6-14-2012

Weighing in on teacher attitudes of obese students: a descriptive correlational design

Angelina Pecoraro

WEIGHING IN ON TEACHER ATTITUDES OF OBESE STUDENTS: A DESCRIPTIVE CORRELATIONAL DESIGN

by
Angelina M. Pecoraro

A Dissertation

Submitted to the
Department of Educational Leadership

In partial fulfillment of the requirement
For the degree of
Doctor of Education
at
Rowan University
Apr 17, 2012

Dissertation Chair: Dr. Kara Ieva, Ph.D

Dedication

I would like to dedicate this dissertation to my parents Germaine & Vito Pecoraro for always believing in me and in honor of grandparents who have taught me so much throughout my life. I miss you Nonna Gina, Nonno Toto, Nonno Nino, and Nonna Maria.

Acknowledgments

First and foremost I would like to thank my parents, Vito and Germaine (Dad & Mom), and my brother, Vito who have always offered me unconditional love and support throughout my entire life. I would not have accomplished this without their support. They have continued to support my dreams, guide me, and provide advice throughout my entire educational journey. They always continued to believe in me and strive for the best. I am particularly grateful to my dad, for his inspiration and guidance through all of my degrees and for believing in me. I am particularly grateful to my mom, for being my rock when I needed it and for being such an inspirational woman that I aspire to be like one day. Without my parents this greatest accomplishment in my life would not exist. I am forever thankful and appreciative for everything they have done to make this happen. I am also particularly grateful to my brother for always being by my side no matter. I hope that I have set a great example for him and that he will achieve high goals one day!

Acknowledgments

I would also like to thank the people who made the completion of my dissertation possible, my committee members. Dr. Kara Ieva, my chairperson, has given me support, proper direction, and continuous feedback throughout the entire dissertation process. She was always knowledgeable and caring, which continued to encourage me to do always do my best and strive for success. Dr. Ane Johnson Turner, not only served on my committee, but also was a professor throughout the entire process. Most of what I learned about research came from what Ane has taught me, which I am eternally thankful. Her expertise and guidance made this all possible. Finally, Dr. Leslie Spencer, your expertise in the subject matter of this dissertation was extremely helpful and I am grateful for all of your insight throughout the process. Your continuous feedback on the dissertation process was helpful in so many ways.

Acknowledgments

Even further I am FOREVER thankful to my doctoral colleague and friend, Julie Benavides, who continuously “talked me off the ledge” and for her support throughout the entire process. She has listened to me complain about the journey that seemed to feel endless at times. She always encouraged me to focus on my strengths and helped me every step of the way. I am forever grateful for her support and hope our friendship continues beyond doctoral studies and that we will write, publish, and research together. I can’t wait to call you Dr.Benavides!!

I am also thankful to my boyfriend Mike. You have been such a supportive role in this process. I thank you for the listening to me when I needed it and breaking me away from the struggles when it was necessary. You are truly a special person in my life and I don’t know what I would do without you.

Acknowledgments

I also want to thank my cousin and best friend, Angela and Amy, who have supported me for countless years through all my studies and school work. They always had a shoulder to cry on or ear to listen to my endless complaints or struggles. I am grateful for all of your support and guidance. Finally, thank you to all of the participants, administrators, and schools that allowed me to conduct this research project in their schools and for their precious time. Without you this dissertation would not have been possible.

Abstract

Angelina M. Pecoraro
WEIGHING IN ON TEACHER ATTITUDES OF OBESE STUDENTS: A DESCRIPTIVE CORRELATIONAL DESIGN
2011-12
Dr. Kara Ieva, Ph.D
Counselor Education

The primary purpose of this study was to investigate teacher attitudes towards obese students. The investigation focused on the correlation between (a) attitudes and beliefs about obese students; and (b) predictive abilities of participant's self-esteem with attitudes and beliefs. The three surveys utilized in this study were: (a) Attitudes Toward Obese Persons Scale (Allison, Basile, & Yuker, 1991) (b) Beliefs About Obese Persons (Allison et al., 1991); and (c) Rosenberg Self-Esteem Survey (Rosenberg, 1965). The sample size was 893 certified educators representing all grade levels in Central, Northern, and Southern New Jersey school districts. Respondents were emailed a survey link, which included all three surveys and a demographics questionnaire. Analysis procedures used with the collected data were Pearson Product-Moment (two-tailed) and Simple Linear Regression Analysis. Data indicated a statistically significant relationship between attitudes toward obese students and beliefs about the controllability of obesity. Also, data showed self-esteem is a predictor of educator's attitudes towards obese students; however, it is not a predictor of beliefs about obesity. Implications were suggested for policy makers, school districts, and for future research.

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

List of Tables

CHAPTER ONE: Introduction to Obesity

Obesity is one of the ten leading causes of death in the United States that continues to increase at epidemic rates in both children and adults (Nihiser, Lee, Wechsler, McKenna, Odom, Reinold, Thompson, Grummer-Strawn, 2007; Gray, Kahhan, & Janicke, 2009; Flegal, Graubard, Williamson, & Gail, 2005). According to the Center for Disease Control (CDC, 2010) obesity refers to the amount of excess body fat and is defined as a person with a BMI at or above the 95th percentile (CDC, 2011b; Nihiser et al., 2007). Body mass index (BMI) is calculated using an individual's height and weight. Obesity is the second leading cause of preventable death in the United States (Mokdad, Bowman, Ford, Vinicor, Marks, & Koplan, 2001) and is a national epidemic that affects millions (Andreyeva, Puhl, & Brownell, 2008; Eisenberg, Neumark-Sztainer, & Story, 2003).

Obesity leads to many health concerns, which include but are not limited to: Type 2 diabetes, metabolic syndrome, cardiovascular disease, orthopedic, neurological, pulmonary, and endocrine conditions (Gray et al., 2009; Miller, Rosenbloom, & Silverstein, 2004). In addition to health concerns, obesity also leads to emotional and psychosocial problems. Obesity in children and adults could also affect: self -esteem, body dissatisfaction, social functioning, emotional well-being, academic performance, and can cause increased depression and thoughts of suicide (Judge & Jahns, 2007; Wardle & Cooke, 2005; IOM, 2004; Gray et al., 2009; Moyers, Bugle, & Jackson, 2005; Whetstone, Morrissey, Cummings, 2007). Therefore, if this trend continues of overweight people, obesity will become the primary cause of death in the United States (Miller et al., 2004).

Approximately 33.8% of U.S. adults both male and female across various age groups are considered obese (Flegal, Carroll, Ogden, & Curtin, 2010). Andreyeva et al. (2008) reported that, two out of three adults in the United States are either overweight or obese. In addition to the rise of adult obesity, childhood and adolescent obesity also continues to increase. Approximately 12.5 million children and adolescents ages 2 to 19 are obese (Ogden & Carroll, 2010). Data from the National Health and Nutrition Examination Survey (NHANES) stated that obesity has almost tripled in children and adolescents since 1980 (Ogden & Carroll, 2010). Furthermore, in 2000 the U.S. Department of Health and Human Services Healthy People 2010 initiative nationalized the importance of adolescent weight status, recognizing obesity as a major public health concern with children and adolescents (Ogden & Carroll, 2010). Overall, percentages of obese persons have exceeded 30% across the nation and continue to rise each year (Flegal et al., 2010).

Problem Statement: Weight-Based Discrimination

Consequently, as obesity increases among children, adolescents, and adults, weight- based discrimination also increases. Weight bias affects millions of overweight and obese persons in the United States (Andreyeva et al., 2008). Weight bias is referred to as negative attitudes toward an overweight or obese individual (Brownell, 2005). These types of negative attitudes can be: stereotyping, relational victimization, teasing, physical aggression, and social rejection (Tang-Peronard & Heitmann, 2008; Puhl & Brownell, 2001). Weight bias often leads to a more serious issue: weight discrimination.

Weight discrimination stems from weight bias but differs in that weight discrimination is the unfair treatment of people because of their physical appearance

(Brownell, 2005). Prejudice and rejection stem from the view of obesity as a negative attribute (Schwartz & Puhl, 2003). Anti-fat attitudes are organized like symbolic racism, which is prejudice toward fat people. Similarly, the prejudice toward fat people is associated with beliefs and values that represent self-determination (Crandall, 1994). These anti-fat attitudes come from the ideal "norm" that thin people are good and fat people are bad and the notion that weight is an internal controllable cause. If a person believes that obese people should be held accountable for their weight, then they will blame and stigmatize the obese individual (Crandall, 1994; Crandall & Cohen, 1994).

Research shows reported bias and discriminatory practice of obese persons have increased 66.0% over the past ten years (Andreyva et al., 2008). Obese individuals have reported weight-bias in various settings such as schools, employment, health care, college acceptance, and housing (Neumark-Sztainer, Story, & Harris, 1999; Puhl & Brownell, 2001; Puhl, Andreyeva, & Brownell, 2008; Andreyeva et al., 2008). A survey conducted among 2,449 U.S. adults indicated 43% of adults experienced weight bias from employers, 69% from medical professionals, and 32% from educators (Puhl & Brownell, 2001).

In addition to adult weight based discrimination, children and adolescents experience weight bias from their peers and educators. A policy brief report conducted by the Yale RUDD center for food policy and obesity at Yale University (Friedman, 2008) stated that "2 out of 3 children have experienced weight bias from a teacher. Two of every three have experienced it from a classmate (p.6)". Moreover, there is considerable concern about the consequences of weight-based discrimination, socially, emotionally, and academically (Puhl & Latner, 2007; Judge & Jahns, 2007; Kostanski &

Gullone, 2007; Andreyeva et al., 2008). When children are teased about their weight it has a significant impact on children's social outcomes, psychosocial growth, and well-being (Thompson, Fabian, Moulton, Dunn, & Altabe, 1991; Judge & Jahns, 2007; Robinson, 2006). In areas such as gender and race bias there is an abundance of research, policies, and state level actions that seek future preventions, however this is not the case with weight bias and discrimination (Brownell, 2005). Consequently, weight bias in the United States continues to remain socially acceptable and is repeatedly overlooked as a form of discrimination (Puhl & Brownell, 2001).

Purpose of Research

The nationwide concern about obesity and its consequences is rapidly increasing. Since 1970, the number of overweight children ages 6 through 11 has tripled (Ogden & Carroll, 2010). Therefore, an abundance of research has emerged over the past twelve years exploring obesity bias and discriminatory weight-related practices in both children and adults (Puhl & Brownell, 2003; Puhl & Heuer, 2010; Hare, Price, Flynn, & King, 2000; Neumark-Sztainer et al., 1999; Puhl et al., 2008; Chambliss, Finley, & Blair, 2004; Greenleaf & Weiller, 2005; Puhl et al., 2008). There are two main components that lead to anti-fat attitudes: personal or cultural preference for thinness, and the belief that weight is controllable (Crandall, 1994). Conservative insights lean towards anti-fat attitudes because there is a justification that "fat people are blamed for being fat", which is viewed as a failure in contrast to "successes" (Crandall, 1994).

Educators and health professionals also report discriminatory behaviors and opinions towards overweight students (Greenleaf & Weiller, 2005). These anti-fat perceptions against students are of concern because it not only occurs in physical

education but also in the classroom. Additionally, research states teachers have negative attitudes about obese students and the factors that lead to obesity (Puhl & Brownell, 2001; Puhl et al., 2008; Gray et al., 2009). Approximately 25% of teachers reported negative opinions about obese students in their classroom, such as believing that these students had unhealthy eating habits and family problems, lacked neatness and were less likely to succeed academically (Gray et al., 2009). Another report conducted on teacher perceptions of student obesity stated that teachers and other school staff members felt uncomfortable around overweight students (Neumark-Sztainer et al., 1999). Overall, teachers can play an important role in a student's life and are a crucial component to their academic, social, and emotional success. Although physical educators impact students' health and body weight, general educators also have an impact on student performance with anti-fat attitudes affecting the quality of their instruction in the classroom (Greenleaf & Weiller, 2005).

The purpose of this study is to explore teacher beliefs and how they affect teacher attitudes toward obese students. Attitudes are defined in this study as one's assumptions about the causes and nature of obesity and one's perceptions about obese students. The investigation specifically focuses on the (a) relationship between beliefs and attitudes; and (b) correlations between teacher self-esteem, attitudes, and obesity. Many studies contribute to the attitudes and beliefs about obese individuals: however, there is a limited number of studies that have explored the relationship between these three variables: (a) teacher attitudes towards obesity; (b) teacher beliefs about obesity; and (c) teacher self-esteem.

Significance of Study

The findings from this study have many implications for educators, educational leaders, boards of education, and policy/lawmakers. The phenomenon of obesity occurs throughout all ages, gender, and ethnicity of children and adults. Research shows that the perception about a person who looks different from the "norm" through their appearance, sex, race, or disability causes an impact on student's academic success (Sweeting, & West, 2001). First, the results contribute to the literature and by providing information to understand the concept of obesity as it relates to students in schools. Research supports perceptions of physical educators and medical staff, however, there is minimal research documented that provides data on teacher attitudes and beliefs about obese students (Puhl & Brownell, 2006, Teachman & Brownell, 2001, McCardle, 2008, Greenleaf & Weiller, 2005).

The impact of this research can also lead educators, lawmakers, educational leaders, and school districts to foster growth and development of positive attitudes and beliefs about obesity that will prevent false perceptions and weight bias through (a) policies, (b) national legislature and (c) and state laws. Additionally, data collected from this study can be used to provide intervention strategies, workshops, and/or focus groups to reduce obesity bias in schools. Through the findings and discussion of this study, administrators, supervisors, and school counselors can provide professional development to train and inform teachers about obese students and the factors that lead to their obesity.

In addition, policy makers will also have the opportunity to create programs to improve school culture for both staff and students. Currently there are no federal or New Jersey state laws that protect obese individuals from bias and discrimination. Researchers

need to document the trend of weight discrimination in order for policymakers to address this specific concept of obesity discrimination. Establishing a law or policy for overweight and obese individuals could decrease and prevent unfair treatment, making this form of bias unacceptable, and prevent further social consequences for overweight individuals (Friedman, 2008). Finally, school board members can also utilize the information to adopt or change school bullying policies to aspects of physical appearance, weight, or body shape to prevent obesity bias from occurring in schools.

Conceptual Framework

Through exploring the concept of obesity and the attitudes and beliefs toward obese students, the conceptual framework that shapes this research study is: The Psychological Attribution Framework. This framework discusses the correlation between an individual's attitudes and beliefs and how it relates to weight bias (Crandall, 1994).

The Psychological Attribution Framework

Attribution theory implies that certain individuals look for information from various sources (i.e. moral, legal, ethical, social, & logical) to locate answers for uncertainty, also known as "justification" (Crandall, 2000).According to Attribution Theory, people who show prejudice toward certain groups believe that they have some type of negative attribute for which they should be held accountable (Crandall, D'Anello, Sakalli, Lazarus, Nejtardt, & Feather, 2001). These justifications allow for individuals to justify and accept their own prejudice and discriminatory action towards others (Crandall, 2000). This theory also suggests that obese stigmatization is a direct result from social ideology that utilized negative attributions to determine negative life results (Crandall, 1994; Crandall, 2000; Crandall & Schiffhauer, 1998).

Crandall (1994) explored symbolic belief, related to the rejection of overweight individuals. There were two crucial components to the concept of symbolic belief: (1) Theoretical ideologies can have an importance in predicting behavior and (2) People are motivated more by their ideologies and beliefs than by self-interest (Crandall, 1994). Anti-fat attitudes are organized like symbolic racism, which means that prejudice toward overweight individuals is associated with beliefs and values that represent self-determination (Crandall, 1994). Likewise, it is associated with the Puritan Work Ethic (PWE), which is a set of moral values that highlights internal control, self-discipline, hard work, and success (Crandall, 1994; Crandall, 2000). PWE was used to predict discrimination towards overweight individuals (Crandall, 1994). It was determined that these anti-fat attitudes stem from the ideal "norm" that thin people are good and overweight or obese people are bad and the concept that weight is an internal controllable cause. "Rejection of fat people is based on the ideological assumption that people get what they deserve, or deserve what they get, which could result in social rejection" (Crandall, 1994, p.886). This means that individuals ultimately cause their own situations that have occurred in life, which includes weight (Crandall & Schiffhauer, 1998). If a person believes that an obese person is responsible for their weight, then they will blame and stigmatize this individual (Crandall, 1994; Crandall & Cohen, 1994).

Attributions and values correlate because they both represent the American ideas of the world people live in. For example, there is this concept that people should work hard, have will power, and celebrate success. Comparatively, these American values may lead one to believe people should be blamed for their failures (Crandall, 1994; Crandall, 2000). This in turn reflects a relationship between beliefs, values, and ideologies with

individual differences and controllable attributions (Crandall, 1994). This belief that hardworking people are rewarded for their behavior, and those who fail deserve it, is interconnected with the American values of controllable attributions (Crandall, 2000). These American beliefs are part of the culture and American society that people are individualistic and conservative (Crandall, 1994). There are two main components that lead to anti-fat attitudes: personal or cultural preference for thinness, and the belief that weight is controllable (Crandall, 1994). Having a conservative insight at times leans toward anti-fat attitudes because there is this baseline that "fat people are blamed for being fat", which is viewed as a failure in contrast to "successes" (Crandall, 1994; Crandall, 2000).

These attitudes toward overweight people are a worldview and not self-interest, which means both thin and overweight people, can be as respectively as likely to have anti-fat attitudes, which is later discussed in the literature. These individuals who possess negative attitudes towards obese individuals generally believe that being overweight is undesirable. Additionally, the overweight person is blamed for their physical appearance (Crandall, 1994). The major components of anti-fat attributions are ideological conservatism and perceptions of causality and controllability. These components lead to stigmatization of obese people, which also places accountability on the individuals (Crandall, 2000). These anti-fat attitudes relate to rejection and social ideology of blame of an overweight person (Crandall, 1994).

Overall, this framework shows how controllability and attitudes toward obesity is a main component in weight-based stigmatization (Crandall, 1994). Perceiving obese people as accountable for their weight also reflects the attributions of blame and guilt of

the world beliefs. The idea that hard work leads to success and lack of self-determination results in failure correlates with obesity (Crandall, 1994). Individuals believe that an obese person deserves to be degraded because they believe that` their weight is within their control.

Definition of Terms

The following definitions are provided to establish a baseline understanding of these terms throughout the research study. These definitions are redefined through the researcher's understanding and are gathered from various sources.

Body Mass Index (BMI): Body mass index is the ratio of a person's weight to height squared (kg/m2), and it is used to estimate a person's risk of related health problems. BMI measures a specific excess body weight for a particular person's height and age (CDC, 2011b).

Fatism: Discrimination or prejudice based on a person's weight (www.fatism.org).

Overweight: The Center for Disease Control and Prevention (2010) defines overweight individuals as at or above the 85TH percentile of Body Mass Index, not exceeding 95% BMI.

Obese: The Center for Disease Control and Prevention (2010) defines obesity as at or above the 95th percentile of Body Mass Index. (i.e. for the purposes of this research overweight and obesity will be used interchangeably.)

Social Marginalization*:* this occurs when adolescents view some of their peers as different from themselves and exclude them from activities (Robinson, 2006).

Weight-based Stigmatization: is defined as negative weight-related attitudes and beliefs toward overweight and obese children and adolescents that are developed through stereotypes, bias, rejection, and prejudice (Gray et al., 2009).

Peer Victimization: is the experience among children who are the target of the aggressive behavior of other children, who are not siblings and not necessarily age- mates (Hawker & Boulton, 2000).

Research Questions

This study is designed to explore teacher attitudes towards obese students in the school setting. This research attempts to answer the overarching central question: What are teacher attitudes towards obese students? This central research question will be answered through several sub-questions:

1. How do teacher beliefs about obesity correlate to their attitudes toward obese students?
2. Does teacher self-esteem predict their attitudes and beliefs towards obese students?

Exploratory Questions

1. Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and their demographic variables (i.e. age, ethnicity, gender, level of education, years of experience, and position at the school)?
2. Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and their demographic variables (i.e.

age, ethnicity, gender, level of education, years of experience, and position at the school)?

3. Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and their current weight status?
4. Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and their current weight status?
5. Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and whether or not they have a relationship with an obese individual?
6. Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and whether or not they have a relationship with an obese individual?

The information gathered through this descriptive correlational study answers these research questions and adds additional information to the existing literature on student obesity. These research questions mainly focus on teachers, thereby enhancing the current understanding of perceptions of obese students and providing a general baseline of how teachers perceive these students in schools. Furthermore, the questions will provide greater analysis of how teacher self-esteem predicts attitudes towards obese students and beliefs about the controllability of obesity. Additionally, the data collected through the study will provide additional information for later researchers to replicate the study in other school districts.

Research Design & Methodology

The research design for this study was descriptive correlational research, in which three variables were examined (attitudes, beliefs, and self-esteem). The descriptive study describes the scope and different characteristics within a given population (Groves, Fowler, Couper, Lepkowski, Singer, & Tourangeau, 2009). The correlational research studies relationships among the variables without manipulating them in any way (Young, 2010; Burns & Grove, 2003). In addition, data collected from a descriptive correlational design can be generalized to the selected sample of participants to make inferences about attitudes and beliefs about obesity (Drew, Hardman, & Hosp, 2008). Although correlational research provides relationships between variables, one limitation of this design is that it does not imply causation (i.e., it cannot prove one variable causes another variable to change; Simon, 1954). However, this was the first study to investigate the relationships between the three variables; an individual's attitudes toward obesity, beliefs about obesity, and educator's self-esteem.

Population and Sample

The chosen population for this study was certified educators employed in a Central, Northern, and Southern New Jersey school district. Purposive sampling was selected based on the needs of the research, in order to address the research questions (Sullivan, 2009; Singh, 2007). Purposive sampling is a form of non-random sampling, which means participants were not chosen at random (Khan, 1998). The participants in the Southern and Northern New Jersey school district represented all levels of education (e.g., elementary, middle, and high school) and the Central New Jersey school district represented two levels of education (e.g., elementary and intermediate), with a sample

size of 893 participants. Additionally, according to the New Jersey Department of Education (2010-2011 school year) there are approximately 136,441 certified staff members employed in the state of New Jersey. In order to generalize the population to school educators at the 95% confidence level and +/-5% confidence level, it was calculated that a sample of 399 participants were needed (Israel, 1992).

