be considered for an interview, you may provide your name and contact information in the space provided. If your name is randomly selected for an interview, the researcher will contact you to make arrangements for a time to do this interview.”

- 4. Pass out surveys.** Expected completion time for this survey should not exceed 15 minutes.
- 5. Collect surveys as students complete.** Hand out **debriefing form**
- 6. Store surveys in a secure location**

Appendix E

Permission to use Body Assessments

Body Images <body-images@comcast.net>
 To
 'Nicky'
 Jan 25 at 5:52 PM

Below is the permission that you should have received when I sent your BISS and BIDQ by email.

Dear Nicky,

I thank you for your order of the body-image assessment(s) indicated below on your invoice. These materials are attached as one or more viewable/printable "pdf" (Adobe Acrobat) files. If needed, download Adobe Acrobat Reader free from <http://www.adobe.com/products/acrobat/readstep.html>.

Your purchase of this individual user's license grants you permission to use the materials in your research for a period of 2 years with a total of no more than 1000 administrations (e.g., 1000 participants completing the assessment on one occasion; 500 participants completing the assessment on two occasions; etc.). Materials may not be provided to other researchers for their use.

Commercial use (for ultimate profit) is prohibited, as it requires a commercial license.

You may be interested in the new (2nd) edition of Cash and Smolak's (2011) "Body Image: A Handbook of Science, Practice, and Prevention." The publisher's link to this informative volume is

http://www.guilford.com/cgi-bin/cartscript.cgi?page=pr/cash2.htm&sec=toc&dir=pp/ed&cart_id=792303.9996.

In July 2008, I published the second edition of "The Body Image Workbook," which presents my empirically validated cognitive-behavioral treatment program for body-image problems. For more information, visit <http://www.newharbinger.com/productdetails.cfm?PC=583>.

Finally, for your consideration, I'd like to make you aware of the peer-reviewed scientific journal "Body Image: An International Journal of Research." For more information, see the journal's website at <http://www.elsevier.com/locate/bodyimage>.

My best wishes in your body-image research.

Sincerely,

Thomas F. Cash, Ph.D.
www.body-images.com
 Body-Images Research Consulting
 Naples, Florida
 email: body-images@comcast.net

Seller info

Body Images Research Consulting
body-images@comcast.net

Your purchase

Multidimensional Body Self-Relations Questionnaire (MBSRQ) \$25.00
 Item #MBSRQ

Body Image States Scale (BISS) \$15.00
 Item #BISS

Body Image Disturbance Questionnaire (BIDQ) \$15.00
 Item #BIDQ

Situational Inventory of Body Image Dysphoria (SIBID) \$20.00
 Item #SIBID

Amount	\$75.00
Shipping	\$0.00
Tax	\$0.00
Purchase total	\$75.00
Fee	\$0.00
Total	\$75.00

Tracy Tylka <tylka.2@osu.edu>

To

[nluc\[REDACTED\]@osu.edu](mailto:nluc[REDACTED]@osu.edu)

Mar 23 at 4:25 PM

Dear Nicole,

Yes, the BAS is appropriate for 14-year-olds. You may want to use the updated scale, the BAS-2. You can find it on my website (see below) under the scales developed link. You have my permission to use either measure.

Best of luck in your research.

Tracy

Tracy L. Tylka, Ph.D.

Professor

Department of Psychology

The Ohio State University

For scales, publications, and vita, visit my website: <http://u.osu.edu/tracyltylka/>

Appendix F
Phase 1 Survey

Thank you for agreeing to take part in this survey. Please remember participation in this study is voluntary and at any time you may decide to opt out of participation. Please answer honestly because your answers will contribute to the research field.

a. What grade are you in? 9 10 11 12

b. While in high school, do you play or have you played a school sport? YES NO

c. If yes, what sport(s)?_____

d. Do you participate in a sport not-connected to school? YES NO

e. If yes, what sport(s)?_____

f. Do you feel sports play a **major** role in your life? YES NO

Important note: The first question of the following survey asks you to recall your physical activities in your **spare** time. This does not include what you do in school and in PE class. If you participate in a sport after school, this is spare time, and you should include that activity.

Physical Activity Questionnaire (High School)

We are trying to find out about your level of physical activity from ***the last 7 days*** (in the last week). This includes sports or dance that make you sweat or make your legs feel tired, or games that make you breathe hard, like tag, skipping, running, climbing, and others.

Remember:

There are no right and wrong answers — this is not a test.