Data Collection

Prior to data collection, the researcher received permission from Rowan University's Institutional Review Board (IRB) to conduct the study (Appendix A). In addition to IRB approval, the researcher conducted three district proposals and received permission to complete the study in the Central, Northern, and Southern New Jersey School District (Appendix B, C, & D). Additionally, permission was granted from the authors to use the questionnaires for the purpose of research; (a) Attitudes Toward Obese Persons (ATOP; Allison et al., 1991, Appendix E); and (b) Beliefs About Obese Persons (BAOP; Allison et al., 1991, Appendix E). Permission is unnecessary to use the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) because the author is deceased and permission is granted for purpose of research.

The researcher scheduled data collection with each superintendent in all three school districts. Data collection took place beginning in November 2011 and ending in February 2012. In order to increase the response rate and reduce sampling, the researcher utilized various aspects of the Dillman's Tailored Design method (Dillman, 2007). The first contact with participants was an email introducing the study, which included the informed consent form (Appendix F). The second contact with participants was an email link to Survey Monkey that included (a) a demographic survey (Pecoraro, 2011;

Appendix G), (b) the ATOP (Allison et al., 1991; Appendix H), (c) the BAOP (Allison et al., 1991; Appendix I), and (d) the RSES (Rosenberg, 1965; Appendix J). Participants were able to withdraw from completing the questionnaires and were kept anonymous at all times. The third contact was a combination of a follow-up/reminder and thank you letter to all participants. After administering and collecting the questionnaires in each school district data was scored and analyzed.

Instrumentation

There were four instruments explored in this descriptive-correlational study. The questionnaires were: (a) Demographic Survey (Pecoraro, 2011; Appendix G), (b) Attitudes Toward Obese Persons scale (Allison et al., 1991; Appendix H), (c) Beliefs About Obese Persons scale (Allison et al., 1991; Appendix I), and (c) Rosenberg Self-Esteem scale (Rosenberg, 1965; Appendix J). The information presented below is a brief description about each of the questionnaires. These instruments are explained in depth in Chapter 3 the methodology section.

Demographic Survey

The Demographic Survey is a one-page questionnaire created by the researcher, which asks educators to report on basic demographic information (i.e., age, ethnicity, gender, level of education, and years of experience). More specifically, the demographic information included two Likert scaled questions related to self-perception of weight: (a) rate current body weight and (b) satisfaction of current body weight. Furthermore, the demographic survey (Pecoraro, 2011) included two questions related to relationships with obese individuals: (a) obese family members and (b) close relationship with an obese

individual (family or friend). Prior to using the demographic survey in this research study, it was reviewed by the dissertation committee chairperson.

Attitudes Toward Obese Persons

The Attitudes Toward Obese Persons scale (ATOP; Allison et al., 1991; Appendix H) is a Likert-Type scale consisting of 20 sentence stems related to an individual's attitude toward obesity. The scale was developed to design a valid instrument to measure a person's attitudes toward obesity (Allison et al., 1991). Furthermore, the difference between ATOP and other constructs is its psychometric measure and high internal consistency (Allison et al., 1991). Scoring instructions were provided and can be completed by the researcher. Items are scored from a range of -3 to +3 with higher values representing more positive attitudes toward obese persons (Allison et al., 1991).

The ATOP scale has been extensively examined for reliability and validity. This strengthened the application of the ATOP across diverse populations, health professionals, nurses, and social workers (Harvey & Hill, 2001; Neumark-Sztainer et al., 1999; McCardle, 2008). In addition to the medical field, the ATOP was utilized with educators, college students, and obese individuals (Neumark-Sztainer et al., 1999; Carels & Musher-Eizenman, 2009; Puhl & Brownell, 2006; Friedman, Reichmann, Costanzo, Zelli, Ashmore, & Mustante, 2005).

Beliefs About Obese Persons

The Beliefs About Obese Persons scale (BAOP; Allison et al., 1991; Appendix I) is also a Likert-Type scale consisting of 8-item stems related to an individual's beliefs about obesity. The scale was designed as a companion scale to the ATOP construct to

examine the relationship between attitudes and beliefs about obese persons (Allison et al., 1991). When these two scales are used simultaneously the scales are psychometrically satisfactory with high internal consistency (Allison et al., 1991). Furthermore, respondents rate each sentence stem from -3 to +3 with higher score representing uncontrollable obesity (Allison et al., 1991).

The BAOP scale has been extensively examined for reliability and validity. This strengthened the application of the BAOP across diverse populations, social workers, school health professionals, educators, adults with and without binge eating disorders, and obese individuals (Puhl, Schwartz, & Brownell, 2005; McCardle, 2008; Puhl & Brownell, 2006; Friedman et al., 2005). Utilizing both ATOP and BAOP, as companion scales supports their validity and reliability.

Rosenberg Self Esteem Scale

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; Appendix J) is a widely known unidimensional construct that measures self-esteem. RSES consists of 10 items related to global feelings of self-worth, self-respect, and self-acceptance. It was designed for respondents to self-administer and complete in a short amount of time (Rosenberg, 1965; Gray-Little, Williams, & Hancock, 1997). The 10 items are scored on a 4-point Likert-Scale (0-3) and can range from 0-30 points, with higher scores representing higher levels of self-esteem (Rosenberg, 1965).

Documented research with the RSES questionnaire is represented across diverse populations including: ethnicity, age, socioeconomic status, and psychiatric conditions (Gray-Little et al., 1997). This not only strengthens the application across different respondents, but is also regarded as a widely known measure of self-esteem.

Furthermore, questions on the RES scale were chosen based on high reliability and validity of the scale (Rosenberg, 1965).

Ethical Considerations

The Institutional Review Board (IRB) committee and my dissertation committee at Rowan University have indicated several ethical considerations. As a researcher, educator, and educational leader it is necessary to utilize ethical standards when making decisions in education. The ethic of justice focuses on rights, laws, and policies (Shapiro & Stefkovich, 2010). Confidentiality will be maintained, in order to uphold necessary rights of the student, keep responsibility to the school and community standards, diversity, and maintain professionalism. The first of these considerations included keeping the identity of the participants anonymous. In order to protect the participants involved in the study both the school districts and participant's names were kept anonymous. For the purposes of this study a pseudonym was created for both school districts to prevent the identification of participants. In addition, data collected were kept anonymous and stored in a password-protected laptop.

All respondents were informed of their rights and information through an approved informed consent form pre-approved by the IRB at Rowan University. The informed consent form specifically stated participation in this research project was entirely voluntary and participants had the opportunity to withdraw from the study at any time without consequence or penalty. Additionally, participants were informed that they may choose to leave a question unanswered due its sensitive nature. In order to further protect participants from bias, proper language was utilized throughout the study to maintain the integrity of all individuals as human beings (APA, 2006).

There were many approval stages necessary in order to conduct research. First, the study was conducted with the permission and approval by the dissertation chair, committee members, board of education, and IRB of Rowan University. Additionally, permission to use each of the instruments was granted by the authors and developers; (a) ATOP (Allison et al., 1991); (b) BAOP (Allison et al., 1991; and (c) RSE scale (Rosenberg, 1965). Finally, approval was granted through each Superintendent to contact participants in each school.

Limitations

Several prospective limitations are related with this particular research study. One limitation is the use of descriptive-correlational research, which provided descriptive statistics and relationships between variables; however it did not explain causality of all three variables (Simon, 1954). Second, three instruments were administered to three different locations, in which environmental factors can affect participant's responses. Furthermore, purposive sampling is a limitation in that participants were conveniently chosen based on school district permission to conduct the study and the need of the research (Black, 1999). Another limitation was the use of various instruments and the time factor that could affect response rate for participants who decided not to participate in this study, thus limiting the number of responses and increasing the non-response rate. Lastly, although questionnaires may have acceptable psychometric measures (i.e., validity and reliability) they may also produce measurement error, which is the difference between the actual value and the value obtained by the construct.

Summary

This chapter introduced an overview of obesity, weight-based discrimination, and its consequences on both children and adolescents. Childhood and adolescent obesity has both health and psychosocial risks, which can affect academic achievement. Psychosocial risks stem from weight-based discrimination, beliefs about obesity, and attitudes toward obese individuals. The topics reviewed in this section suggest that although there is research involving health care professionals' and educators' attitudes towards obese persons and beliefs about obesity; there is a lack of research regarding the relationship between the three concepts: attitudes, beliefs, and self-esteem. Thus, there is a need to conduct research to establish a relationship between the variables to connect educators and the variables; self-esteem, attitudes toward obesity, and beliefs about obesity.

Organization of the Study

In this chapter, background information was introduced on obesity and educators' anti-fat bias, and how it affects obese students in the classroom. In addition, this chapter discussed purpose of research, problem statement, research questions, and significance of the study. Next, chapter two will include a review of the literature on obesity. The literature review will offer commonalities of themes that relate to the literature. Additionally, chapter two will provide an overview of weight bias and discrimination among children and adolescents in the school setting and its consequences socially, emotionally, and academically. Furthermore, the literature review will investigate the most current federal and state policy legislatures aimed to protect individuals from weight discrimination. In chapter three, one can expect a detailed exposition of the methodology

used throughout the research study. It will describe the overall research design, data collection strategies, and will describe the data analysis. In chapter four, findings are reported on data collected and the relationships that emerged through the data analysis process. Finally chapter five, conclusions are discussed, as well as, recommendations for future research studies and for policymakers to address and potentially decrease weight bias and discrimination.

CHAPTER TWO: Literature Review

This literature review focuses on the phenomenon of obesity. Obesity continues to increase yearly in children, adolescents, and adults. As described in Chapter one as there is a correlation between the increase in obesity and weight bias and discrimination. Overweight individuals are susceptible to weight bias, prejudice, and discrimination in various settings such as employment, education, and health professionals (Puhl & Brownell, 2001). This chapter discusses factors that lead to obesity and describes the necessary components associated with obesity. Additionally, the literature review will explore the health risks that are associated with obesity and the psychosocial consequences.

Next, the chapter will address the general perceptions, attitudes, and beliefs individuals have when they come in contact with obese children and adolescents. Furthermore, the chapter explores weight-based stigmatization and the impact it has on various populations. It will describe discrimination against obesity known as anti-fat bias or fatism. The literature review will specifically report on general public, medical and health professionals, educational professionals (i.e. teachers and physical educators), and peers' perceptions of obese children and adolescents. After examining the research on obesity, one major gap was the lack of studies conducted in educational settings predominately with teachers. There is limited research that exposes teacher's attitudes and beliefs about overweight and obese students. This study attempts to reveal teacher's attitudes and beliefs of overweight and obese students and the correlation between the variables that would add to the current literature. In addition, the study attempts to reveal if self-esteem is a predictor towards attitudes and beliefs about obese students.

Obesity

Healthy People 2020 is an organization which emphasizes overweight and obese individuals as a priority through action plans in order to reduce the amount of overweight and obese children and adolescents (Ogden & Carroll, 2010). The reason for this initiative was due to the increasing numbers of obese children and adolescents each year. Obesity is of concern to a child's health, social development, and emotional growth (Robinson, 2006).

Obesity is defined as excess body fat greater than 20% of the normal body weight for size, age, and gender (Hare et al., 2000). Body mass index (BMI) is calculated slightly differently for children. Body mass index for children and adolescents is compared to their peers within the same gender and age range (Nihiser et al., 2007; CDC, 2011b). After a child's body mass is calculated using their height and weight, it is then plotted on a gender BMI-for-age percentile chart (Obesity Action Coalition, 2010).

Approximately 32% of children and adolescents are identified as either overweight or obese (Gray et al., 2009). In the past few years there is an increase in obesity and overweight children. Documented data exists with children and adolescent obesity trends in the United States from 1963-1965 through 2007-2008 (Ogden & Carroll, 2010). The trend shows that obesity increased from 1976-1980 through 1999-2000 (Ogden & Carroll, 2010). However, from 1999-2000 to 2007-2008 there was no significant increase or decrease in obesity (Ogden & Carroll, 2010). This demonstrates approximate percentages of increased obesity through the years of data collection. Beginning in preschool (ages 2-5) obesity increased from 5.0% to 10.4%, children (ages 6-11) increased from 6.5% to 19.6%, adolescents (ages 12-19) obesity increased from

5.0% to 18.1% between 1976-1980 and 2007-2008 (Ogden & Carroll, 2010). These percentages were calculated over a six-year period and represented as a continuous increase in obesity with children and adolescents (Ogden & Carroll, 2010).

Factors Leading to Obesity

There are several factors that lead to obesity among children, adolescent, and adults such as genetics, environmental factors, and behavioral factors. Genetics plays a role in the onset of obesity, when consumed calories exceed calories expended; this leads to a constant energy imbalance causing a buildup of body fat (CDC, 2011a; Bell, Walley, & Froguel, 2005). Genes regulate our bodies to detain, store, and release energy from food intake (CDC, 2011a). Due to genetic factors, some people store this energy as fat, which leads to obesity.

Family history is also a part of genetic factors. Individuals with a family history of obesity may be more susceptible to weight gain. Some families have a rare pleitropic obesity syndrome like the Prader-Willi Turner and Bardet-Biedl syndrome, which are rare genetic diseases (Crothers & Theodore, 2009; CDC 2007; Farooqi & O'Rahilly, 2000; Farooqi & O'Rahilly, 2007). Likewise, parental obesity more than doubles the chances of a child 10 years or younger becoming an obese adult (Crothers & Theodore, 2009).

The next leading cause of obesity is environmental factors; both genetics and environment work together in causing obesity (CDC, 2011a). Environmental factors include but are not limited to home, school, and community, which can influence behavioral, factors (i.e. food consumption and physical activity, CDC, 2007). The family environment plays an important role in influencing children's eating habits (Campbell,

Crawford, & Ball, 2006). In the United States food portions are subsequently larger than in other countries (Hill & Peters, 1998). Fast food restaurants provide the option of "super sizing" menu items, which leads to increased food consumption (Hill & Peters, 1998). More importantly, sugary beverages, such as soda also contribute to obesity (Hensrud, 2002). Since weight is determined by energy balance (Hensrud, 2002), large portion sizes and sugary beverages translate to increased calorie consumption which causes obesity.

Another indicator of obesity is decreased physical activity in daily life. Individuals are more consumed by technology such as TV, electronic games, and computers, which lead to a more sedentary lifestyle (Hill & Peters, 1998). "A low level of physical activity is associated with a low daily energy requirement and will cause obesity unless food intake is limited accordingly" (Hill & Peters, 1998, p.1372). Children and adolescents who watch television for four or more hours per day had an increased frequency of obesity (Crespo, Smit, Troiano, Bartlett, Macera, & Anderson, 2001). Overall, participating in physical activity and monitoring food intake is important for both children and adolescents to maintain healthy bodies (CDC, 2007).

Physical and Psychological Health Risks

There are many health risks that are associated with obesity. Obese children experience similar types of health risks as obese adults. However, children are more susceptible to various types of health problems because their bodies are continuously growing and developing (Daniels, 2006). In today's society, because of the growing epidemic of overweight and obese children, these children live shorter, unhealthy lives and have decreased quality of life (Daniels, 2006; Schwimmer, Burwinkle, & Varni,

2003). A recent report described a significant decrease in health-related quality of life, emotionally and socially (Schwimmer et al., 2003). Therefore, an obese child or adolescent is 5.5 times more likely to have health related issues or a decreased quality of life than a healthy child or adolescent (Schwimmer et al., 2003).

Overweight and obese youth are at a higher risk for long-term health complications. Obesity associated with several health conditions, which include but are not limited to: Type 2 diabetes, metabolic syndrome, cardiovascular disease, orthopedic, neurological, pulmonary, and endocrine conditions (Gray et al., 2009; Judge & Jahns, 2007). The following section addresses these major health risk factors related to obesity.

One area obesity affects is the cardiovascular system. The cardiovascular system is made up of the heart, which pumps blood back and forth to the heart and blood vessels. The arteries move the blood from the heart to the remainder of the body. The arteries mainly control the blood flow within the body. Both the heart and arteries can be impacted by obesity (Daniels, 2006). As the body fat mass increases the size of the fat cells increase, which is a direct correlation between obesity and cardiac disease (Klein, Burke, Bray, Blair, Allison, Xavier, Hong, & Eckel, 2004). Obesity is a crucial risk factor for coronary heart disease, congestive heart failure, stroke, and heart attack (Klein et al., 2004). Some of the major factors that can contribute to a heart attack or stroke are diabetes, high-blood pressure, hypertension, and high cholesterol (Daniels, 2006).

Approximately 60% of obese students have cardiovascular health conditions, which include high blood pressure, high lipid levels, or impaired glucose levels and more than 20% have two or more of the health factors listed above (Gray et al., 2009; Schwartz & Puhl, 2003). Additionally, blood pressure levels increase with children ages 12 and

younger in both male and female with a BMI at or above the 90th percentile (Rosner, Prineas, Daniels, & Loggie, 2000). These children are also more likely to continue to have high blood pressure into adulthood (Rosner et al., 2000; Daniels, 2006). Children may develop left ventricular hypertrophy, which is the raised thickness of the heart's pumping chamber (Klein et al., 2004). This can cause heart attacks in children and adolescents due to the thickness of the muscle (Daniels, 2006).

Obesity also affects the metabolic system, which controls how the body uses and stores energy (Daniels, 2006). This system encompasses the gastrointestinal track, the liver, and part of the hormonal system. Some of the metabolic disorders associated with obesity are: large waist circumference, insulin resistance, metabolic syndrome, dyslipidemia (fat in the blood), and type 2 diabetes (Klein et al., 2004; Daniels, 2006). The types of complication that could develop with diabetes are cardiovascular disease, end-stage renal disease, loss of acuity, and limb amputations (American Diabetes Association, 2000). Development of type-2 diabetes in obese children continues to increase as children become overweight at a younger age. The American Diabetes Association (2000) stated 8-45% of children are diagnosed with type-2 diabetes, most of which are overweight or obese. In the United States today many children with type-2 diabetes are diagnosed as young as 10 years old. Consequently, as obesity continues to increase in children it is anticipated that type-2 diabetes will begin to develop in children younger than 10 years old (American Diabetes Association, 2000).

Obesity is also known to cause interrupted pulmonary system. The pulmonary system is made up of lungs to help people breath (Klein et al., 2004). High amounts of body fat can disrupt the lung's function and cause obstructed sleep apnea (OSA) and

obesity hypoventilation syndrome (OHS; Klein et al., 2004; Daniels, 2006; Chan, Edman, & Koltai, 2004). Obstructive sleep apnea is a sleep disorder that disrupts the airway during sleep, which can lead to snoring, irregular breathing, upper airway resistance, and interrupted sleep patterns (Klein et al., 2004; Daniels, 2006; Chan et al., 2004). Subsequently, obstructed sleep apnea can cause tiredness during the day, wetting the bed, attention deficit disorder, behavior issues, decreased physical activity, which can also affect academic performance (Klein et al., 2004; Daniels, 2006; Chan et al., 2000). If sleep apnea continues into adulthood it can then have long term affects on the cardiovascular system. However, there is limited research to show overweight children who are diagnosed with asthma more often than non-obese children (Belamarich, Luder, Kattan, Mitchell, Islam, Lynn, & Crain, 2000). As obesity continues to increase among children and adolescents in the United States, the health risks associated with obesity become increasingly alarming.

In addition to health risks, there are also psychosocial consequences toward obese persons. The social and emotional aspects of obesity have a detrimental impact on psychosocial development (Robinson, 2006). Childhood and adolescent obesity correlates with psychosocial concerns such as self-esteem, body dissatisfaction, self-blame, depression, social functioning, emotional well-being, behavioral problems, increased anxiety, and academic performance (Judge & Jahns, 2007; Wardle & Cooke, 2005; IOM, 2004; Gray et al., 2009; Moyers et al., 2005; Whetstone et al., 2007; Warschburger, 2005). Overall, obese children often have lower quality of life, especially when they experience undesirable physical and social consequences. Decreased quality of life (QOL) defined by Wadden & Stunkard (2002) is "the burden of suffering and

limitations in work and social functioning associated with illness" (Wadden & Stunkard, 2002, p.149). One hundred and six obese children and adolescents enrolled in a weight loss clinic found that they had lower health-related QOL than normal weight children (Schwimmer et al., 2003). These obese children revealed lower physical, emotional, psychosocial, and social health than normal weight children (Schwimmer et al., 2003). Similarly, obese children (not seeking treatment) also had lower psychosocial health, emotional well-being, physical behavior, and self-esteem (Friedlander, Larkin, Rosen, Palermo, & Redline, 2003).

Additionally, body dissatisfaction and self-esteem are two components that relate to obesity in children and adolescents, especially in females (Riccardelli & McCabe, 2001). Body image dissatisfaction is considerably higher in females, whether or not it involves weight related teasing (Kostanski & Gullone, 2007). Furthermore, obese individuals have lower self-esteem when compared to non-obese individuals (Pierce & Wardle, 2006). Self-esteem differences among individuals correlate with how they perceive the causes and beliefs of their body weight (Pierce & Wardle, 2006). Individuals who believe their weight is an internal problem have lower self-esteem as opposed to those who believe it is related to medical reasons or family genetics (Pierce & Wardle, 2006). Moreover, both obese children and adolescents show a correlation between obesity and changes in self-esteem (Strauss, 2000). Specifically, 70% of overweight white and Hispanic girls showed decreased levels of self-esteem when compared non-obese females (Strauss, 2000). These adolescents also exhibited higher levels of grief, anxiety, and isolation. However, Strauss (2000) stated there could be

other factors that possibly affect lower self-esteem, such as lack of motivation, depression, and socioeconomic status (Strauss, 2000).

Consequently, lower self-esteem is predictive of increased depression (Kostanski & Gullone, 2007; Riccardelli & McCabe, 2001). Adolescents, ages 12-19, with weight problems, have lower self-esteem than overweight children, ages 6-11 (Wardle & Cooke, 2005). Nine and ten year-old obese children, over a four-year period, demonstrated an association with decreased levels of self-esteem (Strauss, 2000). As self-esteem decreased, the rates of grief, loneliness, and anxiety increased (Strauss, 2000; Strauss & Pollack, 2003). Furthermore, obese females demonstrate increased depression because of how they feel about their physical appearance (Adams & Bukowski, 2008).

Obese students experience depression and think about or have attempted suicide (Gray et al., 2009; Moyers, Bugle, & Jackson, 2005; Whetstone et al., 2007). Depression increases among overweight students because of social isolation. Children with larger body sizes tend to experience more emotional distress than their average-weight peers. More than any other chronic disease the rate of anxiety disorders appears to be higher in obese children and adolescents (Vila, Zipper, Dabbas, Bertrand, Robert, Ricour, & Mouren-Simeoni, 2004). Individuals who perceive themselves as overweight have thought, planned, or tried suicide than their normal weight peers (Whetstone et al., 2007). Also when compared to males, females have thought, planned, and tried suicide more often (Whetstone et al., 2007). Evidence shows that suicidal thoughts and actions correlate with low self-esteem and social isolation.

Overall, these findings demonstrate obesity has psychological consequences that can impact a child's quality of life and well-being. However, it is often the case that

these negative physiological consequences correlate with how people perceive and judge obese individuals, called weight stigmatization (Latner & Schwartz, 2005). The next section will further explain the concept of weight based stigmatization and discrimination. More importantly, it will also provide the psychosocial consequences weight-based stigmatization and discrimination have on an individual.

Correlations between Attitudes and Beliefs Toward Obesity

One area this study specifically focuses on is attitudes and beliefs towards obese persons and the relationship between these two variables. Allison and colleagues (1991) companion scales to assess the relationship between attitudes and beliefs with three population samples: (1) National Association to Advance Fat Acceptance (NAAFA); (2) undergraduate students; and (3) graduate students. They found that attitudes and beliefs toward obese persons were consistently correlated (Allison et al., 1991). Additionally, the beliefs about obesity accounted for 16-20% of the variance in the attitudes scores. This illustrates the idea that people who believe obesity is controllable have more negative attitudes and those who believe obesity is uncontrollable have more positive attitudes toward obese persons (Allison et al., 1991). As a result, this finding is documented throughout various research studies, which consistently represent people who believe weight is within a person's control have more negative attitudes toward an obese person (Allison et al., 1991; Neumark-Sztainer et al., 1999; Carels & Musher-Eizenman, 2009; Puhl, Schwartz, & Brownell, 2005; McCardle, 2008; Friedman et al., 2005; Geier, Schwartz, & Brownell, 2003).

There are different populations that have supported this relationship between attitudes towards obese persons and the beliefs about obesity. For instance, social

workers demonstrated a positive correlation between negative attitudes towards obese persons and the belief that weight is controllable ($r = .49$, $p < .000$; McCardle, 2008). The results corroborated with the findings from other studies, which included those who are seeking treatment for obesity (Friedman et al., 2005). Likewise, participants who had more positive attitudes toward obesity, also felt that obesity were not within a person's control (McCardle, 2008). Hence, these findings support additional research that obese persons themselves present negative attitudes and beliefs towards obese individuals (Puhl et al., 2005; McCardle, 2008; Puhl & Brownell, 2006; Friedman et al., 2005; Allison et al., 1991; Neumark-Sztainer et al., 1999; Carels & Musher-Eizenman, 2009; Geier et al., 2003).

The relationship between attitudes and beliefs were also assessed with educators and school staff members (Neumark-Sztainer et al., 1999). Neumark-Sztainer and colleagues (1999) was one of the first studies to incorporate a variety of educators and school staff with assessing attitudes and beliefs about obesity. It incorporated teachers from various disciplines: science, health, home economics, and physical educators, as well as, school nurses and social workers. Participants from this study reported negative attitudes toward obese persons, specifically in social situations (Neumark-Sztainer et al., 1999). An estimated one-fifth of the participants assumed obese individuals had various personalities, less organized, and less likely to succeed (Neumark-Sztainer et al., 1999), which are similar findings of medical practitioners and clinical psychologists (Harvey & Hill, 2001).

In addition to assessing attitudes toward obese persons, beliefs about whether weight is controllable or uncontrollable were also tested. Half of the educators and

school health professionals believed that obesity is a direct cause of bad eating habits and eating too much (Neumark-Sztainer et al., 1999). Two-thirds of the participants agreed that people who are obese are addicted to food. In contrast, 54% of the educators and school health providers believed that obesity can be a result of a biological disorder and one-third agreed that obese individuals consume more food than non-obese people (Neumark-Sztainer et al., 1999).

Overall, school staff members from this study believe that obesity is caused by lack of physical activity, overeating, and bad eating habits. However, about half of the participants also agreed that obesity could be a direct result of a biological disorder (Neumark-Sztainer et al., 1999). These scores were lower than Allison et al. (1991), which demonstrated educators believe that obesity is within a person's control more than undergraduates, graduates, and NAAFA participants, but had more positive attitudes. In conclusion, attitudes and beliefs correlate with one another throughout the presented studies.

Another investigation of overweight and obese adults compared attitudes and beliefs with 2,449 women who were stigmatized about their weight (Puhl & Brownell, 2006). These women demonstrated a positive correlation between beliefs and attitudes toward obese persons ($r=0.08$, $p<0.05$; Puhl & Brownell, 2006). Most importantly, an experimental study expressed that attitudes can be altered when provided consensus about the beliefs of others; because participant's scores increased on the attitude scale when given positive feedback about obesity (Puhl et al., 2005). First, the data confirmed the causes of obesity and attitudes toward an obese person can be altered by other's perceptions. Secondly, there was a positive correlation between believing obesity is

uncontrollable and positive attitudes toward an obese person (Puhl et al., 2005). In other words, education about the causes of obesity can help to reduce negative attitudes with healthcare professionals and educators (Puhl et al., 2005).

Overall, these results presented above are consistent with those of other studies, which include undergraduates, graduates, NAAFA, social workers, health care professionals, and stigmatized individuals (Puhl et al., 2005; McCardle, 2008; Puhl & Brownell, 2006; Friedman et al., 2005; Allison et al., 1991; Carels & Musher-Eizenman, 2009; Geier et al., 2003). However, educators did not show an increased amount of negative attitudes, but the participants who did show lower scores could be of concern for students in schools (Neumark-Sztainer et al., 1999). These results can then be compared to the results of the current study with educators to further enhance the generalizability of whether educators represent positive or negative attitudes towards obese individuals and their beliefs of the controllability of obesity.

Correlation between Self-esteem and Perceptions of Others

There are mixed results throughout research to supports an individual's self-esteem and prediction of their attitudes towards others, or what Rosenberg (1965) calls "public opinion attitudes" (Abrams & Hoggs, 1988; Sheerer, 1949; Branscombe & Wann, 1994). Rogers (1949) stated, self-acceptance can guide an individual towards the acceptance of others. Part of self-acceptance and public opinion attitudes stems from motivation. Motivation is an important component when addressing attitudes towards others (Rosenberg, 1965). Public opinion attitudes can be influenced by group consensus (i.e. social class, nationality, religious groups, etc.; Rosenberg, 1965).

An analysis was conducted to view the relationship between acceptance & respect for oneself versus the acceptance and respect for others (Sheerer, 1949). The findings indicated a positive correlation between how a person accepts and respects themselves and others (Sheerer, 1949). Additionally, there was a positive correlation between expressed attitudes of themselves and others (Sheerer, 1949). In conclusion, the findings from this study suggest a person's attitudes about themselves are related to their attitudes toward others (Sheerer, 1949).

In contrast, Abrams & Hoggs (1988) discussed self-esteem within the Social Identity Theory (Tajfel & Turner, 1986) and within group discrimination. Their findings produced mixed results. One reason these findings produced mixed results is self-esteem may not directly relate to discrimination (Abrams & Hoggs, 1988). Through their literature review at times high self-esteem can relate to positive behaviors towards the in-group, whereas low self-esteem could also represent discriminatory behaviors toward the same in-group (Abrams & Hoggs, 1988). However, this in-group discrimination can be guided through an individual's motivation to maintain a positive self-esteem (Abrams & Hoggs, 1988). For example, if an overweight or obese person discriminates against another overweight or obese individual it is because they want to maintain their own positive self-esteem.

Another component of self-esteem as a predictor of attitudes toward others was conducted through the lens of social identity (Branscombe & Wann, 1994). Discriminatory behaviors towards an out-group through defensive & self-enhancement purposes could be a factor with discrimination (Brancombe & Wann, 1994). When an individual's social identity is intimidated they become defensive towards the out-group to

protect their own insecurities through discrimination and negative attitudes toward others (Branscombe & Wann, 1994). A person with low self-esteem will participate in discrimination toward others to become protective of their group. However, when a person's social identity is reinforced, than those with high self-esteem will participate in negative attitudes towards others for self-enhancement purposes (Brancombe & Wann, 1994).

Although there is extensive research on self-acceptance and acceptance towards other there is minimal research on the relationships between self-esteem as a predictor of attitudes toward obese persons and beliefs about the controllability of obesity. One specific study explored the relationship between these three variables with undergraduate students (Klaczynski, Goold, & Mudry, 2004). Participants completed the Rosenberg Self-Esteem Scale (1965) which demonstrated self-esteem was negatively correlated with negative attitudes and stereotypes towards an obese person (Klaczynski et al., 2004). Moreover, the relationship between beliefs about obesity and self-esteem correlated to the extent of internal beliefs about thinness and negative attitudes toward obesity (Klaczynski et al., 2004).

Weight-Based Stigmatization and Discrimination

Increasingly over the past ten years research has demonstrated anti-fat attitudes, bias, and discrimination towards obese persons (Carels, & Musher-Eizenman, 2009; Chambliss et al., 2004; Greenleaf, Starks, Gomez, Chambliss, & Martin, 2004; Greenleaf & Weiller, 2005; Hare et al., 2000; Judge & Jahns, 2007; Morrison & O'Connor, 1999; Neumark-Sztainer et al., 1999; Puhl et al., 2008; Puhl & Heuer, 2010; Teachman & Brownell, 2001; Wang, Brownell, & Wadden; 2004; Puhl & Brownell, 2006). These

negative biases towards obese people have turned into prejudices against overweight people in today's society (Schwartz & Puhl, 2003; Teachman & Brownell, 2001). First of all, women are more likely to be viewed with anti-fat bias when compared to men (Morrison & O'Connor, 1999, Kraig & Keel, 2001). Secondly, children and adults experience weight-bias (Puhl & Heuer, 2009; Puhl & Latner, 2007) and face weight-based discrimination more often when compared to other types of discrimination (Andreyeva et al., 2008).

Weight stigmatization is referred to as stereotyping, physical and relational victimization, and social marginalization (Tang-Peronard & Heitmann, 2008). Weight-based discrimination is similar to weight stigmatization, but differs in that it places judgment(s) on a person because of the way they look. Furthermore, anti-fat bias is "an obesity prejudice in which the attribute of obesity influences expectations about the individual, often in terms of negative character assessments such as laziness, lack of self-discipline, and incompetence" (Morrison & O'Connor, 1999, p.468). Additionally, people who are prejudiced against overweight individuals can be representing a form of racism (Jalongo, 1999), which is referred to as "fatism".

The environments or surroundings in which overweight individuals experience bias and discrimination are: education, health care, health professionals, employment, and in school (Schwartz & Puhl, 2003; Teachman & Brownell, 2001; Neumark-Sztainer et al., 1999; Robinson, 2006). Consequently, weight-based discrimination is reported more often in schools than any other settings (Neumark-Sztainer et al., 1999). These negative perceptions, attitudes, and beliefs about obese persons stem from society's views of an individual. People believe than individual responsible for their weight and should be able

to control their weight gain or loss (Crandall, 1994). This is further explained as an attribution theory, which implies that obesity stigmatization is a direct result of social ideology that utilizes negative attributions (Crandall, 1994; Crandall & Schiffhauer, 1998). Likewise, this model states that individuals who are prejudice towards out-groups feel that these people have some type of negative attribute for which they should be held accountable (Crandall et al., 2001). Overall, obesity is perceived as an acceptable form of injustice and bias towards human beings (Schwartz & Puhl, 2003).

As previously discussed a positive correlation between perceptual reliance (judging an individual on their appearance) and negative attitudes and beliefs towards obese persons (Carels & Musher-Eizenman, 2009). Overall, this framework shows controllability is the reason obesity is stigmatized and discriminated against. Holding obese people accountable for their weight reflects attributions of blame and guilt. The idea that hard work represents success and lack of self-determination results in failure being correlated with obesity (Crandall, 1994). Moreover, negative attributes such as laziness and lack of willpower relate to society's message of "thin is good and fat is bad" (Schwartz & Puhl, 2003; Kraig & Keel, 2001).

Consequences of Weight-Based Stigmatization

As stated earlier, obese individuals report discrimination against weight-related bias and discrimination more often in the school setting than anywhere else (Neumark-Sztainer et al., 1999). The earlier weight teasing begins the more damaging it is to a child's emotional well-being (Eisenberg, Neumark-Sztainer, Haines, & Wall, 2006). Overweight and obese students often have negative school experiences beginning in preschool and all the way through college, experiencing weight bias both verbally (i.e.,

name calling and social isolation) and physically (i.e., pushing, hitting, shoving, etc.) especially from their peers (NEA, 2004; Gray et al., 2009). These particular students feel socially isolated in school from their peers, teachers, and parents. This isolation has a tremendous impact on their academic success (Gray et al., 2009). Consequently, obesity is considered "one of the most stigmatizing and least socially acceptable conditions in childhood." (Gray et al., 2009, p.720).

Weight-based bias also has a negative impact on children's psychological and social status. Weight-based teasing affects adolescents' psychosocial well being through: body dissatisfaction, low self-esteem, social isolation, anxiety, depression, suicidal thoughts, lower quality of life, and poor academic achievement (Eisenberg et al., 2003; Gray et al., 2009; Strauss & Pollack, 2003; Chambliss et al., 2004; Robinson, 2006; Adams & Bukowski, 2008; Friedman et al., 2005). Moreover, depression, body dissatisfaction, and low self-esteem increase the more an individual is stigmatized because of their weight (Friedman et al., 2005). Overall, the consequences from weight-based teasing can have a detrimental impact on an adolescent's well-being.

Anti-fat bias can create a negative social environment for obese children in school. Obese students experience more exclusion from social activities and are at an increased chance of societal stigmatization (Judge & Jahns, 2007). The more people view obesity as a negative trait the more it impacts obese persons emotionally, socially, and academically. Overweight adolescents are usually socially marginalized from their peers, have fewer friendships, fewer nominations for friendships, and develop sedentary lifestyles (Strauss & Pollack, 2003). Socialization and making friends is a part of the growth and development process. If students are constantly mocked and made fun of

because of their body shape, or size it eventually impacts their academic, social, and emotional well-being (Robinson, 2006). Additionally, a relationship exists between self-esteem, physical appearance, and body dissatisfaction when a child is teased both verbally and physically (Fox & Farrow, 2009).

More importantly, four hundred thirty one school children showed that body image dissatisfaction was higher with children who were teased when compared to those who were not (Kostanski & Gullone, 2007). According to NEA (1994, p.1), "For fat students, the school experience is one of ongoing prejudice, unnoticed discrimination, and almost constant harassment. From nursery school through college, fat students experience ostracism, discouragement, and sometimes violence." When weight based discrimination and bias repeatedly occur, children begin to have negative feelings about their physical appearance. As children begin to have negative feelings about their body type, it relates to an increased chance of depression (Adams & Bukowski, 2008). Consequently, these feelings impact daily activities and academic success.

Victimization is a pathway to depression for obese adolescents. Obesity is not the cause of depression; it is an individual's daily experience which is the cause of depression (Adams & Bukowski, 2008). A correlation exists between victimization and self-concept of an individual's physical appearance (Adams & Bukowski, 2008). As victimization repeatedly occurs children begin to have negative feelings about their physical appearance, which leads to increased chances of depression and suicidal thoughts and attempts (Adams & Bukowski, 2008). More importantly, these suicidal thoughts and attempts are two to three times higher when it is associated with weight-based teasing (Adams & Bukowski, 2008). Specifically, obese females have increased

depression about their physical appearance, especially when it is reinforced by victimization (Adams & Bukowski, 2008). These risks are more common with girls than boys because of societal pressures to maintain a certain body image (Robinson, 2006).

Overall, body weight is viewed as a controllable disease and obese individuals are judged more negatively as compared to non-obese individuals (Carels & Musher-Eizenman, 2009). The following information in this section will describe the different attitudes and perceptions that the general public, health professionals, and various school employees have about overweight and obese students.

General Public

College students' perceptions of obesity were explored with weight-related terminology using a variety of weight-related words, personality traits, and a scale to rate various female and male figure silhouettes (Greenleaf et al., 2004). The findings determined some participants related words such as pig, ugly, disgusting, and gross to match overweight words. The participants also associated negative terms, such as laziness, with obesity. These results showed that the general public has anti-fat attitudes and bias towards obese people (Greenleaf et al., 2004).

Students majoring in exercise science showed that on the implicit association test, which assessed conscious and unconscious preferences; undergraduate and graduate women had stronger implicit bias on the good/bad measure towards obesity but not on the lazy/motivated when compared to men (Chambliss et al., 2004). Furthermore, Caucasian participants and participants living in a rural area had increased negative attitude toward the good/bad measure (Chambliss et al., 2004). These participants believed that obesity was within a person's control and those who reported not having obese friends or family

members showed higher anti-fat bias when compared to participants who had obese family members and/or friends (Chambliss et al., 2004).

Individual differences between anti-fat bias and pro-thinness were investigated with young adults enrolled in a psychology course (Carels & Musher-Eizenman, 2009). Results yielded perceptual information such as appearance to be a deciding factor of their attitudes towards individuals. This perceptual information led to negative evaluations of obese individuals. These thoughts also add to anti-fat bias, which contributes to pro-thin bias when considering personality traits (Carels & Musher-Eizenman, 2009). Additionally, psychology undergraduate students who were exposed to two diet advertisements of obese persons (e.g., either in the before and after condition or in the before picture only condition), illustrated that the before only picture condition showed an increased rate of stigmatization when compared to the before and after condition (Geier et al., 2003). More specifically, participants who did not have a close relationship with an obese person had more negative views toward obese individuals (Geier et al., 2003).

Regardless of gender, obesity is perceived negatively more often than a thin or average weight individual (Brochu & Morrison, 2007). Furthermore, the general public is less likely to interact socially with overweight individuals, because they are viewed with negative attributes (Brochu & Morrison, 2007). Overweight individuals are stereotyped or discriminated against because of their weight from the general public, which has an impact on them both socially and emotionally.

Health Professional Perceptions

Health professionals also portray various forms of weight bias toward obese persons, which include various health professionals such as physicians, nurses, psychologists, social workers, and medical students. Health care professionals have a tendency to make inappropriate comments and suggestions toward overweight individuals especially during treatment (Puhl & Brownell, 2006). Furthermore, research demonstrates that health professionals specializing in obesity treatment also have anti-fat bias towards overweight people (Teachman & Brownell, 2001). It is imperative for health professionals to use sensitive language and be conscious of their interactions with obese individuals.

School nurse perceptions of obese students were examined; reported findings showed that school nurses felt obese children who received guidelines to losing weight would not and less than 75% of nurses recommended weight loss to school children (Moyers et al., 2005). Specifically, nurses felt that one serious cause of childhood obesity was peer rejection and the three leading causes of obesity were poor eating habits, high calorie intake, and inactive lifestyle (Moyers et al., 2005). Additionally, practicing nurses believed lifestyle factors were more important causes of obesity than genetics (Hoppe & Ogden, 1997). However, these practicing nurses gave appropriate advice to patients on how to lose weight but were not confident that the patients would follow through, which means they did not have high expectations for obese individuals (Hoppe & Ogden, 1997).

Five hundred American College of Sports Medicine Fitness instructors were randomly selected to explore their attitudes and perceptions of obesity (Hare et al., 2000).

It was found that 71% of these professionals believed that obtaining a normal weight status were very important and 83% felt that obese people are at a higher health-risk factor than non-obese people (Hare et al., 2000). The results also showed that 62% believed that obesity is a factor of rejection and 54% believed that obese people can lose weight if they tried (Hare et al., 2000).

Perceptions of overweight people were also examined with medical practitioners and clinical psychologists (Harvey & Hill, 2001). Results illustrated moderately and extremely overweight people being perceived as having lower self-esteem and unattractiveness (Harvey & Hill, 2001). Although participants had negative views they also stated genetic factors as a contributing cause to overweight. However, physical inactivity was also rated as one of the most important factor contributing to weight, which means obesity is viewed as a controllable disease, similar to smokers. Participants viewed obesity worse than overweight, which showed attitudes toward overweight people were more favorable than toward individuals (Harvey & Hill, 2001).

Similarly to medical practitioners and clinical psychologists, dietitians had negative views about overweight and obesity (Harvey, Summerbell, Kirk, & Hill, 2002; Harvey & Hill, 2001). However, dietitians rated obesity more negatively than overweight individuals (Harvey et al., 2002). Similar to the medical practitioners and clinical psychologists (Harvey & Hill, 2001) the most negative attitudes to describe overweight people were reduced self-esteem, sexual unattractiveness, and health (Harvey et al., 2002). Furthermore, physical inactivity, overeating, interpersonal issues, and repeated dieting were viewed as an important causal factor to overweight and obesity (Harvey et al., 2002).

Finally, attitudes and beliefs toward obese persons were examined with social workers (McCardle, 2008). Comparatively, social workers attitudes towards obese persons represented generally positive attitudes. However, the participant's beliefs about the causes of obesity demonstrated more negative views. Social workers believed overeating caused obesity, which was used as a form of compensation for love, overeating, poor eating habits, physical inactivity, lack of willpower, and food addiction (McCardle, 2008). Overall, the findings represented social workers belief that weight is within a person's control.

Unfortunately, weight stigma occurs among various types of health professionals. Therefore, school nurses need to be made aware of the victimization that occurs in schools, because victimization could impact academic performance, allow for decreased concentration, and absenteeism (Robinson, 2006). The studies discussed above show that there are healthcare professionals who specialize in physical fitness, treatment of obesity, or work with students daily who have negative attitudes toward overweight and obesity.

Educational Setting

Weight-bias research in educational settings has emerged through research over the past few years and continues to become explored even further. Weight bias is evident in all types of educational settings: elementary school, high school, or college weight-bias is evident. One of the first research studies to explore teacher perceptions was Neumark-Sztainer, Story, Faibischedd (1998), who researched educator's perceptions, and Puhl & Brownell (2001) who researched obese students confronted with bias and discrimination from their teachers and peers. The research presented in the following section provides

evidence of weight-bias occurring in schools from peers, physical educators, and teachers (Neumark-Sztainer et al., 1998).

Peer victimization. Obesity is considered "one of the most stigmatizing and least socially acceptable conditions in childhood." (Gray et al., 2009, p.720). Stigmatization from other children is referred to as peer victimization. There are two types of peer victimization: overt and relational victimization. Overt victimization, is known as physical acts of aggression, including teasing, bullying, pushing hitting, or kicking (Gray et al., 2009; Robinson, 2006). Relational victimization differs from overt victimization because it causes harm through interpersonal connections such as excluding peers from activities, social isolation, peer rejection, gossiping, and teasing, (Gray et al., 2009; Robinson, 2006; Fox & Edmunds, 2000). Furthermore, peer victimization is associated with lack of engagement in physical activity, exclusion from social activities, and negative attitude towards sports (Gray et al., 2009; Judge & Jahns, 2007).

Obese children have an increased risk of victimization from their peers because they are viewed as different and unattractive (Robinson, 2006; Adams & Bukowski, 2008). "Youth need to understand overweight individuals should not be "blamed" for their condition" (Neumark-Sztainer et al., 1999, p.3). The connection between weight and social status causes their peers to often stereotype obese children as a "least desirable playmate" (Gray et al., 2009; Robinson, 2006). In addition, this type of bias and discrimination has an impact on their academic success. Overweight and obese students often encounter negative experiences beginning in preschool through college, with both verbal and physical harassment and discrimination (NEA, 2004).

Peer victimization is a growing concern among children and adolescence; up to 30% of children experience emotional, verbal, or physical assaults by their peers (Gray et al., 2009). An estimated 50% of obese boys and 58% of obese girls stated considerable problems with their peers (Gray et al., 2009). Research demonstrates girls experience peer victimization more often than boys (Gray et al., 2009). However, the type of victimization is different between boys and girls. Females often experience relational bullying, which includes: weight-based teasing, jokes, and offensive name-calling (Gray et al., 2009). Boys experience more physical bullying such as fighting and kicking (Gray et al., 2009). Consequently, the weight-based stigmatization increases as children move through grade levels in school (Gray et al., 2009).

When preschool children (ages 3-5) were provided a story with a "mean" and "nice" character, children characterized the chubby figure as "mean" and the thin figure as "nice" (Cramer & Steinwert, 1998). Results showed that preschool children develop weight based stigmatization early on in life. The same group of children was asked to identify characteristic traits for each figure; in addition to the overweight figure being labeled as mean, it was also labeled as an undesirable playmate. This type of weight-based stigmatization increases with age (Cramer & Steinwert, 1998). Additionally, four-year-old children characterized obesity as unattractive, selfish, lazy, stupid, dishonest, socially isolated, and high target for weight-based stigmatization (Schwartz & Puhl, 2003). Subsequently, children place negative attributes on children with large body types (Kraig & Keel, 2001).

Obese females reported on their lived experiences as overweight individuals and almost every female participant stated they were teased or made fun of because of their

body weight (Neumark-Sztainer et al., 1998). In comparison to average-weight females, obese females were teased three times more often (Neumark-Sztainer et al., 1998). Furthermore, 43% of adolescents stated, "It is disgusting when a fat person wears a bathing suit at the beach" and 21% said that, "On average, fat people are lazier than thin people" (Morrison & O'Connor, 1999). This demonstrated that overweight children and adolescents are often seen as undesirable, lazy, and greedy and associated with characteristics such as laziness and greediness (Fox & Edmunds, 2000). Additionally, obesity is sometimes labeled as disorganized, hopeless, and unsure (Morrison & O'Connor, 1999). Fourth and sixth grade students displayed negative perceptions of their obese peers, regardless of their age, gender, or weight (Schwartz & Puhl, 2003). Overall, children in school should be made aware of the consequences their words and actions have on an obese individual, because these can impact the individual both emotionally and socially.

Physical educators. Physical education classes are one of the main components of a student's day. Consequently, this is when they are criticized the most about their weight. Teachers have demonstrated lower expectations for obese students in the classroom and will contact them less frequently and provide minimal constructive feedback on their performance (Greenleaf & Weiller, 2005). If teachers perceive obese students in a different way it could have an impact on their academic performance.

Participants enrolled in NASPE membership of AAHPERD completed an assessment on their beliefs and attitudes about youth weight and physical performance using an Anti-fat Attitude Scale (Greenleaf & Weiller, 2005). The results showed that these physical educators believed that normal weight youth performed better physically,

were more social, cooperative, and had better reasoning skills than overweight children (Greenleaf & Weiller, 2005). More than 90% of the participants stated that overweight children are obese because they have poor eating habits and physically inactive, which is consistent with other researchers who have found anti-fat attitudes and personal beliefs about obesity students (Chambliss et al., 2004; Morrison & O'Connor, 1999, Kraig & Keel, 2001). Physical education classes should be administered with more careful planning to include a diverse population of students, especially when weight is concerned. The way that physical education classes are administered is imperative to students (Fox & Edmunds, 2000).

Teacher perceptions. Negative perceptions occur not only from obese peers and physical educators but classroom teachers as well. Teachers play an important role and can have a positive or negative impact on student's lives. Since weight-stigmatization exists in schools with educators it is easy to say that educators need to be made aware of the consequences that their actions have on obese students. Additionally, teachers should increase their awareness of weight bias in schools to change and improve their attitudes and beliefs towards obese students. Furthermore, teachers have the opportunity to develop positive school culture for obese students (Gray et al., 2009).

Weight-bias from school staff members is of great concern in schools. These negative attitudes and beliefs towards obese students have a detrimental impact on youth's social growth and well-being (Gray et al., 2009). An estimated one-fifth of school staff members labeled obese student as emotional, messy, and unsuccessful in school (Neumark-Sztainer et al., 1999). Additionally, 25% of teachers had negative perceptions of obese children such as less healthy, less tidy, less likely to succeed in

school, and more likely to have family problems (Gray et al., 2009). Furthermore, 50% of schoolteachers had strong attitudes and beliefs that obesity is a direct result of overeating and not enough physical activity (Gray et al., 2009). Results indicated teacher's perceptions had an actual impact on obese student's academic success, especially in relation to their social and behavioral performances (Gray et al., 1999).

Schroer (1985) researched reactions of pre-service and in service teachers with photographs of obese and normal weight children. Both the pre-service and in-service teachers perceived obese children more negatively than normal weight children. The attributes used to label the obese students were: less attractiveness, lower energy level, lower leadership ability, decreased self-esteem, and the inability to be socially outgoing (Schroer, 1985). Likewise, English teachers, school nurses, psychologists, and counselors were asked to grade student reports, rate students on likelihood of scholarships, and risk of experiencing personal problems (Quinn, 1987). These teachers were given pictures of the authors ranging in weight from 110-210 pounds. When given essays to grade, accompanied by the photograph, teachers rated the overweight and obese students negatively and least likely to receive any scholarships (Quinn, 1987). Additionally, the obese students were given higher negative ratings on risks for personal problems and recommendations for psychological referral (Quinn, 1987).

One of the first studies to incorporate a variety of educators and school staff from various disciplines: science, health, home economics, physical educators, school nurses, and social workers, explored beliefs and bias towards adolescent obesity in junior and high school (Neumark-Sztainer et al., 1999). Although results demonstrated more positive attitudes towards obese students; educators labeled obese students as untidy,

unsuccessful, and most likely to have family issues. Approximately half of their participants agreed that obesity correlates to overeating and poor eating habits and that obese people are unhealthy. Additionally, 43% of teachers reported feeling uncomfortable when they associate with obese people, 55% stated that obesity is caused by a lack of care and love, 28% also agreed that becoming obese can be one of the worst things to happen in their life, 66% agreed obese people are very self-conscious, 57% stated that obese people do not feel good about themselves, and 43% agreed that they feel uncomfortable when they relate to obese individuals (Neumark-Sztainer et al., 1999). Overall, anti-fat attitudes cause stress towards obese students, especially when it stems from educators and other staff members who work with children in schools (Neumark-Sztainer, 1999). Additionally, these results were consistent with social worker's attitudes and beliefs (McCardle, 2008). School social workers did not illustrate a large percentage of negative attitudes; however participants who had negative attitudes towards obese students are of concern for obese individuals in the educational setting (Neumark-Sztainer et al., 1999).

There is explicit research, which demonstrates persistent bias and discrimination against overweight people (Puhl & Brownell, 2001). Stigmatization is evident in areas of the general population, health care, and educational settings. Furthermore, stigmatization takes place at all ages and continues in the United States (Puhl & Brownell, 2001). These results can then be compared to the results of the current study with educators to further enhance the generalizability of whether educators represent positive or negative attitudes towards obese individuals.

Policymakers Prohibiting Weight Based Discrimination

Size discrimination is more socially acceptable in American society than racial or sex discrimination (Neumark-Sztainer et al., 1998; Puhl & Brownell, 2001). There are minimal legal options available to obese individuals who experience weight discrimination. Surprisingly, in the United States today there are no federal laws to protect obese individuals from discrimination (Puhl & Brownell, 2001). In some cases, federal laws prohibiting discrimination in employment, public accommodations, and housing can help cases based on weight discrimination if weight is proven as a disability (Solovay, 2005).

The information presented thus far provides evidence that weight bias and discrimination exist in the United States. Although there are no federal laws to protect obese individuals, several state and local statues have been enacted to protect individual persons from weight-based discrimination. These initiatives set an excellent standard for future policymakers to develop further programs and laws to prohibit discrimination against obese individuals. The following section will provide an overview of federal and state laws, which have the potential to be used in court to protect against weight-based discrimination.

Federal Laws

In some cases obese persons can try and protect themselves utilizing the Rehabilitation Act of 1973 (RA) and the Americans with Disabilities Act of 1990 (ADA), but individuals are not always protected under these two federal laws. The Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990 protect disabled persons from discrimination in employment.

Specifically, the Americans with Disabilities Act "increases a person's protections with employment, both statutes prohibit discrimination against an otherwise qualified individual with a disability solely on the basis of the disability" (NEA, 1994, p.7). The Americans with Disabilities Act was enacted in 1990 by the U.S. Congress and signed into law on July 26th by President George H.W. Bush. The Rehabilitation Act of 1973 protects people with severe disabilities from discrimination by organizations, federal government, and employment, which receive federal funding. The Rehabilitation Act provides employment opportunities in the public and private distribution for disabled persons. The Rehabilitation Act applies to employers and organizations that get federal funding from a federal department or agency, which includes hospitals, nursing homes, mental health centers, and human service programs. The Rehabilitation Act prohibits organizations and employers from excluding and/or denying a disabled person participation in a program. Furthermore, the act defines the term handicap individual as "means any individual who has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment and can reasonably be expected to benefit in terms of employability (paragraph 6)." In order for obese people to protect themselves using the Rehabilitation Act of 1973 they would need to prove that their obesity qualifies as a disability that has affected their major life activities.

The difference between the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973 is that the Rehabilitation Act only applies to federal funded institutions. Comparatively, both acts define the term disability and/or handicap individual as: "(1) a physical or mental impairment that limits a person to one or more major life activities, (2) a record of such impairment, or (3) being regarded as having

such impairment" (ADA, P.7). These two acts can protect obese persons with employment, but in order to be considered disabled, the person must be "morbidly obese" (Puhl & Brownell, 2001; Puhl et al., 2008).

Another federal statute that could be used in court to protect against discrimination is The Civil Rights Act of 1964. The Civil Rights Act was enacted into law on July 2, 1964 by the 88th congress, which states "All persons shall be entitled to the full and equal enjoyment of the goods, services, facilities, and privileges, advantages, and accommodations of any place of public accommodation, as defined in this section, without discrimination or segregation on the ground of race, color, religion, or national origin (Line116-121)." Although, body weight, height, size, or physical appearance is not one of the categories this federal act was used in court cases to protect obese individuals.

Considering there are no federal laws in place protecting obese individuals from weight bias and prejudice in the U.S. such laws are needed in order to protect these individuals. People vary in size, weight, and height, but are continuously judged based on their appearance throughout education, employment, medical professions, and public accommodations (Solovay, 2005; Puhl & Brownell, 2001). It is important that the government, policymakers, school districts, employers, etc. work collaboratively to develop polices to prohibit weight-based discrimination, which will allow these individuals to protect themselves from discrimination in everyday life (Solovay, 2005).

State Laws and Local Statues

Several states have passed a law or are in the process of enacting a policy to protect individuals from weight-bias. The states and cities that took the initiative to move forward with protection of weight-bias are: Michigan, District of Columbia, Santa Cruz,

California, San Francisco, California, and Urbana, Illinois. In addition, both Massachusetts and Nevada have filed for weight-bias bills that are currently pending. The following section will describe in depth the state laws that aim to protect obese individuals.

Michigan enacted a law entitled, Elliott-Larsen Civil Rights Act 453 of 1976, Chapter 37 which prohibits discriminatory practices, policies, and the rights of others based on race, religion, color, origin, age, sex, height, weight, familial status, or marital status. Michigan's civil rights law protects obese individuals from weight-bias in employment, public accommodations, educational facilities, public service, real estate and housing. The Elliot-Larsen Civil Rights Act was immediately enacted on March 31, 1977 and has been amended several times since then to accommodate changes in the United States.

Next, the Human Rights Act of 1977 enacted into the government of the District of Columbia was amended on March 14, 2007. The Human Rights Law Title 2 Chapter 14 human rights District of Columbia code ends discrimination based on race, color, religion, national origin, sex, age, marital status, personal appearance, sexual orientation, gender identity, familial status, family responsibilities, matriculation, political affiliation, genetic information, disability, and source of income. Definition twenty-two defines physical appearance as, "the outward appearance of any person, bodily condition or characteristics, dress, and personal grooming (Line 125-132)." Due to the description of physical appearance this act protects individuals from weight-bias discrimination based on weight.

In addition to states passing weight-bias laws, several cities also had success enacting laws prohibiting discrimination among weight, size, and/or physical appearance. San Francisco, California passed a law under the Human Rights Commission. The Human Rights Commission, Theresa Sparks, Executive Director, Mayor Edwin Lee, and David Chiu, President of San Francisco Board of Supervisors were all supporters. Article 33 of the San Francisco Police Code states the elimination of discrimination based on race, religion, color, ancestry, national origin, place of birth, age, sex, religion, creed, disability, sexual orientation, gender identity, weight or height. These individuals are protected in housing and public accommodations, businesses, and employment within the city and county of San Francisco.

Council members of Binghamton, NY: Massey, Kramer, Weslar, Collins, Webb, Gerchman, and Rennia also passed a law, The Binghamton Human Rights Law, Chapter 45, on December 15, 2008 giving the city permission "to protect and safeguard the right and opportunity of all persons to be free from discrimination based on age, race, color, creed, religion, national origin, ancestry, disability, marital status, sex, sexual orientation, gender identity or expression, weight or height and to empower the courts to provide remedies for any such discrimination (Line 6-11)". The law further defines weight as, "numerical measurement of total body weight, the ratio of a person's weight in relation to height or an individual's unique physical composition of weight through body size, shape, and proportions. Weight encompasses but is not limited to an impression of a person as fat or thin regardless of the numerical measurement. An individual's body size, shape, proportions, and compositions may make them appear fat or thin regardless of numerical weight (Line 37-44)." This human rights law protects people from

discrimination within employment, housing and real estate, businesses and public accommodations, and educational institutions.

Additionally, Santa Cruz, California passed a law, Prohibition Against Discrimination Chapter 9.83 which states, "To protect and safeguard the right and opportunity of all persons to be free from all forms of arbitrary discrimination, included discrimination based on age, race, color, creed, religion, national origin, ancestry, disability, marital status, sex, gender, sexual orientation, height, weight, or physical characteristics (Line 22-29)." The ordinance originally stated personal appearance but was then changed to physical characteristics. Furthermore, physical characteristics and weight were defined in the definitions section. Physical characteristics were defined as "a bodily condition or characteristic of any person, which is from birth, accident or disease, or from any natural physical development, or any other event outside the control of that person including individual physical mannerisms (Line 139-143)." Weight was defined as "the actual or assumed weight of an individual (Line 167-168)." This law protects obese individuals from discrimination in employment, housing and real estate, public accommodations, educational institutions, and public facilities.

Another state law, Urbana, Illinois passed a municipal code making it illegal for an employer to discriminate against people who are overweight. Todd Rent, the Urbana human relations officer has enforced its anti-discrimination laws for many years, in addition to those who were previously in office. Article III, discrimination, Section 12-37 originally enacted on April 24, 1979 prohibits discrimination of race, color, creed, class, national origin, religion, sex, age, marital status, physical and mental disability, personal

appearance, sexual preference, family responsibilities, matriculation, political affiliation, prior arrest or conviction record or source of income.

Impending Legislation

The most recent states in the process of enacting a weight discriminatory policy are Massachusetts and Nevada. Byron Rushing, a Representative of the Commonwealth of Massachusetts in 2007 introduced a policy entitled House No. 1844. It has attempted to make discrimination based on weight and height unlawful. The bill was originally introduced in 2007, but did not make it out of the committee. It was then reintroduced on July 14, 2011 to the Commonwealth of Massachusetts. If the bill is passed it will include weight and height as part of discrimination in employment, labor organization, housing, real estate, and public organizations.

Finally, the state of Nevada has introduced Assembly Bill No. 166, the Healthy Workplace Bill, which is supported by assemblymen Segerblom, Koivisto, Ohrenschall, Kihuen, Aizley, Mortenson, Munford, and Pierce. The introduction of physical characteristics to the original bill was introduced on February 13, 2009 to the committee on Commerce and Labor. The act prohibits employers from discriminating against an employee with respect to personal appearance of the employee. Located in section four physical characteristics is further defined as, "the bodily condition or physical attribute of a person that is a result of birth, injury, disease, or natural biological development including without limitation: (a) height, (b) weight, and (c) facial features, or (d) other aspects of appearance (Line 192-196)."

Legal approaches have the effort to improve the health and well-being of obese Americans and social acceptance of weight bias and discrimination (Puhl & Heuer,

2010). This justifies the necessity of legal action upon policymakers to protect overweight people (Puhl & Heuer, 2010). Policymakers can prevent children from social and emotional distress by developing programs and policies to protect obese students in school from their peers and educators (Puhl & Friedman, 2008).

Weight-Based Discrimination Court Cases

There are many federal and state court cases around weight-based discrimination in employment, public accommodations, housing, etc. Weight discrimination cases don't always prevail in court. Many weight discrimination cases claim their weight as a disability or perceived disability discrimination. Regrettably, according to the American Bar Association, 98 % of disability discrimination cases are decided in accordance with the employer (Ellin, 2000). However, there are many court cases, in which the plaintiff has prevailed if their obesity was proven as a disability. The two cases provided in this section prove that weight bias exists and that there is a still a need for policy change.

Federal Court Case

One federal case; *Cook v. Rhode Island, Department of Mental Health, Retardation, and Hospitals* prevailed in court in favor of the plaintiff. Mrs. Bonnie Cook, on November 1988, was an estimated 5ft. 3in. tall and weighed over 300lbs. She was working in a mental health facility for five years and had maintained excellent performance reviews. However, when she applied for a new position in the same facility as an institution attendant, she was denied the job. She was not given the new position because of her weight. Specifically, they told her she was too fat for the job (Taussig, 1994). It was also stated that she was at a higher risk for developing an illness because of her weight that would increase her use of sick days and possibly worker's compensation.

Even further, because she was denied employment, Mrs. Cook filed a case against Rhode Island Department of Mental Health, Retardation, and Hospitals claiming discrimination on the notion of her obesity as a disability under the Rehabilitation Act of 1973, which became known as *Cook v. Rhode Island Department of Mental Health, Retardation, and Hospitals*. In November 1993, this was the first U.S. Court of Appeals case to recognize morbidly obese as a disability under the Rehabilitation Act of 1973 (Taussig, 1994). Bonnie Cook won the case under the Rehabilitation Act of 1973 because her obesity was found to have no effect on her job performance. In addition, Bonnie Cook provided enough evidence to support her claim that she was disabled due to her obesity (NEA, 1994; Taussig, 1994).

State Court Case

Another important case *Gimello v. Agency Rent-A-Car Systems, Inc.* was a case in accordance with the Civil Rights Act, as part of discriminatory practices in employment. Joseph Gimello claimed that he was a victim of weight-based discrimination. At the time of termination, Joseph was 5 feet 8 inches tall and weighed approximately 225 pounds. He claimed he was terminated as an employee from Rent-A-Car Systems because of his obesity, which was unrelated to his qualifications as an office manager. When Joseph Gimello brought his case to court his employer claimed he was discharged due to poor performance on the job.

In December 1988, a New Jersey administrative law judge ruled in favor of plaintiff Joseph Gimello, that he was terminated due to his weight because all previous performance reviews were excellent. His case claimed he was physically disabled and therefore covered under the New Jersey Law Against Discrimination. Gimello was able

to provide enough evidence that he was a victim of discrimination because of his obesity, because his obesity was recognized as a medical condition. Civil rights act and the New Jersey Law Against Discrimination at times can support court claims against weight-based discrimination in employment when obesity is proven as a disability.

Closing Thoughts

A vast majority of children and adolescents are affected physically, emotionally, socially, and academically by weight based discrimination and bias. Negative attitudes against overweight individuals are stated through research as an acceptable form of prejudice, and the message of a "fat" person being "lazy, ugly, and unmotivated" correlates to social norms (Puhl & Brownell, 2001). Others view obesity as a personal failure and not as a disability that needs consideration from others (Fox & Edmunds, 2000; Crandall, 1994). Furthermore, as the general public allows weight bias and discrimination to occur, the more acceptable it becomes and greater the likelihood for increased negative attitudes in society about obese individuals (Puhl & Brownell, 2003). Every obese child, adolescent, and adult should be treated equally among the general public, health professionals, and educators.

Consequently, the information presented in the literature review represents several gaps in research. There is limited research exploring teacher's attitudes and beliefs about obese students in schools (Neumark-Sztainer et al., 1999). Several researchers conducted studies in educational settings with students and physical educators (Neumark-Sztainer et al., 1999; Gray et al., 2009; Robinson, 2006; Kraig & Keel, 2001; Greenleaf & Weiller, 2005). Other have focused on prevention programs, intervention strategies, social workers, medical staff members, and stigmatized individuals (Harvey & Hill, 2001;

Friedman et al., 2005; McCardle, 2008; Puhl & Brownell, 2006). Puhl & Heuer (2009) recently reported a necessity for more research in educational settings. New and ongoing research in weight-bias research needs to be documented with the nature and extent of weight bias among educators and school staff. It is necessary for educators to prevent weight bias, increase acceptance, and decrease negative attitudes and behaviors towards obese children (Latner & Stunkard, 2003). Moreover, through this literature review and the findings of this study, the researcher hopes to add to current research about teacher perceptions, beliefs, and attitudes about obese students and extend information on policy formation to protect against weight based discrimination and bias towards obese persons.

CHAPTER THREE: Methodology

In this chapter details are provided throughout each section to describe the research design, chosen methodologies, and procedures for the research study. More specifically, this chapter reviews the: (a) purpose of research; (b) population and sample; (c) research design; (d) data collection methods; (e) instrumentation; (f) research questions; (g) methods of data analysis; (h) ethical considerations; and (i) limitations to the study.

Purpose of Research

The purpose of this study was to explore teacher attitudes of obese students and their beliefs about obesity. The investigation specifically focuses on: (a) the relationship between beliefs and attitudes; and (b) correlations between teacher's self-esteem and their attitudes and beliefs about student obesity. A descriptive-correlational design was used for this study to collect quantitative data through three different self-administered surveys (i.e. ATOP, BAOP, & RSES) from 893 practicing certified educators located in Central, Northern, and Southern New Jersey School District.

Role of the Researcher

Part of my role as the researcher was viewed through the transformative paradigm which involves a culturally diverse group with a focus on increasing social justice (Mertens, 2010). Bias and discrimination are the basis for social inequity and injustices, due to the manner in which people view underrepresented groups of people (Mertens, 2010). This paradigm recognizes the inequalities and injustices in the world and the desire to change the norm to a more positive view (Mertens, 2007). Through this

paradigm, the researcher gathers insight to include the community of the school (i.e. administrators, educators, school counselors, etc.).

There are uncontrollable conditions that are associated with a higher risk of discrimination due to several factors: physical, historical, and economic (Mertens, 2009). Underrepresented individuals do not have access to the same quality of life or resources such as education, medical health, or psychosocial as their peers (Mertens, 2009). This paradigm acknowledges challenges in the world and the need to address these issues in order to sustain a social change (Mertens, 2009).

The methodological assumption is the inquiry that guides the research study (Mertens, 2007). The strategy of inquiry chosen for this research is descriptive-correlational design. A quantitative inquiry can capture vast amount of data from numerous participants in order to generalize the findings of teacher attitudes towards obese students. This component impacts participants in the study because when changes are recommended or implemented in the future, it is geared towards their needs (Mertens, 2007). The axiological assumption, the nature of ethics is necessary to predict how the school community will react if the results display inequities among students (Mertens, 2007). Ensuring that all participants are treated fairly and ethically through this assumption is important.

The transformative paradigm correlates to my leadership role, which allows this research to take a position in favor of obese students and the way teachers perceive them. Sensitivity towards the needs of this population of students and advocacy of a positive attitude as a result of this research project can improve the way the world views obesity.

As the researcher, addressing the issue of obesity prevents this type of discrimination from growing.

The philosophical assumptions regarding my research study focuses on obesity, this stems from my past experiences. As a child and through my college years I was always either overweight or obese. I remember being stigmatized by my peers, discriminated against by my teachers, and publically humiliated. There were many incidents when the "teasing, name calling, and social isolation" affected who I was as a person and my success in school. I specifically remember an incident that occurred in elementary school with a young boy. One day he wrote me note that stated, "You are so fat, no one likes you." After reading this note, not only was I devastated but humiliated in front of the whole class as they began to laugh at me. When I handed the note to my teacher, all she did was reprimand the boy. Unfortunately, there was no action put into place for the young boy, but the memory stays with me forever.

As an active researcher, the purpose of this quantitative study was to avoid my own assumptions with the findings of this research. Additionally, the purpose was to gather data to make policymakers and school districts aware of weight-based stigmatization and its consequences. I hope that through the knowledge and information gained in the study individual policymakers, organizations, and school districts will develop and implement a law protecting obese students in school from the same type of bias and discrimination that I experienced. Overall, I my goal of the research study was to positively impact obese students, especially those who experience stigmatization and bias in schools.

Population and Sample

The targeted population for this study was certified educators employed in Central, Northern, and Southern New Jersey School Districts (N = 893). There were thirteen schools included in this particular study: eight elementary, an intermediate, two middle schools, and two high schools. The target population for this study was certified professional staff members either employed at Southern (n =388), Central (n = 155), and Northern (n = 350) School District totally 893 participants. Information provided from the New Jersey Department of Education the total number of certified staff members employed in the state of New Jersey is 136,441, a sample of 399 was needed in order to generalize the findings to educators in the state of New Jersey (Israel, 1992).

The research study used purposive sampling of 893 practicing educators in three school districts in New Jersey (with institutional review board [IRB] permission; Appendix A). Participants were recruited from thirteen schools representing all educational levels: elementary, intermediate, middle, and high school. Purposive sampling is a selection sample of participants based on the purpose of the research (Sullivan, 2009; Singh, 2007). Khan (1998) further explained purposive sampling as a type of non-random sampling, which means participants were not chosen at random. This type of sampling is useful to select targeted subjects based on the need of the research (Singh, 2007). A large sample was established through purposive sampling because of the particular characteristics sought for the purpose of this study. Eligibility criteria included certified active educators within a chosen school district (Clark-Carter, 2010). More specifically, certified staff members for the purposes of this study included: teachers, school counselors, school nurses, administrators, school psychologists, child

study teams, speech therapists, and learning consultants. The sample frame did not include non-certified teachers such as: lunch aids, preschool aids, and administrative assistants. The researcher located and contacted the all three New Jersey school districts to conduct the research with the selected participants.

Research Design

This descriptive correlational research design utilized self-administered surveys to try and explore teacher's perceptions of obese students. The survey in this study explored participant's attitudes and beliefs about obesity, as well as, their self-esteem. In utilizing survey research the participants were open to provide information based on their own background knowledge and experiences related to the topic of study. The following section provides information about descriptive correlational design and survey research in further detail.

Descriptive Correlational Research

The research design for this study was descriptive correlational, in which three variables were investigated through the use of survey research. Descriptive correlational research design describes the size and allocations of different attributes in any given population and makes connections and relationship between two or more variables (Groves et al., 2009; Burns & Grove, 2003; Young, 2010). Descriptive correlational design also describes variables and examines the relationships among them. Specifically, the rationale for correlational research in this study presented interrelationships and examined variables within a situation that is presently occurring (Burns & Groves, 2003). Additionally, correlational research was used to determine the relationship between three variables (e.g. attitudes, beliefs, and self-esteem) without manipulating the variables in

anyway (Young, 2010; Burns & Grove, 2003). The findings through descriptive correlational design can be generalized to the selected sample of participants, which included all certified staff members (Drew, Hardman, & Hosp, 2008).

Survey research is also referred to as descriptive research. "A survey is a systematic method for gathering information from (sample of) entities for the purposes of constructing quantitative descriptors of the attributes of the larger population of which the entities are members" (Groves et al., 2009, p.2). It is generally called descriptive research because the purpose of the research study is to explain the participant's opinion, attitude, or behavior related to a specific phenomenon, in this case obesity. This type of inquiry is utilized to gather data from a large population directly asking for their knowledge (Young, 2010). Survey research is a way to provide two-way communication between the researcher and their participants without imposing on them for a large amount of time or obliging them to respond to a survey if they chose not to participate (Alreck & Settle, 2004). It is a numeric design to describe attitudes and opinions of a chosen population by providing surveys (Creswell, 2009). A survey provides a quantitative analysis by studying a sample population and from those results the researcher may indicate assumptions presented through the analysis of data (Creswell, 2009).

Data collected through survey research is effective toward describing and exploring a phenomenon that is occurring in the world within a population (Young, 2010). Surveys are commonly used for research inquires in a descriptive correlation study to develop an understanding of the way things work, making connections/explain relationships, and to test theories of behavior (Groves et al., 2009). The advantages to conducting descriptive correlation research design through surveys allows for a rapid

turnaround rate in data collection and the opportunity to sample a large population at one point in time (Creswell, 2009).

This study specifically used the Dillman Tailored Method (DTM) in combination with Survey Monkey (Dillman, 2007). This design seeks to maximize response rates, as well as, reduce survey errors from coverage, sampling, measurement, and nonresponse (Dillman, 2007). The DTM creates trust among participants and provides rewards to outweigh the costs for participants (Dillman, 2007). In order to establish trust, rewards, and costs the researcher provided an incentive in advance, thanks participants, shows appreciation, makes the questionnaire interesting, keeps participants anonymous, and avoids an inconvenience or embarrassment to participants (Dillman, 2007). Furthermore, DTM establishes various contacts with participants to increase response rates and motivate respondents to participate in the survey. The Dillman Tailored Method will be further outlined in detail in the data collection section.

Overall, the purpose of this research, weighing in on teacher's attitudes of obese students, allowed the sample population to contribute their thoughts to the topic of study. Various methods were developed and introduced to measure attitudes and beliefs about obesity. Although, descriptive correlational design has limitations, which is further outlined in the limitation section, this study was the first study to examine the relationships between the three variables; attitudes about obesity, beliefs about obesity, and self-esteem with certified educators working in all levels of education: (a) elementary; (b) intermediate; (c) middle; and (d) high school.

Cross-Sectional Collection

Data was collected cross-sectionally, which meant data was collected at one point in time from a large sample to generalize findings to certified educators in New Jersey (Fink, 2009). This type of survey collection was helpful with reporting descriptive statistics and representing relationships among variables (Fink, 2009). The assessments from each of the four schools were collected on different days, within a month's time. Therefore, the purpose for cross-sectional design was to collect data quickly and develop results in a timely fashion (Young, 2010). Furthermore, cross-sectional design collected information from surveys during one time frame, in order to report participant's current attitudes, beliefs, and opinions (Young, 2010).

Data Collection

Prior to data collection, the researcher completed a formal proposal to the Central, Northern, and Southern New Jersey school district and received permission to conduct the study (Appendix B, C, & D). Approval was granted from the Southern New Jersey school board on March 30, 2011 school board meeting, the Superintendent from the Central New Jersey school district on June 28, 2011, and the Superintendent from the Northern New Jersey School district on October 31, 2011. After I received permission, an application to the Rowan University Institutional Review Board (IRB) was submitted for permission on April 27, 2011 to complete the research (Appendix A, IRB approval letter). Additionally, an addendum was submitted to IRB to include the Northern New Jersey School District and permission was granted on December 5, 2011. Once IRB approval was granted the data collection occurred during the fall and winter of 2011-2012. Likewise, permission was granted to use the instruments from the subsequent

authors; (a) Attitudes Toward Obese Persons Scale Revised [ATOP] (Allison et al., 1991, Appendix E) and (b) Beliefs about Obese Persons Scale Revised [BAOP] (Allison et al., 1991, Appendix E). Permission was not needed to use the Rosenberg Self-Esteem Scale [RSE] (Rosenberg, 1965, Appendix J) as the author is deceased and the instrument is available with a disclaimer online for the purpose of research.

Data collection took place in all school districts from November 2011 through February 2012. The researcher scheduled all dates with school administrator to administer the surveys with Survey Monkey. Participants were permitted to withdraw at any time from completing the surveys (e.g., consent form [Appendix F]; Demographic Questionnaire [Appendix G], Pecoraro, 2011; ATOP, [Appendix H], Allison et al., 1991; BAOP, [Appendix I], Allison et al., 1991; RSE, [Appendix J], Rosenberg, 1965).

Dillman Tailored Method

The data collection utilized the Dillman Tailored Method, which is well-known in maximizing survey response rates through varied contacts, providing incentives, personalizing correspondence, and making surveys user-friendly (Dillman, 2007). This design communicates the importance of respondents' participation in the survey to also maximize the response rate. This method also establishes trust and motivation with the participants to prevent bias and response error within data collection (Dillman, 2007). This research studied used three varied contacts, as suggested from the Dillman Tailored Method, which will be described in further detail below (Dillman, 2007).

The initial contact (Appendix F) contained a pre-notice to the upcoming survey that would be emailed to each participant and informed consent form introducing the research study and notifying participants that surveys were voluntary, they could

withdraw at any time, and were kept anonymous at all times. Additionally, in order to ensure total population of the survey contact participants were notified of an incentive, which included a staff breakfast/luncheon for the Southern and Central school district provided by the researcher. Furthermore, in place of a breakfast/luncheon the Northern New Jersey School district was entered into a monetary sweepstakes in conjunction with Survey Monkey to win a $100.00 gift card paid for by the principal investigator. This would provide further assurance that the response-rate for the survey collection would increase (Dillman, 2007).

The second contact was an emailed link to Survey Monkey to access the three assessments. The email asked participants to take approximately ten minutes to complete the demographic survey (Appendix G) and three assessments (e.g. ATOP, Appendix H, Allison et al., 1991; BAOP, Appendix I, Allison et al., 1991; RSES, Appendix J, Rosenberg, 1965). Once the participant completed the surveys, an email was sent to the researcher notifying their completion. The three assessments took participants approximately 5-10 minutes to complete.

The third and final contact was a follow-up email thanking and acknowledging all respondents for their participation. Due to limitations set forth from school administrators this email also contained a reminder to all participants who have not completed the survey that there is still time to participate and of their importance in the research study (Dillman, 2007). These varied contacts were enacted in order to build trust with participants studying order to encourage a larger response rate (Dillman, 2007). Finally, completed surveys were used for data analysis and further implications.

Several principles established by Dillman (2007) for Internet and web surveys were employed in this research study. The first was *Principle 11.10: Introduce the Web questionnaire with a welcome screen that is motivational, emphasizes the ease of responding, and instructs respondents about how to proceed to the next page* (Dillman, 2007, p.377). When participants reached the welcome screen it contained an inviting short message for participants; and gave them directions to complete the questionnaires with ease. Next was *Principle 11.12: Choose for the first question an item that is likely to be interesting to most respondents, easily answered, and fully visible on the welcome screen of the questionnaire* (Dillman, 2007, p.378). The first question chosen grabbed the participant's attention and motivated them to continue with the remainder of the questionnaire. Additionally, Dillman (2007) states the importance of the first question tells the participants whether it will be difficult or easy to self-administer.

The fourth was *Principle 11.13: Present each question in a conventional format similar to that normally used on paper self-administered questionnaires* (Dillman, 2007, p.379). Each question listed was numbered (left aligned in a large reverse print black box) and text was left aligned similar to paper format. This allowed participants to view the order in which questions should be answered. Additionally, sentence stems were separated from answer spaces and answer spaces were vertically listed and indented (Dillman, 2007). Next was *Principle 11.14: Restrain the use of color so that figure/ground consistency and readability are maintained, navigational flow is unimpeded, and measurement properties of questions are maintained* (Dillman, 2007, p.382). According to Dillman (2007) the use of color provides a threat to participant's responses. For the purposes of this study, color was eliminated and used only black text

with a white background to avoid any type of threats to participants' responses. The sixth principle was *Principle 11.15: Avoid differences in the visual appearance of questions that result from different screen configurations, operating systems, browsers, partial screen displays, and wrap-around text* (Dillman, 2007, p.386). In this study the visual appearance of questions was on a full-screen display to minimize any differences among questions (Dillman, 2007).

Next was *Principle 11.16: Provide specific instructions on how to take each necessary computer action for responding to the questionnaire, and give other necessary instructions at the point where they are needed* (Dillman, 2007, p.389). Directions for responding to questions were provided in italics for each questionnaire to eliminate any confusion. The eighth principle was *Principle 11.17: Use drop-down boxes sparingly consider the mode implications, and identify each with a "click here" instruction* (Dillman, 2007, p.392). In this research study, drop down boxes were only located in the demographics scale. Furthermore, to avoid any type of bias the phrase "click here" was given in order to view all answer choices (Dillman, 2007). Next was *Principle 11.18: Do not require respondents to provide an answer to each question before being allowed to answer any subsequent ones* (Dillman, 2007, p.393). In order to collect reliable information participants were allowed to leave questions unanswered at any time throughout the survey if they chose to do so. One-option for participants were to use the response labeled "prefer not to answer," which was not scored during data analysis. The tenth principle was *Principle 11.19: Provide skip directions in a way that encourages marking of answers and being able to click the next applicable question* (Dillman, 2007,

p.394). In this research design, there were no skip directions provided. The constructs were designed for participants to answer all questions.

Next was *Principle 11.20: Construct web questionnaires so they scroll from question to question unless order effects are a major concern, or when telephone and Web survey results are being combined* (Dillman, 2007, p.395). In this study participants were allowed to scroll from question to question only for each construct. For example, participants were able to view all ATOP sentence stems by scrolling through the page. However, once they completed the ATOP, then it was necessary to click "next page" in order to view the BAOP construct. The twelfth was *Principle 11.21: When a number of answer choices exceeds the number that can be displayed in a single column on one screen, consider double-banking with an appropriate grouping device linking them together* (Dillman, 2007, p.396). For the purposes of this research study, answer choices did not exceed the number that can be displayed on a single column. The next principle was *Principle 11.22: Use graphical symbols or words that convey a sense of where the respondent is in the completion process, but avoid those that require significant increases in computer resources* (Dillman, 2007, p.397). The Internet assessment allowed participants to scroll from question to question and to view their completion process with a progress bar. Finally, *Principle 11.23: Exercise restraint in the use of question structures that have known measurement problems on paper questionnaires, such as check-all-that-apply and open-ended questions* (Dillman, 2007, p.398). In this research design, answer choices did not include "check-all-that-apply" and there were no open-ended questions.

Instrumentation

The assessments that were administered and analyzed in this research study included: (a) Attitudes Toward Obese Persons Scale Revised [ATOP] (Allison et al., 1991, Appendix H), (b) Beliefs About Obese Persons Scale Revised [BAOP] (Allison et al., 1991, Appendix I), and (c) Rosenberg Self-Esteem Scale [RSES] (Rosenberg, 1965, Appendix J). In addition to these three surveys, this researcher created a Demographic Survey (Appendix G) that was necessary for the context of this study. For the purpose of this study the concept of attitudes was defined as, "predispose people to act in a certain way toward the object of the attitude" (Alreck & Settle, 2004, p.13) and beliefs was defined as whether or not participants believe obesity is controllable or uncontrollable. The following section will describe the psychometric properties of each instrument.

Demographic Survey

The Demographic Survey (Appendix G) is a one-page assessment created by the researcher. The 10-item instrument asked certified educators to answer questions about personal information such as: age, ethnicity, and gender, level of education, school position, and years of teaching. Additionally, the Demographic survey (Pecoraro, 2011) incorporated two Likert-type questions that asked participants to rate their current body weight on a scale of 1 (Extremely underweight) to 5 (Extremely overweight). The second question asks participants to rate how satisfied they are with their body weight on a scale of 1 (Extremely unsatisfied) to 4 (Extremely satisfied). Furthermore, the Demographic survey incorporated two yes or no questions: Do you have any obese family members or friends and do you have a close relationship with an obese individual? Prior to using the Demographic Survey (Pecoraro, 2011) in this research study, it was evaluated for

readability and simplicity by the chairperson and committee members. This demographic assessment will portray the background information necessary on the population. This demographic profile can be used to compare the population to the items from other surveys.

Attitudes Toward Obese Persons Scale (ATOP)

The Attitudes Toward Obese Persons Scale (ATOP; Allison et al., 1991; Appendix H) is a 20-item 6-choice Likert-type scale. Respondents completed the instrument rating each item on a scale from -3 (strongly disagree) to +3 (strongly agree). For the purposes of this research, sentence stems were slightly altered to focus on teacher attitudes of students. Therefore, the only difference was a change in a noun to make the sentence stems relevant to the research. For example, item 1 on the original form, "Obese persons are as happy as non-obese persons" is altered to "Obese students are as happy non-obese students."

The Attitudes Toward Obese Persons, created by Allison et al. (1991) is a representation of the Attitudes Towards Disabled Persons Scale (ATDP) developed by Yuker & Block (1986). Additionally, several of the items were also created by the researchers and supplied from the "Attitudes Towards Disabled Persons Scale and the disparaging image factor of the Maiman, Wang, Becker, Finlay, & Simonson (1979) scale" (Allison et al., 1991, p.602). The ATOP (Allison et al., 1991) was originally established for the purpose of creating an instrument that was a valid measure of an individual's attitudes toward obesity. Previously developed scales did not measure psychometric properties (i.e. reliability and validity) of the data. Furthermore, internal consistency was low (alpha=.66) which was "unacceptable" according to Springer, Abell,

& Nugent (2002). Therefore, Allison et al. (1991) confirms the difference between ATOP and other constructs is its psychometric measures and high internal consistency. Thus, the responses represent a projection of the participants' attitudes toward obese individuals.

Allison et al. (1991) created a document that includes the development of the scale, original copies of ATOP, an explanation of how to score the ATOP, and a detailed description of the reliability and validity of the instrument. Scoring the ATOP can be completed by the researcher. The scoring instructions provided by the researchers (Allison et al., 1991) state to multiply the response to the following items by -1(reversing the direction of the scoring) for items 2-6, 10-12, 14-16, and 19-20. Next, all items are added together. Then 60 is added to the sum of the responses determined in the second step, which is the value of the ATOP score. Higher values represent positive attitudes toward obese people (Allison et al., 1991).

The ATOP was developed using three different sample populations. The first sample population was 514 members of the National Association to Advance Fat Acceptance (NAAFA) (Allison et al., 1991). This chosen sample was obese individuals concerned with issues faced by obese persons. Allison and colleagues (1991) expected this sample to have comparatively positive attitudes. The second sample was 52 graduate students enrolled in psychology, and the third sample consisted of 72 undergraduate students. The reliability for the ATOP was evaluated by coefficient alpha. The reliabilities for each sample were .84 for the NAAFA sample, .81 graduate students, and .80 for the undergraduate (Allison et al., 1991). Overall, the scale has a reliability range of .80 to .84, which demonstrates a minimally acceptable reliability coefficient (Springer

et al., 2002). However, Nunnally (1978) documents that a Cronbach alpha of .70 is a reliable score for basic research. The numerous correlations were .41 for the NAAFA participants, .53 for the graduate sample, and .41 for the undergraduate students, all-significant at the .001 level (Allison et al., 1991). As a result of this study, it may be concluded that the ATOP represents both a reliable and valid measurement.

The ATOP also used a multiple regression analysis as the criterion variable yielded a multiple coefficient (r = .41) for the NAAFA sample (Allison et al., 1991). Gender had some significant correlation with the scores, which clarifies 3%-9% of the variance (Allison et al., 1991). Additionally, females had somewhat less positive attitudes than males and were more often influenced by their socio-economic status and their perceptions of their own weight when compared to males (Allison et al., 1991).

Moreover, a multiple correlation coefficient r = .53, explained 28% of the variance in ATOP scores, which was gathered from the graduate population (Allison et al., 1991). Finally, personal weight negatively correlated with ATOP scores, explaining 1-2% of the variance (Allison et al., 1991). This meant that people who viewed themselves as relatively thin had more positive attitudes toward obese persons than people who viewed themselves as heavy (Allison et al., 1991).

The 20 items on the ATOP scale were also analyzed for all samples combined. A three-factor solution was picked based on the Scree test (Allison et al., 1991). It represented 42% of the variance (Allison et al., 1991). Factor I, titled *Different* Personality, which represented 23% of the variance, because it reflected negative personality traits towards obese persons (Allison et al., 1991). Factor II, titled *Social Difficulties,* represented 11% of the variance, because it determined the relationship

between social issues and obese people (Allison et al., 1991). Factor II, titled *Self-*Esteem, represented 8% of the variance, and was related to self-perception of obese individuals (Allison et al., 1991).

As a result of the development of the ATOP scale, several other studies have utilized the ATOP scale to provide additional reliability, validity, and statistical information. Evidence for the construct validity and a high level of inter-rater reliability of the ATOP is provided by several lines of research, reviewed within a diverse number of populations (Allison et al., 1991; Carels & Musher-Eizenman, 2009; Harvey & Hill, 2001; Friedman et al., 2005; Geier et al., 2003; Puhl & Brownell, 2006). The instrument was utilized with health professionals, school nurses, social workers, and the British Dietetic Association (Harvey & Hill, 2001; Neumark-Sztainer et al., 1999; Harvey et al., 2002; McCardle, 2008). Following this further, the ATOP was utilized with educators, college students, and obese stigmatized individuals (Neumark-Sztainer et al., 1999; Carels & Musher-Eizenman, 2009; Puhl & Brownell, 2006; Friedman et al., 2005). Considering the difference between ATOP and other constructs is its psychometric measures and high internal consistency attitudes toward obese (Allison et al., 1991); it is feasible to utilize this instrument for the purposes of this research study.

Beliefs About Obese Persons Scale (BAOP)

The Beliefs About Obese Persons Scale (BAOP; Appendix I) is designed to measure the degree that one considers obesity is under the control of the obese person (Allison et al., 1991). The original BAOP scale had 10 questions; two of those questions were weakly interrelated with the total score and restrained the reliability of the scores. When these two questions were removed from the scale, the reliability scores increased.

Some questions were adapted from Harris & Smith (1982) & Maiman et al. (1979) and other questions developed by Allison et al. (1991). Questions and items for this scale were chosen based on validity and effectiveness in measuring beliefs about obesity. Allison et al. (1991) found that the BAOP scale has a reliability range of .65 to .84, which according to Springer et al. (2002) is minimally acceptable. However, according to Nunally (1978) .70 and higher is considered to have good reliability.

BAOP is an 8-item 6-choice Likert-type scale, in which participants rate each item on a scale from -3 (strongly disagree) to +3 (strongly agree). For the purposes of this research, sentence stems were slightly altered to focus on teacher beliefs of students. Therefore, the only difference was a change in a noun to make the sentence stems relevant to the research. For example, on the original form, "Most obese persons eat more than non-obese persons" is altered to "Most obese students eat more than non-obese students." High scores show the belief that obesity is not within the control of an individual.

Allison et al. (1991) created a document that includes the development of the scale, an original copy of the BAOP, an explanation of how to score the BAOP, and a detailed description of the reliability and validity of the instrument. The researcher can complete scoring of the BAOP. The scoring instructions provided by the researchers (Allison et al., 1991) state to multiply -1 to the response of the following items by -1: number 1, 3 through 6, and number 8. Then, sum the responses to all items. Next, add 24 to the value obtained in the previous step, this is the value of the BAOP score (Allison et al., 1991). The higher scores represent stronger beliefs that obesity is uncontrollable (Allison et al., 1991).

The purpose of this study was to develop valid constructs to assess the relationship between, attitudes toward obese persons and beliefs about obese persons (Allison et al., 1991). As stated previously, participants included undergraduate students, graduate students, and individuals from the National Association to Advance Fat Acceptance (NAAFA). The BAOP originally contained ten statements, two of which were poorly correlated with the total score and affected its reliability (Allison et al., 1991). After these two statements were dropped from the original scale, the reliability for each cluster of participants reported: .82 for NAAFA, .65 for graduates, and .79 for undergraduates (Allison et al., 1991). As a result of this study, the NAAFA participants scored significantly higher than the other participants (Allison et al., 1991). Both graduate and undergraduate participants did not show significant differences (Allison et al., 1991). A multiple regression analysis established 16% of the variance (Allison et al., 1991). Even further, various correlation coefficient of $r = .53$ was determined (Allison et al., 1991).

As a result of the development of the BAOP scale, several other studies have utilized the BAOP scale to provide additional reliability, validity, and statistical information. Evidence for the construct validity and reliability of the BAOP is provided by several lines of research, reviewed within a diverse number of populations (Puhl et al., 2005; McCardle, 2008; Puhl & Brownell, 2006; Friedman et al., 2005; Puhl, Masheb, White, Grilo, 2010). The instrument was used with various populations such as: social workers, college students, educators, school health professionals, stigmatized obese students, and adults with and without binge eating disorders, which has strengthened its

reliability (Puhl et al., 2005; McCardle, 2008; Puhl & Brownell, 2006; Friedman et al., 2005; Puhl et al., 2010).

To further reliability of the BAOP, Allison et al. (1991) also analyzed correlations between the ATOP and BAOP. The graduate student sample showed significant correlations between the two constructs. This finding may have occurred because of the inadequate range of the other variables (Allison et al., 1991). The correlation between the BAOP and ATOP with the NAAFA and student samples showed no significant differences. When these two scales, Attitudes Towards Obese Persons and Beliefs about Obese Persons, were used simultaneously the scales are psychometrically satisfactory, with high internal consistency (Allison et al., 1991). The interrelationship between the two scales is significant. The results combined were similar in reliability, interrelationship, and factor structure. The attitude score (ATOP) was highly correlated with the belief score (BAOP) (Allison et al., 1991). The BAOP represented 16% to 20% of the variance in ATOP scores (Allison et al., 1991). A finding associated with beliefs showed that people who believe weight is controllable had more negative attitudes toward obese (Carels-Eizenman, 2009). More specifically, these companion scales were developed to represent the relationship between beliefs that weight is controllable and attitudes toward obese persons. The research presented above using the ATOP and BAOP strengthens the psychometric measure for this particular study. As a result, it may be concluded that there is enough support for the validity and reliability of both companion scales.

Rosenberg Self-Esteem Scale (RSES)

The Rosenberg Self Esteem Scale (RSES; Appendix J) is a widespread one-dimensional measure of self-esteem. Rosenberg (1965) designed the self-esteem scale to measure global feelings of self-worth, self-respect, and self-acceptance. The RSES asks participants to state feelings about themselves directly (Rosenberg, 1965). There are many advantages to the RSE scale, it was designed to be easily administered in a short amount of time, constructed on a fifth grade reading level, unidimensionality, and face validity (Rosenberg, 1965; Gray-Little et al., 1997).

The RSES originally used the Guttmann scale, but is now commonly used and scored as a Likert scale. It is a10 item 4 point scale ranging from strongly agree (3) to strongly disagree (0) (Blascovich & Tomaka, 1991). Items include questions such as "I feel that I have a number of good qualities" and "I feel that I'm a person of worth, at least on an equal plane with others." Items on the RSES scale are equally worded, both positively and negatively. The purpose was to decrease the effect of respondent set (Rosenberg, 1965). Questions and items for this scale were chosen based on high reliability and validity of the scale.

Participants rate each item on a scale from strongly disagree (SD) to strongly agree (SA). The scale ranges from 0-30, with 30 indicating the highest score possible, 15-25 are within the normal range, and below 15 indicates low self-esteem (Rosenberg, 1965). In order to score the items, assign a value to each of the 10 items as follows: numbers 1, 2, 4, 6, 7, Strongly Agree=3, Agree=2, Disagree=1, and Strongly Disagree=0. For items 3, 5, 8, 9, 10 (which are reversed in value): Strongly Agree=0, Agree=1, Disagree=2, and Strongly Disagree=3. Scores between 15 and 25

are within normal range; scores below 15 represent low self-esteem (Rosenberg, 1965). Overall, higher scores represent higher levels of self-esteem and lower scores represent lower levels of self-esteem (Rosenberg, 1965).

According to Gray-Little et al. (1997) the RSES scale was used in many studies with different populations such as a range of nationalities, ages, socioeconomic levels, ethnicity, and psychiatric conditions, and utilized for psychometric assessments. The RSES scale was reported in many studies with a high internal reliability. Investigators reported, including Rosenberg (1965) a coefficient alpha for the RSE scale ranging from a low of .77 for high school students, .74 for 11th and 12th grade male students (Byrne & Shavelson, 1987), .83 for 11th and 12th grade female students (Byrne & Shavelson, 1987) and various civil service workers (Schmitt & Bedeian, 1982) and a high of .88 for undergraduate college students (Gray-Little et al., 1997) and women aged 50 and older (Johnson, 1998). The scale has a reliability that typically ranges from .82 to .88 (Blascovich & Tomaka, 1991). Overall, according to Springer et al. (2002) this scale produces a "respectable" internal reliability. Blascovich & Tomaka (1991) also reported a test-retest correlation range of .82 to .85.

The design of the RSE was conducted with 5, 024 randomly chosen high school students from New York State, who were stratified by the size of the community (Rosenberg, 1965). "In the present study, we conceive self-image as an attitude toward an object (Rosenberg, 1965, p.5)." The Guttmann scale yielded scores from 0 to 6 with a *mean* = 1.89, *SD* = 1.44. The internal consistency yielded a Cronbach Alpha of 0.77, which is considered as an adequate internal reliability (Nunally, 1978). Rosenberg

confirms that participants reported accurate responses about their self-esteem because their identity was kept anonymous (Rosenberg, 1965).

Gray-Little et al. (1997) reported an item response theory analysis to enhance the value of the Rosenberg Self-Esteem construct and each of the 10-items. The participants in the study were 1,234 undergraduates enrolled in an introductory course to psychology. The study constructed a Cronbach alpha of .88 (Gray-Little et al, 1997). This is regarded as a "respectable" internal reliability (Springer et al., 2002). The *mean* score = 3.81, *SD*=0.67, and scores ranged from 1.2 to 5.0 (Gray-Little et al., 1997). Overall, the analysis of the Rosenberg Self-Esteem scale represented a one-dimensional solution, which supports a single-factor solution and a reliable and valid construct to utilize with various participants (Rosenberg, 1965).

Research Questions

The researcher investigated an overall central question, in order to explore elements that illuminate teacher perceptions about obese students within the school setting. Therefore, two research questions and six exploratory questions were developed for this particular study. This survey study attempted to answer the following central question: What are teacher's attitudes towards obese students?

1. How do teacher beliefs about obesity correlate to their attitudes toward obese students?

2. Does teacher self-esteem predict their attitudes and beliefs towards obese students?

Exploratory Questions

1. Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and their demographic variables (i.e. age, ethnicity, gender, level of education, years of experience, and position at the school)?
2. Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and their demographic variables (i.e. age, ethnicity, gender, level of education, years of experience, and position at the school)?
3. Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and their current weight status?
4. Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and their current weight status?
5. Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and whether or not they have a relationship with an obese individual?
6. Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and whether or not they have a relationship with an obese individual?

Data Analysis

Data analysis for this descriptive correlational research study utilized a Demographic Questionnaire and three other constructs (ATOP; BAOP; & RSES). Data

was entered and analyzed with Statistical Package for Social Services (SPSS; Hinton, Brownlow, McMurray, & Cozens, 2004). SPSS is a computer-based program used to analyze data collected from the various assessments (Hinton et al., 2004). This program provides useful statistical information to help answer the research questions presented in this study. The assessments were entered into SPSS and coded for information. Data from the demographic assessment was analyzed using descriptive statistics, which included means, modes, averages, and percentages within the sample population. Inferential statistics such as Simple Linear Regression Model and Pearson's Product Moment (two-tailed) correlated to participant's attitudes, beliefs, and self-esteem, which explored relationships, comparisons, and differences between the three assessments (Watson & Simpson, 2010).

First a complete record was kept of how many surveys were sent to participants in the school district. In compliance with the Dillman Tailored Method (2007), each survey was reviewed for the amount of completion, as well as, calculation of response rate. Each section of the assessment was analyzed to make certain that the participant followed all directions and placed answers in the proper sections. If participants failed to answer the self-esteem survey, their Attitudes Toward Obese Persons Scale and Beliefs About Obese Persons Scale were used for part of the study to answer the initial research question but eliminated for the regression analysis of the second research question.

All questions were structured and placed into a predetermined category. Each item on the self-perception scale was also pre-coded with a numeric value for data analysis purposes (Alreck & Settle, 2004). For example the question, *Please rate you own current weight using the following rating scale,* the answers were pre-coded as follows:

Extremely underweight=1, Slightly underweight=2, Healthy weight=3, Slightly overweight=4, and Extremely overweight (obese)=5. Another example is gender was coded as follows: male=1 and female=2. Even further, a codebook was created to help transcribe the data collected into variables into the computer. Codes were established using numbers for the SPSS data file such as the category numbers from the scales (ex. strongly disagree=1).

Finally, after data was collected, coded, and analyzed for any errors the information from each participant was entered into the SPSS database, this ensured accuracy of the data collected (Alreck & Settle, 2004). The descriptive statistics included percentages of participants responses for agreed and disagreed with individual items on the ATOP, BAOP, and RSES scale. Additionally, means and standard deviation were calculated for each of the surveys. Furthermore, detailed descriptions for each research questions are outlined below.

Research Question 1

Research question one was analyzed using a Pearson Product Moment Correlation Coefficient (two-tailed) to explore a correlation between two variables (attitudes and beliefs about obesity). Pearson correlation does not try to control or manipulate the two variables and is often represented as *r* (Gravetter & Wallnau, 2009; Hinton et al., 2004). A correlation analysis was chosen for this particular research question to evaluate whether correlations exist, and if they are positive (i.e., when one score increases, the other score is also increases) or negative (i.e., if one variable decreases, the other variable increases) (Gravetter & Wallnau, 2009). The correlation value can fall between -1 and +1

with zero representing no correlation between the two variables (attitudes and beliefs about obesity) and +1 representing a perfect correlation (Hinton et al., 2004).

Research Question 2

Research question two was analyzed using two simple linear regression models to identify the predictive ability of the dependent variable (attitudes towards obese students) and the independent variable (self-esteem). The second simple linear regression model identified the predictive ability of the dependent variable (beliefs about the controllability of obesity) and the independent variable (self-esteem). In order to explore the relationship between the independent and dependent variables all three constructs (ATOP; BAOP; & RSES) were utilized. Regression analysis provides information about a relationship and the extent of their predictors (Watson & Simpson, 2010). Furthermore, the results from the simple regression analysis can predict the results of the correlational studies (Watson & Simpson, 2010).

Ethical Considerations

Ethical considerations reviewed by Institutional Review Board (IRB) committee and dissertation committee at Rowan University included, but were not limited to:

1. Identity of the participants was kept anonymous.
2. Data collected were kept anonymous.
3. Participation in this research project was entirely voluntary.
4. All respondents were informed of their rights and the above mentioned information through and approved Informed Consent form pre-approved by the IRB at Rowan University. Participants had the opportunity to withdraw from the study at any time without consequence.

5. Permission to use the instrument was granted by the authors and developers of each instrument; (a) ATOP (Allison et al., 1991); (b) BAOP (Allison et al., 1991; and (c) RSE scale (Rosenberg, 1965).
6. The study was conducted with the permission and approval by the dissertation chair, committee members, board of education, and IRB of Rowan University.
7. All collected assessments were kept in a locked cabinet at the researcher's home to ensure secure storage of information.
8. All computerized data were kept in a password locked laptop that only the researcher has access to.

Limitations

As in all research studies, this study has potential limitations. One limitation is the use of the research design, descriptive correlation. Descriptive-correlational research cannot prove one variable causes a change in another variable. Causation is when one event or activity causes another. In this study variables can be correlated but it does not mean that one causes the other (Simon, 1954). Furthermore, the use of purposive sampling is the type of sampling, which chooses participants because of specific characteristics and not at random, which is a limitation in this study (Black, 1999). This is seen as a potential threat for bias of the researcher. Moreover, the validity of the generalizations on educators can be compromised through purposive sampling (Black, 1999).

Summary

The chapter discussed the research methodology for this study in exploring teacher's attitudes and perceptions of obese students. The research methods presented in

this chapter included; (a) purpose of research; (b) population and sample; (c) research design; (d) data collection; (e) instrumentation; (f) research questions; and (g) data analysis. Furthermore, the chapter included ethical considerations, and potential limitations to the study. The next chapter will discuss findings from the data collected through the instrumentation described in chapter three.

CHAPTER 4: Findings

This study investigated teachers' attitudes and beliefs toward obese students. The data were analyzed using descriptive statistics, Pearson's product-moment correlation (two-tailed), and simple linear regression analysis. The findings in this chapter are as follows: (a) sample participants & data collection procedures; (b) sample demographics & descriptive statistics; (c) data analysis of each instrument; and (d) data analysis for each research question.

Participants & Data Collection Procedures

The population sample for this research study was certified educators in three school districts located in New Jersey. The three school districts represented North, South, and Central New Jersey. The researcher emailed a proposal of the study to three different superintendents to gain permission to conduct the research. Once permission was granted, the researcher obtained approval from Rowan University Institutional Review Board (IRB) prior to data collection. The sampling procedure used for this study was purposive sampling, which identified the sample selection of certified educators in New Jersey (Sullivan, 2009; Singh, 2007). The participants employed for this study included certified educators ($N = 893$) in three school districts located in North, South, and Central New Jersey. The selected New Jersey school districts were all suburban school district classifications according to the National Center for Educational Statistics (NCES, 2010).

Data collection was scheduled by the researcher, superintendent, and building administrators. Data collection took place from November 1, 2011 through February 17, 2012. Participants were initially emailed an informed consent form. Then an email

containing the SurveyMonkey link was sent to all participants, which included: (a) Demographics Questionnaire (Pecoraro, 2011), (b) Attitudes Toward Obese Persons (Allison et al., 1991), (c) Beliefs About Obese Persons (Allison et al., 1991), and (d) Rosenberg Self-Esteem Scale (Rosenberg, 1965). In order to increase response rate, the Dillman Tailored Method (2007) was utilized by: (a) providing an incentive, (b) the survey design, and (c) various contacts with participants (i.e. consent form, reminder email, and thank you letter). The response rate for data collection yielded 46% ($N = 411$) out of the total number of surveys ($N = 893$). According to Dillman (2000) a response rate of 20% or lower is considered "inadequate." All participants were kept anonymous and those who completed the survey also were encouraged to leave any question on the four questionnaires blank if they did not want to answer it.

Sample Demographics & Descriptive Statistics

The response rate was 46% ($N = 411$) certified educators completing the survey. Several participants who completed the survey chose to omit demographic information (See Table 1). Out of 411 participants, 10 omitted age (2.4%), 11 did not indicate their ethnicity (2.7%), 13 did not provide their gender (3.2%), 25 omitted highest education completed (6%), 1 did not report their position at the school (0.2%), 37 did not state their years of experience (9.0%), 11 did not rate their weight (2.7%), 8 omitted satisfaction of their body weight (1.9%), 8 did not indicate if they had an obese family member or friend (1.9%), and 8 did not indicate if they have a close relationship with an obese individual (1.9%).

Demographics Questionnaire

Descriptive analyses of the data collected from the Demographic Survey identified that of the 411 certified educators, 80.8% (*n* = 332) reported their gender as female and 16.1% (*n* = 66) as male. Ethnicity was reported as follows: 88.6% (*n* = 364) Caucasian, 2.9% (*n* = 12) Hispanic, 2.9% (*n* = 2.9%) African American, 1% (*n* = 3) Asian, and 2.2% (*n* = 9) Other. Overall, the participants fell in the 30-39 year subcategory (*SD* = 1.19), with a range of 21 to 60+ years of age (See Table 1).

Participants were asked for their job title, with the following responses: 77.1% (*n* = 317) as Teachers, 10.2% (*n* = 42) as Special Education Teachers/CST/LDTC, 3.4% (*n* = 14) as Administrators, 5.1% (*n* = 21) as School Psychologist/ School Counselor/School Nurse, 1.9% (*n* = 8) as Librarian/Media Specialist, 1.9% (*n* = 8) as Physical Educators. Furthermore, participants reported highest degree earned, with 34.3% (*n* = 141) of participants reported that they have earned a Bachelor's Degree, 34.5% (*n* = 142) indicated their highest degree earned as a Master's Degree, 23.4% (*n* = 96) received a Post Masters Degree, and 1.7% (*n* = 7) received a Doctoral Degree. In addition, years of experience were also reported from certified educators (*n* = 405), which ranged from 1-40 years with a mean reported of 13.66 (*SD* = 8.78; See Table 1).

Table 1

Descriptive Statistics for Demographics

Demographics	*N*	%
Age		
20-29	56	13.6
30-39	115	28
40-49	92	22.4
50-59	105	25.5
60+	33	8
Completed	401	97.6
Missing	10	2.4
Total	411	100
Ethnicity		
White	364	88.6
Hispanic	12	2.9
African	11	2.7
Asian	4	1
Other	9	2.2
Completed	400	97.3
Missing	11	2.7
Total	411	100
Gender		
Male	66	16.1
Female	332	80.8
Completed	398	96.8
Missing	13	3.2
Total	411	100
Highest Degree		
Bachelor	141	34.3
Master	142	34.5
Post-Master	96	23.4
Doctoral	7	1.7
Completed	386	93.9
Missing	25	6.1
Total	411	100
Job Title		
Teacher	317	77.1
Administration	14	3.4
School Psych/ Couns/ Nurse	21	5.1
Lib/Media	8	1.9
Special Ed	42	10.2
P.E. Teacher	8	1.9
Completed	410	99.8
Missing	1	0.2
Total	411	100
Yrs. of Exp.		
< 5 years	56	13.6
6-10 years	112	27.3
11-20 years	134	32.6
> 20 years	72	17.5
Completed	374	91
Missing	37	9
Total	411	100

Attitudes Toward Obese Persons

The Attitudes Toward Obese Persons Scale (ATOP, Allison et al., 1991) is a 20-item 6-point Likert Scale that measures an individual's attitude toward obesity (both positive and negative; See Table 2). From data collected, this scaled yielded a Cronbach Alpha of $r = .58$, which according to Springer et al. (2002) is considered "unacceptable". This finding was lower than the original study, which indicated that the scale had reliability between .80-.84, when using the coefficient alpha (Allison et al., 1991).

This scale measures attitudes toward obesity by the frequency of responses (both positive and negative) for each item on the ATOP questionnaire. Lower scores indicate negative attitudes where higher scores denote positive attitudes (Allison et al., 1991). Participants completed the construct rating each item on a scale from -3 (strongly disagree) to +3 (strongly agree). The range of possible scores for this scale was 0-120 and the actual scores for this study ranged from 25 to 103. The *modal* score for this study was 62, the *median* was 69, and the *mean* was 67.9 ($SD = 14.58$; See Table 6).

Table 2

Descriptive Statistics of the ATOP Scale

Individual Items on the ATOP	SD	MD	SLD	SLA	MA	SA
1. Obese students are as happy as non-obese students.	63	102	**104**	60	66	15
2. Most obese students feel that they are not as good as other students.	15	47	80	**150**	82	35
3. Most obese students are more self-conscious than other students.	21	20	26	106	**129**	105
4. Obese students cannot be as successful as other students.	**249**	81	32	30	8	7
5. Most non-obese students would not want to marry anyone who is obese.	45	77	79	**103**	66	31
6. Severely obese students are usually untidy.	**111**	97	76	73	43	7
7. Obese students are usually sociable.	13	37	88	**135**	111	19
8. Most obese students are not dissatisfied with themselves.	26	100	**157**	85	29	4
9. Obese students are just as self-confident as other students.	37	96	**140**	81	38	12
10. Most students feel uncomfortable when they associate with obese students.	82	115	**125**	65	15	4
11. Obese students are often less aggressive than non-obese students.	40	89	**139**	92	36	7
12. Most obese students have different personalities than non-obese students.	105	99	**108**	67	26	4
13. Very few obese students are ashamed of their weight.	59	**135**	134	47	22	7
14. Most obese students resent normal weight students.	39	111	**140**	80	30	5
15. Obese students are more emotional than non-obese students.	72	95	**123**	88	21	4
16. Obese students should not expect to lead normal lives.	**206**	84	58	25	17	9
17. Obese students are just as healthy as non-obese students.	**174**	113	54	29	16	17
18. Obese students are just as attractive as non-obese students.	44	60	**96**	85	76	43
19. Obese students tend to have family problems.	78	112	**114**	71	25	5
20. One of the worst things that could happen to a student would be for him/her to become obese.	**135**	90	80	55	32	17
Overall Statistics	*N*	Min.	Max.	Mode	*M*	*SD*
	410	25	103	62	67.90	14.58

**Note.* Maximum scores for each sentence stem are in boldface. SD=Strongly Disagree; MD=Moderately Disagree; SLD=Slightly Disagree; SLA=Slightly Agree; MA=Moderately Agree, SA=Strongly Agree

Beliefs About Obese Persons

The Beliefs about Obese Persons Scale (BAOP, Allison et al., 1991) is designed to measure whether a person believes obesity is controllable or uncontrollable. Similarly, to the ATOP, the BAOP is an 8-item 6-point Likert Scale (See Table 3). Participants completed the construct rating each item on a scale from -3 (strongly disagree) to +3 (strongly agree). The reliability for the BAOP produced a Chronbach Alpha of r = .645, which is similar to the Allison et al. (1991) study, which produced a reliability range from three samples of .65-.82. However, according to Springer et al. (2002) r = .645 is considered "unacceptable" as a reliability coefficient. The range of possible scores for this scale was 0 to 48 and the actual scores for this study ranged from 4 to 37. The *modal* score for this study was 21, the *median* was 19, and the *mean* was 19.33 (*SD* = 5.44; See Table 6).

Table 3

Descriptive Statistics for the BAOP Scale

Individual Items on the BAOP	SD	MD	SLD	SLA	MA	SA
1. Obesity often occurs when eating is used as a form of compensation for lack of love or attention.	20	48	53	1**44**	102	37
2. In many cases, obesity is the result of a biological disorder.	14	32	59	**162**	106	29
3. Obesity is usually caused by overeating.	2	30	38	131	**144**	58
4. Most obese students cause their problem by not getting enough exercise.	11	42	63	**166**	89	33
5. Most obese students eat more than non-obese students.	10	29	60	**131**	116	58
6. The majority of obese students have poor eating habits that lead to their obesity.	1	19	33	125	**144**	82
7. Obesity is rarely cause by lack of willpower.	22	64	**133**	102	60	23
8. Students can be addicted to food, just as others are addicted to drugs, and these students usually become obese.	11	16	16	100	103	**158**
Overall Statistics	*N*	Min.	Max.	Mode	*M*	*SD*
	410	4	37	21	19.33	5.44

**Note.* Maximum scores for each sentence stem are in boldface. SD=Strongly Disagree; MD=Moderately Disagree; SLD=Slightly Disagree; SLA=Slightly Agree; MA=Moderately Agree, SA=Strongly Agree

Rosenberg Self Esteem Scale

The Rosenberg Self Esteem Scale (RSES, Rosenberg, 1965) was designed to measure global feelings of self-worth, self-respect, and self-acceptance. It was originally designed as a Guttman Scale, but is now used as a Likert-Scale. It is a 10-item 4-point scale ranging from 3 (strongly agree) to 0 (strongly disagree). It is important to note that respondents were allowed to leave questions blank; out of the 411 participants 9 participants did not answer any of the ten questions and were removed from data analysis for this study. The reliability for the RSES was produced by a coefficient alpha and scored $r = .032$ for the population selected, which according to Springer et al. (2002) is considered "unacceptable." Furthermore, as shown in Table 4 the *mean* was 17.16 ($SD = 1.71$) with a range of 11-22, with the highest possible score of 30.

Table 4

Descriptive Statistics for the RSES Scale

Individual Items	SD	D	A	SA
1. On the whole, I am satisfied with myself.	3	39	**252**	107
2. At times, I think I am no good at all.	**197**	131	64	8
3. I feel that I have a number of good qualities.	2	1	172	**225**
4. I am able to do things as well as most other people.	3	12	**209**	177
5. I feel I do not have much to be proud of.	**278**	106	6	9
6. I certainly feel useless at times.	**182**	124	84	9
7. I feel that I'm a person of worth, at least on an equal plane with others.	9	8	154	**230**
8. I wish I could have more respect for myself.	**181**	128	84	7
9. All in all, I am inclined to feel that I am a failure.	**314**	75	5	6
10. I take a positive attitude toward myself.	2	21	**191**	186
Overall Statistics	Min	Max	*M*	*SD*
	11	22	17.16	1.71

**Note.* Maximum numbers in are in boldface. SD=Strongly Disagree; D=Disagree; A = Agree, SA=Strongly Agree

Self-Perception of Body Weight & Personal Relationships

In addition to the demographic questions, participants were asked to provide information about their own body weight, as well as their relationships with obese individuals (Pecoraro, 2011). The sentence stems included in the demographics questionnaire investigated (a) current weight status of participants (i.e. overweight, underweight, obese, etc.), (b) satisfaction with their body weight (i.e. satisfied, unsatisfied, etc.) and (c) relationships with obese family members or friends.

Current Weight of Participants

The first self-perception question asked participants to, "*Please rate your own current weight using the following rating scale."* The Likert-Scale sentence stem ranged from extremely underweight (1) to extremely overweight (5). The data for this question represented a range from 1-5 with a *mean* score of 3.46 (*SD* = 0.66). Table 5 further represents the frequency for each item.

Table 5

Educators Self-Perception of Body Weight

Item Scale	*N*	%
Extremely Underweight=1	1	0.2%
Slightly Underweight=2	15	3.6%
Healthy Weight=3	203	49.4%
Slightly Overweight=4	163	39.7%
Extremely Overweight (obese)=5	18	4.4%

N=400 (97.3%)

Satisfaction with Body Weight

The second self-perception question asked participants, *"How satisfied are you with your own body weight?"* The Likert-Scale sentence stem ranged from extremely unsatisfied (1) to extremely satisfied (4). The data for this question represented a range from 1-4 with a *mean* score of 2.54 (*SD* = 0.67). The Table 6 below further represents the frequency for each item on this question.

Table 6

Satisfaction with Body Weight

Item Scale	*N*	%
Extremely Unsatisfied=1	20	4.9%
Unsatisfied=2	167	40.6%
Satisfied=3	196	47.7%
Extremely Satisfied=4	20	4.9%

N=403(98.1%)

Relationship with an Obese Individual

The next self-perception question asked participants, *"Do you have obese family members or friends?* The sentence stem ranged from yes=1 to no=2 with a *mean* score of 1.30 (*SD* = 0.46). Table 7 below further represents the frequency for each item on this question.

Table 7

Participants with or without Family/Friends

Scale	*N*	%
Yes	283	68.9%
No	120	29.2%

N=403(98.1%)

The final and fourth question asked participants, "*Do you have a close relationship with an obese family member or friend?* The sentence stem ranged from yes=1to no=2 with a *mean* score of 1.33 (*SD* = 0.47). Table 8 below further represents the frequency for each item on this question.

Table 8

Relationship with an Obese Family/Friend

Scale	*N*	%
Yes	272	66.2%
No	131	31.9%

N=403(98.1%)

Data Analysis for Research Questions

The next section discusses the analyzed results for the two research questions and six exploratory questions. Data was analyzed with Statistical Package for Social Science (SPSS; Hinton et al., 2004), which is a computer-based program used to analyze collected data from various constructs.

Research Question One

Research question one "*Do teacher beliefs about obesity correlate to their attitudes toward obese students"* was analyzed using the Pearson Product-Moment Correlation (two-tailed) analysis. Both scales represented a statistical significant relationship between ATOP scores and BAOP ($r = .312$, $p <. 001$), which is lower than the Allison et al. (1991) study of undergraduates ($r = .41$, $p < .001$), graduates ($r = .45$, $p < .001$), and NAAFA sample ($r = .40$, $p < .001$). The analysis represented a positive correlation. The probability of getting a correlation coefficient in this large sample was close to zero (Field, 2009). However, scores represented a relationship between attitudes and beliefs. The covariance, or average relationship between the two variables, represented a score of 24.78. Additionally, attitudes toward obesity correlated with the beliefs, in that it accounted for 9.73% of variation ($R^2 = .0973$). Although, attitudes can account for 9.73% of variation in beliefs, there may be other mediating variables such as age, gender, ethnicity, etc. (Field, 2009). Therefore, certified educator attitudes correlate to their beliefs in that positive attitudes about obese students correlate with the belief that weight is uncontrollable and negative attitudes about obese students correlate with the belief that weight is controllable. Table 9 shows the mean, standard deviation, a correlation coefficient for both the ATOP and BAOP scores.

Table 9

Means, SD, and Correlation Coefficients

Measure	*M*	*SD*	Range	Measure 1	Measure 2	Measure 3
1. ATOP	67.9	14.58	25-103	-	.312	.161
2. BAOP	19.33	5.438	4-37	.312	-	-.022
3. RSES	17.16	1.709	11-22	.161	-.022	-

$p < .01$, two-tailed

Research Question Two

Research question two "*Does teacher self-esteem predict their attitudes and beliefs towards obese students*," utilized a simple linear regression model to investigate if an individual's self-esteem (as measured by the Rosenberg Self-Esteem Scale, Rosenberg, 1965) predicted educator's attitudes toward obesity (as measured by the ATOP; Allison et al., 1991) and beliefs about obesity (as measured by the BAOP; Allison et al., 1991).

A simple linear regression model was used to determine if self-esteem (as measured by the RSES; Rosenberg, 1965), predicted attitudes toward obese persons and beliefs about the controllability of obesity (as measured by ATOP & BAOP; Allison et al., 1991). Prior to analysis, violations of assumptions were explored. Results indicated that self-esteem was not a predictor of beliefs about controllability, however self-esteem was a statistically significant predictor of attitudes towards obesity ($F_{1,399} = 10.683$, $p = .001$; See Table 10). Additionally, among the beta coefficients, attitudes had statistically significant results. Self-esteem had the greatest influence on attitudes toward obese individuals ($B = 1.37$), which means that for every one point increase of self-esteem scores there was an approximate 1.4 increase on the ATOP scores.

The Pearson product-moment correlation (two-tailed) analyses supported the results of a statistically significant relationship between the RSES scores and the ATOP scores ($r = .161$, $p < .001$), with a shared variance of 2.6%. The 2.6% variance of the ATOP can be explained by self-esteem, however there are other variables that may have an influence (Field, 2009). Certified educators scoring higher self-esteem (as measured

by the RSES) was predictive of increased positive attitudes towards obese students. Therefore, self-esteem is a predictor of attitudes towards obese persons but not a predictor of the beliefs about the controllability of obesity.

Table 10

Regression Analysis for RQ Two

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2190.147	1	2190.147	10.683	.001[a]
	Residual	81797.464	399	205.006		
	Total	83987.611	400			

a. Predictors: (Constant), RSES

b. Dependent Variable: ATOP

Exploratory Question One

Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and their demographic variables (i.e. age, ethnicity, gender, level of education, years of experience, and job title)?

A Pearson product-moment correlation (two-tailed) analysis represented a statistically significant correlation between attitudes toward obese students (as measured by ATOP; Allison et al., 1991) and ethnicity ($r = .099$, $p < .05$). There was also a negative correlation between attitudes toward obese students and highest degree completed ($r = -.119$, $p < .05$). Ethnicity represented a small positive effect and highest degree completed represented a small negative effect (Field, 2009). There was no correlation found between ATOP, age, gender, job title, and years of experience.

In order to further examine exploratory question one, a simultaneous multiple regression analysis was conducted to predict the influences of ethnicity and highest

degree earned of certified educators to ATOP scores (Allison et al., 1991). When assessing predictive values the independent variables were ethnicity and highest degree earned against the dependent variable, attitudes toward obese students (Allison et al., 1991). Overall, the scores represented a 2.6% ($R^2 = .026$) of the variation in ATOP scores ($F_{2,380} = 5.01$, $p = .007$). Additionally, beta weights showed that as highest degree earned increased for a certified school educator, the ATOP scores would decrease approximately by 2.28.

Exploratory Question Two

Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and their demographic variables (i.e. age, ethnicity, gender, level of education, years of experience, and job title)?

A Pearson product-moment correlation (two-tailed) analysis represented a statistically significant correlation between beliefs about obesity (as measured by BAOP; Allison et al., 1991) and age ($r = .130$, $p < .01$). The age represented a small positive effect (Field, 2009). There was no correlation found between BAOP, ethnicity, gender, highest degree earned, job title, and years of experience.

In order to further examine exploratory question two, a simultaneous multiple regression analysis was conducted to predict the influences of age of certified educators to BAOP scores (Allison et al., 1991). When assessing predictive values the independent variable was age, against the dependent variable, the beliefs about the controllability of obesity. Overall, the scores represented a 1.7% ($R^2 = .017$) of the variation in BAOP scores ($F_{1,399} = 6.82$, $p = .009$). Additionally, beta weights showed that as age increased for a certified school educator, BAOP scores increased by .589.

Exploratory Question Three

Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and their current weight status?

Two questions on the demographic questionnaire asked participants to rate their own body weight (i.e. underweight, healthy weight, overweight, etc.) and asked to rate their satisfaction with their body weight (i.e satisfied, unsatisfied, etc.). There were no statistically significant correlations among attitudes of educators (as measured by the ATOP; Allison et al., 1991) rate of body weight and satisfaction of body weight.

Exploratory Question Four

Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and their current weight status?

The same two questions explained in exploratory question three were also measured for correlation with the BAOP. There were no statistically significant correlations among beliefs about obesity (as measured by the BAOP; Allison et al., 1991) rate of body weight and satisfaction of body weight.

Exploratory Question Five

Is there a statistically significant relationship between certified educators' attitudes (as measured by ATOP; Allison et al., 1991) and whether or not they have a relationship with an obese individual?

The final two questions on the demographic questionnaire asked participants to identify if they had an obese family member or friend and to identify if they had a close relationship with an obese family member or friend. A Pearson product-moment correlation (two-tailed) analysis represented a statistically significant correlation with

attitudes toward obese students (as measured by ATOP; Allison et al., 1991) and having an obese family member/friend (r = -.116, p < .05). There was also a statistically significant correlation between attitudes toward obese students and having a relationship with an obese family member/friend (r = -.142, p < .01). Both subcategories represented a small negative effect (Field, 2009).

In order to further investigate exploratory question one, a simultaneous multiple regression analysis was conducted to predict the influences of having an obese family member/friend and close relationship with an obese family member/friend to certified educators ATOP scores (Allison et al., 1991). When assessing predictive values, the independent variables, identified as having an obese family member or friend and identifying having a close relationship with an obese individual, were correlated with the dependent variable, the ATOP scale (Allison et al., 1991). Overall, the scores represented a 2.23% (R^2 = .023) of the variation in ATOP scores ($F_{2,400}$ = 4.63, p = .01). Additionally, beta weights showed that as participant identified having an obese family member or friend, the scores on the ATOP decreased by 1.85 and as participants identified having a close relationship with an obese family member or friend, the scores on the ATOP decreased approximately 3.5.

Exploratory Question Six

Is there a statistically significant relationship between certified educators' beliefs (as measured by BAOP; Allison et al., 1991) and whether or not they have a relationship with an obese individual?

There was no statistical significance found with beliefs about obese persons (as measured by BAOP; Allison et al., 1991), and having an obese family member or friend and reporting a relationship with an obese family member or friend.

Summary

This chapter presented and explained the results from the data collected through the survey, and analyzed using various statistical procedures. Analysis included (a) descriptive analysis, (b) Pearson's Product Moment Correlations (two-tailed), and (c) simple linear regression Analysis. The next chapter will continue with a discussion of the following (a) findings in chapter 4; (b) comparisons with data from chapter 2; (c) implications towards educators and policy makers; and, (d) limitations to the study.

CHAPTER FIVE: Discussion

Chapter five begins with a brief overview of the purpose of the study and a summary of methodology used to conduct the research. Next, results from the data analysis are compared and contrasted against the information presented in the literature review. Finally, limitations of the study and implications for policy makers, school districts, and future research are identified.

Summary of Study

This study examined the relationship between beliefs about whether or not weight is controllable and educator's attitudes toward obese students. Additionally, this study was designed to investigate the predictive abilities of self-esteem on attitudes toward obese students and beliefs about controllability of weight. The three questionnaires used to conduct this research study were: (a) demographic questionnaire (Pecoraro, 2011); (b) Attitudes Toward Obese Persons scale (ATOP; Allison et al., 1991); (c) Beliefs About Obese Persons scale (BAOP; Allison et al., 1991); and (d) Rosenberg Self-Esteem scale (RSES; Rosenberg, 1965).

The sample for the study included 893 certified educators from three different school districts in New Jersey (Central, North, & South). Data collection took place in all three school districts from November 1, 2011 through February 17, 2012. Participants were initially emailed an informed consent form and then a few days later they were emailed a survey link to SurveyMonkey to complete all four questionnaires. In order to increase the response rate, the researcher utilized several aspects of The Dillman Tailored Method (2007), which included (a) providing an incentive; (b) various contacts with the participants; and (c) web design principles. The response rate for data collection yielded

46% (*N*=411) out of the total number of surveys (*N*=893). Furthermore, the statistical procedures used to analyze the data included a Pearson Product-Moment Correlation (two-tailed) and a simple linear regression model.

Instrumentation Results

The following section discusses the reported data in the previous chapter, including detailed descriptions about instrumentation scores, correlations between variables, and predictive abilities. The constructs used to explore the research questions will be discussed in detail below: (a) Attitudes Towards Obese Persons scale (ATOP; Allison et al., 1991); (b) Beliefs About Obese Persons scale (BAOP; Allison et al., 1991); and (c) Rosenberg Self-Esteem scale (RSES; Rosenberg, 1965).

Educators Attitudes Towards Obese Students (ATOP)

The ATOP (Allison et al., 1991) was used to obtain educator's attitudes about obese students in schools. The average ATOP score was 67.9 (*SD*: 14.58, range 25-103), indicating that certified educators attitudes fell more towards the higher end of the continuum which reflects slight positive attitudes towards obese students. The data indicated that certified educators had more positive attitudes towards obese students. However, some bias existed such as those who reported negatively to the sentence stem: obese students are as happy as non-obese students. There is one reported study that used a modified version of the ATOP to measure educators' attitudes towards obese persons (Neumark-Sztainer et al., 1999). The results from Neumark-Sztainer and colleagues (1999) showed school staff as having more positive attitudes and not associating personality traits to weight (i.e. happy, success, etc.), which supports the current findings from this study.

When compared to the original development of the ATOP scale, with undergraduates (*M*: 63.9; *SD*: 16.7), graduates (*M*: 64.8; *SD*: 14.8), and National Association to Advance Fat Acceptance (NAAFA; *M*: 67.6; *SD*: 18.6) and social workers (*M:* 65.27; *SD:* 20.82) results were similar to the current study (Allison et al., 1991; McCardle, 2008). The ATOP instrument was also administered to undergraduate students enrolled in psychology courses (Carels & Musher-Eizenman 2009; Geier et al., 2003). However, when compared to the current research female undergraduates exposed to after picture only diet advertisements, this study indicated slightly more positive attitudes (*M:* 71.9; *SD:* 3.63; Geier et al., 2003). Results signified that the before and after condition values were significantly lower (*M:* 47.6; *SD:* 5.11) representing more negative attitudes than the after picture (Geier et al., 2003).

Certified educators showed more positive attitudes towards an obese student when compared to individuals who were stigmatized about their weight (Puhl & Brownell, 2006; Friedman et al., 2005). One study comprised of both male and female, reported a mean score of 59.41 for women and 56.02 for men (Puhl & Brownell, 2006). Additionally, the same study included a female only sample, which reported a mean score of 59.68. Another sample population included obese treatment-seeking adults, scored a mean of 54.52 (Friedman et al., 2005). Overall, when compared to the current study (*M*: 67.90) stigmatized individuals show more negative attitudes toward obese individuals when compared to educators.

Additionally, the ATOP was used to explore gender differences between male and female participants with anti-fat attitudes and female participants who are stigmatized about their weight (Puhl & Brownell, 2006). There were two samples in this study,

women only and both male and female. The sample of both male and female combined showed that there were no significant gender differences with attitudes toward obese persons, which is consistent with the current findings of this research study (Puhl & Brownell, 2006).

Finally, there was a weak, negative correlation between attitudes towards obese persons and participants who reported having an obese family member/friend (r = -.116, p < .05) and attitudes towards obese persons and a close relationship with an obese family member/friend (r = -.142, p < .01). These findings are inconsistent with social workers, undergraduates, graduates, and NAAFA individuals, who indicated a positive correlation with attitudes towards an obese person and having a relationship with an obese family member or friend (McCardle, 2008; Allison et al., 1991; Geier et al., 2003). This indicated that certified educators who reported a close relationship with an obese person had a negative effect on their attitude score.

The current findings provided additional information about teacher's attitudes toward obese students. Although multiple studies have yielded negative attitudes toward obese individuals, this is inconsistent with the current research study, which generated more positive attitudes (Puhl & Brownell, 2006; Friedman et al., 2005; Carels & Musher-Eizenman 2009; Geier et al., 2003).

Educators Beliefs About Obesity (BAOP)

The BAOP (Allison et al., 1991) was used to obtain the participants' generalized beliefs about the ability to control obesity. The average BAOP was 19.33 (*SD:* 5.44; range 4-37) indicating that educators fell towards the higher end of the continuum, reflecting attitudes that obesity is not within the control of an individual. Several studies

have used the BAOP to measure an individual's belief about regarding the ability to control obesity (McCardle, 2008; Allison et al., 1991; Puhl & Brownell, 2006; Friedman et al., 2005; Puhl et al., 2010). However, specifically one study used the BAOP to measure the beliefs about controllability with educators (Neumark-Sztainer et al., 1999). The results were inconsistent with the current research (*M: 14.0; SD:* 5.4), in which educators in the current sample believed weight was not within an individual's control. Additionally, when compared to social workers and the original study, results were consistent with social workers (*M:* 18.57; *SD:* 6.96) (McCardle, 2008), undergraduates (*M*: 19.4; *SD*: 8.7), and graduates (*M*: 20.8; *SD*: 7.0) sample, but lower than the NAAFA sample (*M*: 31.7; *SD*: 10.5) (Allison et al., 1991).

When comparing past research to the current findings, stigmatized women (*M:* 17.94; *SD:* 7.72), stigmatized men (*M:* 16.20; *SD:* 7.00), and obese treatment-seeking adults (*M:* 11.68; *SD:* 5.01) yielded a greater belief that weight is within an individual's control (Puhl & Brownell, 2006; Friedman et al., 2005). Furthermore, an experimental study, which altered consensus feedback about attitudes of others showed an increase in belief scores that obesity is not within a person's control, Time #1 (*M*: 15.60; *SD:* 5.93) versus Time #2 (*M*: 17.10; *SD:* 6.30) (Puhl et al., 2005). This represents that when individuals are given background information about the controllability of obesity, their belief scores increase. This will be discussed further in the implications section for school districts.

Educators Self-Esteem (RSES)

The Rosenberg Self Esteem Scale is a widespread measure of self-esteem (Rosenberg, 1965). The purpose of the scale in this study was to determine if self-esteem

predicted values among attitudes toward obese students and beliefs about the controllability of obesity (as measured by ATOP & BAOP; Allison et al., 1991). Self-esteem can be used as a predictor in non-experimental designs because it cannot be altered in any way (Blascovich & Tomaka, 1991). Although the scale yielded a low reliability alpha .032, it has produced a high internal reliability ranging from .77 to .88 (Rosenberg, 1965; Byrne & Shavelson, 1987; Gray-Little, 1997; Blascovich & Tomaka, 1991).

Scores ranging between15-25 are within a normal range of self-esteem; anything below 15 indicates low self-esteem, and above 25 represents high self-esteem (Rosenberg, 1965). The scores from this study ranged from 11-22 with an average of 17.16 (*SD* = 1.71). The range fell between the low to normal range with the middle score falling in the normal range. Furthermore, the results from the current study differ from Rosenberg's (1965) results, which yielded a range 0-6, mean = 1.89, *SD* = 1.44. Overall, the findings from the current study represented that certified educators in New Jersey school districts have low to normal range of self-esteem.

Descriptive Data Analysis

Correlations Between Attitudes and Beliefs

The first research question for this study examined the relationship between attitudes toward obese students (measured by the ATOP; Allison et al., 1991) and beliefs about the controllability of obesity (as measured by the BAOP; Allison et al., 1991). The results of this study indicated that there is a statistically significant relationship between attitudes toward obese students and beliefs about obesity. It is interesting to note that through the findings presented in this study, certified educators who had negative

attitudes towards a student correlated with the belief that obesity is within their control, and positive attitudes towards obese students correlated with the belief that a person who believes obesity is not within an individual's control. These findings were similar to the original study with both the ATOP and BAOP, which indicated that they were highly significant to one another, *r* ranging from .40-.45 with each of the three samples (Allison et al., 1991). Even further, results from the current study, showed that beliefs accounted for 9.73% of variation in the attitude scores, compared to 16-20% of the variance in the study of undergraduates, graduates, and NAAFA sample (Allison et al., 1991). The findings discovered in the current study were consistent with various documented research discussed in the literature review (McCardle, 2008; Carels & Musher-Eizenman, 2009; Puhl et al., 2005).

The current study is consistent with that of McCardle (2008) who found that when social workers had more negative scores they felt obesity was within a person's control (McCardle, 2008). These participants represented a higher positive correlation $r = .48$, $p < .000$, (McCardle, 2008), when compared to the present study $r = .312$, $p < .01$. In order to compare the current study with a similar sample population, educators, Neumark-Sztainer et al. (1999) also examined attitudes and beliefs (as measure by the ATOP & BAOP; Allison et al., 1991). Although correlation data was not included in the findings, the data showed that respondents held more positive attitudes but had lower scores on the belief scale, which does not support previous research (Neumark-Sztainer et al., 1999).

Additionally, a group of overweight and obese women only sample, and obese treatment-seeking adults showed a positive correlation between attitudes and beliefs (Puhl & Brownell, 2006; Friedman et al., 2005). Although the findings were similar,

when compared to the current study ($r = .312$, $p < .01$), there was a lower significant correlation between the two variables with overweight and obese women ($r = .008$, $p = <$ .05; Puhl & Brownell, 2006) and treatment-seeking obese adults ($r = .14$, $p < .05$; Friedman et al., 2005). This shows that educators have a stronger relationship between the two variables, attitudes towards, and beliefs about obesity. Participants who had binge eating disorder (BED) and those without BED, also demonstrated a positive relationship between negative attitudes and stronger beliefs that weight is controllable (Puhl et al., 2010).

The relationship between attitudes and beliefs utilizing various scales other than the ATOP and BAOP was also well documented. Three studies have used the ATOP scale but alternate beliefs about obesity construct. One asked young adults to rate a variety of figures (4 male and 4 female) ranging in BMI (Carels & Musher-Eizenman, 2009). Although a different controllability scale was used, there was a statistically significant correlation between the two variables ($r = .39$), which was similar to the current study ($r = .312$, $p < .01$). There were slightly more positive correlations between the ATOP, beliefs about obesity, and personal reliance index (Carels & Musher-Eizenman 2009). It was confirmed that there was a correlation between associated negative attitudes towards obese individuals and significantly more negative personality attributions given to those individuals (Carels & Musher-Eizenman, 2009). The second utilized the ATOP but a different controllability scale, which showed participants before and after diet advertisements (Geier et al., 2003). The study produced a strong positive correlation between attitudes towards obese persons and the beliefs about controllability ($r = .78$, $p < .001$; Geier et al., 2003). The third also utilized the ATOP but a different

controllability scale which was an experimental study conducted with undergraduates (Puhl et al., 2005). These participants demonstrated that by providing information about the beliefs of obesity, there were more positive and fewer negative traits assigned to obese individuals (Puhl et al., 2005). However, there was no significance towards negative traits (Puhl et al., 2005). Overall, providing education about the causes of obesity to individuals could help reduce negative attitudes towards obese persons, which is further discussed in the implications section.

The findings from this study further validated Crandall's psychological attribution theory. Teachers who had more negative attitudes towards obese students also believed obesity was within their control. Crandall (1993) relates this relationship because people are blamed for their weight and in turn they are then stigmatized. These anti-fat attitudes relate to rejection and social ideology of blame towards an overweight person (Crandall, 1994). The results presented in this study support the idea that individuals who view obesity as a failure or hold an individual's accountable for their weight, can then "justify" their negative attitudes towards the obese person (Crandall, 1994).

These findings support the idea that a relationship exists between negative attitudes towards an obese person and the beliefs that weight is within their control. The current research with educators produced results, which corroborated with findings from several other studies that were well documented (Allison et al., 1991; Friedman et al., 2005; McCardle, 2008; Geier et al., 2003; Puhl & Brownell, 2006). Overall, it can be determined that certified educators who possess negative attitudes towards an obese student would also believe that obesity is within an individual's control.

Self-Esteem Predictor of Attitudes and Beliefs

Research question two explored certified educators self-esteem (as measured by RSES, Rosenberg, 1965) as a predictor of attitudes towards obese persons (as measured by ATOP, Allison et al., 1991) and beliefs about the controllability of obesity (as measured by BAOP, Allison et al., 1991).

As previously noted, there was no statistical significance of self-esteem as a predictor of the beliefs about the controllability of obesity. However, the simple linear regression analysis of self-esteem as a predictor of attitudes towards obesity was statistically significant ($F_{1,399} = 10.68$, $p < .001$). Therefore, the educators at higher self-esteem contributed to higher scores on the ATOP ($B = 1.37$). To validate the findings, a Pearson product-moment correlation (two-tailed) was conducted to further support the findings. Results indicated a highly, positive, statistical significance to the participant's attitudes ($r = .161$, $p < .001$; 2.6% of the variance explained). Hence the findings suggest that educator's RSES scores influenced ATOP scores. The correlation between self-esteem and attitudes was highly significant, these findings support that higher levels of self-esteem in educators contribute to increased scores with attitudes towards obesity (i.e. more positive attitudes).

No studies were found that investigated the contributions of self-esteem to attitudes towards obesity and beliefs about controllability with certified educators. However, one study included all three variables but utilized different beliefs about obesity and attitudes scale with undergraduate participants (Klaczynski et al., 2004). Results were inconsistent with the current findings in which self-esteem was negatively correlated with negative attitudes towards an obese person ($r = -.30$, $p < .01$; Klaczynski

et al., 2004). Additionally, the relationship between beliefs and self esteem correlate negatively with internal causes of obesity ($r = -.017$, $p < .05$). Abrams & Hoggs (1988) indicated that sometimes higher self-esteem relates to positive behaviors towards in-group individuals, whereas low self-esteem represented discriminatory behaviors toward the same group, which is consistent with the current findings (Abrams & Hoggs, 1988). Although the current study showed a high significance to support an individual's self esteem as a predictor of their attitudes and no significance of self-esteem as a predictor of beliefs towards an obese individual, past research also showed mixed results to support this concept (Adams & Hoggs, 1988; Sheerer, 1949; Branscombe & Wann, 1994; Klaczynski et al., 2004).

Limitations

There are several potential limitations related to this particular research study. This section will identify limitations about the research design, sampling procedures, and instruments utilized to collect data. Through the reflective process about these limitations, suggestions will be addressed for future research.

Research Design

One limitation is the use of the research design, descriptive correlation. Descriptive correlational research provides descriptive statistics and the relationships between certain variables. However, this research design cannot prove one variable causes a change in another variable (Simon, 1954). Causation is when one event or activity causes another. In this particular study variables (attitudes and beliefs) can show correlation but cannot be identified as one variable causing another variable to change (Simon, 1954).

Sampling Procedures

The selected sampling procedure for this study was purposive sampling. Purposive sampling, also known as convenience sampling, is a limitation because chosen participants are based on specific characteristics and the needs of the research (Black, 1999). Furthermore, the use of purposive sampling is a type of sampling that is not random, which is a limitation (Black, 1999). This type of sampling is also a potential threat of bias of the researcher and validity of the generalizations on educators, which can be compromised (Black, 1999). Although the response rate was approximately 46%, it may have produced response bias. Additionally, the majority of the participants in this study were Caucasian 88.6% (*n*=364) females 80.8% (*n*=332). Although participants were recruited from three different school districts in New Jersey, this may have affected the results of this study.

Another limitation is this concept of social desirability. Social desirability indicates that participants may have responded to questions that could be viewed with the in-group. Fisher (1993) describes it as participants unable or unwilling to provide accurate responses on sensitive topics, in this case obesity. Social desirability can impact findings in this research study through participants' misinformation and response bias. Social desirability is the general tendency of individuals to present themselves in a manner that makes them look positive with regard to culturally accepted standards of behavior (Chung & Monroe, 2003).

Instrumentation

There were three instruments administered to participants in three different locations. Due to environmental factors, the three various locations can affect

participants' responses. Additionally, the study used three different instruments, which could affect response rate. Participants were also given a time frame of when to complete the questionnaires, thus limiting the number of responses and increasing the non-response rate. Lastly, although questionnaires may have acceptable psychometric measures (i.e., validity and reliability) they may also produce measurement error. The possibility for a low internal reliability is due to the change in wording on the ATOP & BAOP (Allison et al., 1991). The sentence stems were changed because of the chosen population (i.e. educators). For example, a sentence stem that read "Obese people are usually sociable" was altered to read "Obese students are usually sociable." In addition, for this particular study, the RSES (Rosenberg, 1965) produced low reliability of $r = .032$, which could have produced measurement error. Further, the demographic questionnaire did not ask participants to identify the district they were employed (i.e. North, South, and Central New Jersey School District). Possible information could have emerged to allow for comparisons among school districts and to address any specified issue. Additionally, the demographic questionnaire did not ask participants to identify specific school level (i.e. elementary, middle, or high school), which would have allowed further insight to any relationships between attitudes and beliefs with specific school level.

Implications

The following section provides implications based on the results and discussion of the current study for school districts, policy makers, and future researchers. The information provided offers various suggestions, recommendations, and information.

School Districts

Although the findings from this study yielded slightly positive attitudes towards obese students, there were some areas that presented negative attitudes. Based on these findings, school districts, educators, community members, and parents have the opportunity to implement strategies in order to prevent weight discrimination in schools and at home. School districts that facilitate school wide programs to protect obese students from becoming the victims of discrimination, bias and bullies can have a positive impact on their future (Puhl & Friedman, 2008). However, in order to create and sustain change for a healthy and supportive environment it is necessary to collaborate with family, school and the community.

One way school districts can help prevent weight discrimination is through educational training programs for educators and parents. It is suggested that the training include information about the causes of obesity (i.e. behavioral, genetic, & environmental) and the psychological factors that impact students from weight discrimination. Furthermore, the training program should include ways to teach children about healthy eating habits and proper exercise in order to sustain a healthier living style and prevent obesity from increasing at an earlier age. Educating teachers about obese children may improve their attitudes and beliefs towards this specific population. Teachers are an important part of student's lives and have the opportunity to develop a positive school environment for obese students (Gray et al., 2009).

One example of a training program is a video offered from the RUDD Center at Yale University on weight bias at home and school for teacher professional development, parent workshops, and diversity training by understanding the consequences of weight-

based stigmatization and the obstacles children and adolescents encounter. The video offers strategies on how to address weight bias in schools and at home (www.yaleruddcenter.org/weightbias). The training program can teach about various strategies to help prevent weight discrimination. These strategies include: (a) training teachers to become aware of their own attitudes, (b) educating teachers about assumptions made toward obese students, (c) using appropriate words when discussing weight, (d) training teachers to get involved or stop weight stigmatization when apparent, (e) helping teachers avoid situations that would embarrass overweight or obese students, (f) recommending that schools incorporate positive role-models or mentors for stigmatized students, and (g) asking teachers to place importance on healthy lifestyles and not physical appearance (www.yaleruddcenter.org/weightbias).

In addition to decreasing anti-fat attitudes and behaviors, we also need to focus on the prevention and treatment of obesity in schools through informing and involving students, parents, and community members about the necessary actions they can take to live a healthy lifestyle or how to make lifestyle changes. School districts have the opportunity to create a program that supports active lifestyles, healthy eating habits, and ways to teach students about the importance of maintaining healthier life styles. In order to sustain a change with both students and educators all stakeholders must be involved, which includes educational leaders, community members, parents and student in order to receive support and make a difference in the lives of the students. Schools can provide after school programs and sports for all students to keep them active. Additionally, teachers can learn through the training programs, ways to get students up and moving throughout the day instead of sedentary classroom teaching. Finally, school districts can

partner with community recreation to offer programs in the school for students, parents, and teachers to become more active and learn positive ways to treat one another and maintain a healthy lifestyle.

In addition to providing training for teachers and parents, school districts can also adopt and enforce policies that prohibit harassment, intimidation, and bullying towards obesity (Puhl & Brownell, 2001). School districts can adapt or modify current policies to support obese students in order to maintain a positive school culture for all students. For example, the Michigan Department of Education created and adopted a program, which put into place a prevention plan in order to create a safe and supportive learning environment for all students (Michigan, 2001). The initial part of the plan was for all school employees to act as role-models with respectful behavior towards co-workers and students, which included not commenting on any person's weight or physical appearance (Michigan, 2001). The next part of the plan was to create a safe environment, which included creating a policy that all students and staff should be treated with respect. The final part of the program was to provide professional development to all school staff. Teacher workshops would include sensitivity training in order to eliminate weight discrimination in schools (Michigan, 2001).

After reviewing Michigan's weight-bias intervention program, the recommendation for the New Jersey Department of Education is to include adding weight as a category to the current New Jersey bullying law, Anti-Bullying Bill of Rights Act" Title 18A and implementing the topic of weight-bias through character education in schools to prevent future weight-based stigmatization, while also teaching students several strategies about a healthy lifestyle. This program can be incorporated through

character education, which is currently implemented in many school districts in New Jersey. The character education program focuses on six pillars of character: respect, responsibility, fairness, caring, trustworthiness, and citizenship. Weight teasing and bias could be incorporated through school-wide assemblies and classroom projects when addressing character education. This would involve students, parents, and teachers throughout the process to further prevent weight discrimination. Additionally, school districts could implement classroom meetings to set expectations with students such as treating all students equally through the six pillars of character education. This will foster a sense of community among students with their peers. In the classroom meetings, teachers could create rules such as, treating one another with respect and sensitivity towards diverse differences among students, which would incorporate obesity. Finally, school districts should create a plan in collaboration with the school counselor, for students who experience weight-bias or bullying based on weight to provide coping strategies and ways to help reduce body weight. Overall, the vision, mission, and goals of the program would be to increase awareness among all stakeholders, to communicate that all students should be treated fairly, and emphasize a positive learning environment for all students.

Overall, obesity can be both within and not within an individual's control. However, since the association between believing obesity is within control and negative attitudes towards obesity are significant, we need to train teachers in both the areas that cause obesity (i.e. biological, genetic, environmental, etc.), as well as, the areas teacher's can control, which is being more active and food intake. There are many ways to get students active through incorporating programs, recess time, and physical education.

Ultimately reducing negative bias towards obese students is of utmost importance, if this signifies first educating teachers about the consequences of weight discrimination and then how to guide students towards healthier lifestyles.

Policy Makers

There are several possible proposals for policymakers to protect obese individuals from discrimination based on the findings from the data in this research study. The most evident gap is the lack of a federal law protecting overweight and obese individuals from weight discrimination. Federal lawmakers have the opportunity to communicate messages to the public that weight discrimination is unacceptable (Puhl, Heuer, & Sarda, 2011). One suggestion is policy makers could add weight as a category to the Civil Rights Act of 1964 or the Rehabilitation Act of 1973. The second suggestion is to create an additional federal anti-discrimination legislation based on weight discrimination. This newly adopted federal law would protect obese individuals from employment, educational institutions, public accommodations, and housing. Including weight as a category of discrimination in federal statues would prohibit educators, medical professionals, and employers from prejudice towards obese persons. Weight could be defined as "the numerical measurement of total body weight, the ratio of a person's weight in relation to height or an individual's unique physical composition of weight through body size, shape, and proportions. Weight encompasses but is not limited to an impression of a person as fat or thin regardless of the numerical measurement. An individual's body size, shape, proportions, and compositions may make them appear fat or thin regardless of numerical weight," which utilizes the definition from the Binghamton Human Rights Law (Line 37-44).

However, as Pomeranz (2008) stated it would take a lot of public support to include weight as a subcategory or create an additional federal statue focused on weight discrimination. Public policy studies demonstrated that the public's opinion toward possible laws prohibiting weight discrimination was favorable from Americans (Puhl & Heuer, 2010; Puhl et al., 2011). The findings represented that American's are in favor towards prohibiting obese persons from discrimination, however the same participants did not agree with viewing obesity as a disability (Puhl