Please answer all the questions as honestly and accurately as you can — this is very important.

1. Physical activity in your **spare** time: Have you done any of the following activities in the past 7 days (last week)? If yes, how many times? (Mark only one circle per row.)

	No	1-2	3-4	5-6	7 or more
Skipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rowing/kayaking/canoeing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In-line skating/roller skating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walking for exercise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jogging or running	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aerobics (e.g.Zumba, Cross-fit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Swimming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baseball, softball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Football	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Badminton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skateboarding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soccer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Street hockey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volleyball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floor hockey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basketball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice skating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-country skiing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice hockey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. In the last 7 days, during your physical education (PE) classes, how often were you very active (playing hard, running, jumping, throwing)? (Check one only.)

- | | |
|---------------|--------------------------|
| I don't do PE | <input type="checkbox"/> |
| Hardly ever | <input type="checkbox"/> |
| Sometimes | <input type="checkbox"/> |
| Quite Often | <input type="checkbox"/> |
| Always | <input type="checkbox"/> |

3. In the last 7 days, what did you normally do *at lunch* (besides eating lunch)? (Check one only.)

- | | |
|---|--------------------------|
| Sat down (talking, reading, doing schoolwork) | <input type="checkbox"/> |
| Stood around or walked around | <input type="checkbox"/> |
| Ran or played a bit | <input type="checkbox"/> |
| Ran around and played quite a bit | <input type="checkbox"/> |
| Ran and played hard most of the time | <input type="checkbox"/> |

4. In the last 7 days, on how many days *right after school*, did you do sports, dance, or play games in which you were very active? (Check one only.)

- | | |
|------------------------|--------------------------|
| None | <input type="checkbox"/> |
| 1 time last week | <input type="checkbox"/> |
| 2 or 3 times last week | <input type="checkbox"/> |
| 4 times last week | <input type="checkbox"/> |
| 5 times last week | <input type="checkbox"/> |

5. In the last 7 days, on how many *evenings* did you do sports, dance, or play games in which you were very active? (Check one only.)

- | | |
|------------------------|--------------------------|
| None | <input type="checkbox"/> |
| 1 time last week | <input type="checkbox"/> |
| 2 or 3 times last week | <input type="checkbox"/> |
| 4 or 5 times last week | <input type="checkbox"/> |
| 6 or 7 times last week | <input type="checkbox"/> |

6. *On the last weekend*, how many times did you do sports, dance, or play games in which you were very active? (Check one only.)

- | | |
|-----------------|--------------------------|
| None | <input type="checkbox"/> |
| 1 time | <input type="checkbox"/> |
| 2-3 times | <input type="checkbox"/> |
| 4-5 times | <input type="checkbox"/> |
| 6 or more times | <input type="checkbox"/> |

7. Which *one* of the following describes you best for the last 7 days? Read *all five* statements before deciding on the *one* answer that describes you.

- All or most of my free time was spent doing things that involve little physical effort ☐
- I sometimes (1-2 times last week) did physical things in my free time (e.g. played sports, went running, swimming, bike riding, did aerobics) ☐
- I often (3-4 times last week) did physical things in my free time ☐
- I quite often (5-6 times last week) did physical things in my free time ☐
- I very often (7 or more times last week) did physical things in my free time ☐

8. Mark how often you did physical activity (like playing sports, games, doing dance, or any other physical activity) for each day last week.

	None	Little bit	Medium	Often	Very Often
Monday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wednesday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thursday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saturday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sunday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Were you sick last week, or did anything prevent you from doing your normal physical activities? (Check one.)

- Yes ☐
- No ☐

If Yes, what prevented you? _____

Reference:

The Physical Activity Questionnaire for Older Children (PAQ-C) and Adolescents (PAQ-A)
Kowalski, K., Crocker, P., & Donen, R. The Physical Activity Questionnaire for Older Children (PAQ-C) and Adolescents (PAQ-A) Manual. College of Kinesiology, University of Saskatchewan.

Kent C. Kowalski, Ph.D.
College of Kinesiology
University of Saskatchewan
Peter R. E. Crocker, Ph.D.
School of Human Kinetics
University of British Columbia
Rachel M. Donen, Bsc. Honours
College of Kinesiology
University of Saskatchewan

BISS Questionnaire

For each of the items below, check the box beside the one statement that best describes how you feel **RIGHT NOW, AT THIS VERY MOMENT**. Read the items carefully to be sure the statement you choose accurately and honestly describes how you feel right now.

1. Right now I feel...

- ☐ ***Extremely dissatisfied*** with my physical appearance
- ☐ ***Mostly dissatisfied*** with my physical appearance
- ☐ ***Moderately dissatisfied*** with my physical appearance
- ☐ ***Slightly dissatisfied*** with my physical appearance
- ☐ ***Neither dissatisfied nor satisfied*** with my physical appearance
- ☐ ***Slightly satisfied*** with my physical appearance
- ☐ ***Moderately satisfied*** with my physical appearance
- ☐ ***Mostly satisfied*** with my physical appearance
- ☐ ***Extremely satisfied*** with my physical appearance

2. Right now I feel...

- ☐ ***Extremely satisfied*** with my body size and shape
- ☐ ***Mostly satisfied*** with my body size and shape
- ☐ ***Moderately satisfied*** with my body size and shape
- ☐ ***Slightly satisfied*** with my body size and shape
- ☐ ***Neither dissatisfied nor satisfied*** with my body size and shape
- ☐ ***Slightly dissatisfied*** with my body size and shape
- ☐ ***Moderately dissatisfied*** with my body size and shape
- ☐ ***Mostly dissatisfied*** with my body size and shape
- ☐ ***Extremely dissatisfied*** with my body size and shape

3. Right now I feel...

- ☐ *Extremely dissatisfied* with my weight
- ☐ *Mostly dissatisfied* with my weight
- ☐ *Moderately dissatisfied* with my weight
- ☐ *Slightly dissatisfied* with my weight
- ☐ *Neither dissatisfied nor satisfied* with my weight
- ☐ *Slightly satisfied* with my weight
- ☐ *Moderately satisfied* with my weight
- ☐ *Mostly satisfied* with my weight
- ☐ *Extremely satisfied* with my weight

4. Right now I feel...

- ☐ *Extremely* physically *attractive*
- ☐ *Very* physically *attractive*
- ☐ *Moderately* physically *attractive*
- ☐ *Slightly* physically *attractive*
- ☐ *Neither attractive nor unattractive*
- ☐ *Slightly* physically *unattractive*
- ☐ *Moderately* physically *unattractive*
- ☐ *Very* physically *unattractive*
- ☐ *Extremely* physically *unattractive*

5. Right now I feel...

- ☐ *A great deal worse* about my looks than I usually feel
- ☐ *Much worse* about my looks than I usually feel
- ☐ *Somewhat worse* about my looks than I usually feel
- ☐ *Just slightly worse* about my looks than I usually feel
- ☐ *About the same* about my looks as usual
- ☐ *Just slightly better* about my looks than I usually feel
- ☐ *Somewhat better* about my looks than I usually feel
- ☐ *Much better* about my looks than I usually feel
- ☐ *A great deal better* about my looks than I usually feel

6. Right now I feel that I look...

- ☐ *A great deal better* than the average person looks
- ☐ *Much better* than the average person looks
- ☐ *Somewhat better* than the average person looks
- ☐ *Just slightly better* than the average person looks
- ☐ *About the same* as the average person looks
- ☐ *Just slightly worse* than the average person looks
- ☐ *Somewhat worse* than the average person looks
- ☐ *Much worse* than the average person looks
- ☐ *A great deal worse* than the average person looks

Directions for participants: For each item, please circle the number that best characterizes your attitudes or behaviors.

	1 Never	2 Seldom	3 Sometimes	4 Often	5 Always
1. I respect my body.	1	2	3	4	5
2. I feel good about my body.	1	2	3	4	5
3. I feel that my body has at least some good qualities.	1	2	3	4	5
4. I take a positive attitude towards my body.	1	2	3	4	5
5. I am attentive to my body's needs.	1	2	3	4	5
6. I feel love for my body.	1	2	3	4	5
7. I appreciate the different and unique characteristics of my body.	1	2	3	4	5
8. My behavior reveals my positive attitude toward my body; for example, I hold my head high and smile.	1	2	3	4	5
9. I am comfortable in my body.	1	2	3	4	5
10. I feel like I am beautiful even if I am different from media images of attractive people (e.g. models, actresses/actors).	1	2	3	4	5

Guidance Department

The guidance department is aware of your participation in this study. After participation, if you have any thoughts or feelings you would like to discuss, you may speak to a counselor.

Depending on your last name, these are the high school counselors. Their offices are located inside the main reception office.

Students with last names A-C: [REDACTED]

Students with last names D-G: [REDACTED]

Students with last names H-Mc: [REDACTED]

Students with last names ME-Se: [REDACTED]

Students with last names Sh-Z: [REDACTED]

Willingness to be Interviewed

☐ I **would like** to be interviewed further and am providing my contact information below to indicate this consent.

Name_____

Phone number_____

Email_____

☐ I **do not** give my consent to be interviewed.

Thank you for your time and participation in this study.

Appendix G

Qualitative Research Reviewer

RE: Dissertation help

[REDACTED]

Nicole Ludwa; Thu 3/3/2016 8:10 AM

Nicole,

How exciting! I have some expertise in qualitative research methods. I've done similar work in the past and would be happy to advise you. Thank you for asking me. Let me know when you know more about your timeline. I am planning to be around this summer! ☺

Love your dissertation research focus!

[REDACTED], Ed.D.

Assistant Principal

[REDACTED]

From: Nicole Ludwa

Sent: Wednesday, March 02, 2016 6:58 PM

To: [REDACTED]

Subject: Dissertation help

Hi Dr. [REDACTED],

So I am getting close to my proposal date and am finalizing my paper now. I am doing a mixed methods study on physical activity levels and body image perceptions in high school girls. I am using a survey and will run a statistical analysis of this. I am also conducting interviews and plan to code and make themes of the data myself. In my proposal I need to identify someone (not by name, just position) who has a doctorate and is familiar with coding interview data. I would have already made themes and drawn conclusions by the time I approach you. You would just be looking at what I found and agreeing or disagreeing. Do you think you are qualified to do this? Would you be willing to look at my conclusions? I anticipate this happening once our school year has ended so sometime this summer. I hope you are doing well

Nicole Ludwa

Physical Education Teacher

[REDACTED]

Appendix H

District Permission to Conduct Research

[REDACTED] Ed.D.
Superintendent

February 23, 2016

Ms. Nicole Ludwa
[REDACTED]
[REDACTED]

Dear Ms. Ludwa:

I have reviewed the dissertation proposal that you sent to me on February 23, 2016. You have also met with Mr. [REDACTED] and have determined that you will survey students in PE classes at [REDACTED] who have returned Parent Permission forms. I also understand that you will complete the IRB process at Gardner Web. Once the IRB process is complete I will grant permission for you to conduct your research in York School District One.

Should you have any questions or need additional information, please contact me at [REDACTED] or [REDACTED].

Sincerely,

[REDACTED], Ed.D.
District Superintendent

Appendix I
Interview Protocol

Phase 2: Individual interviews

Fill this out before interview:

Interviewee name:

Grade:

Time of Interview:

Date:

Place:

Interviewee group: (a) inactive to very little physical activity, (b) average physical activity, (c) above average physical activity, and (d) participation on a sports team and cite sports play a major role in their life

I say “I would like to remind you of the voluntary nature of this study. Even though you have agreed to participate you can change your mind at any time. You also may choose not to answer a question. **Please answer as honestly as possible. None of the information you share will ever be connected to your name.** If at any time, you would like to speak to a counselor, then you may do so. Let me know if at any time you would like to stop the interview and speak to a counselor, or, if at the end of the interview, you would like to talk to a counselor.”

Depending on your last name, these are the high school counselors. Their offices are located inside the main reception office.

Students with last names A-C: [REDACTED]

Students with last names D-G: [REDACTED]

Students with last names H-Mc: [REDACTED]

Students with last names ME-Se: [REDACTED]

Students with last names Sh-Z: [REDACTED]

Number	Question
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IQ 1	What does the word athlete mean to you?
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IQ 2	What kind of differences (if any) do you notice when you compare athletic females to non-athletic females?
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IQ 3	Who or what influences your level of physical activity? Can you expand on this?
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- IQ 4 Are there any other factors that you can think of that influence how active a girl is or is not? If so, what are they?
- IQ 5 Who or what influences the way you feel about **your** body? Can you expand on this?
- IQ 6 Are there any other factors that you can think of that may influence a girl's body image? If so, what are they?
- IQ 7 How often do your classmates compare their bodies, looks, and physical appearance to that of other classmates? Can you explain your answer?
- IQ 8 How is your level of confidence affected by participation in physical activities? Explain.
-

Is there any other thought you would like to share on these topics?

Thank you for taking the time to contribute to this field of research.

Handout debriefing statement.

Post-interview notes:

Body language/expressions: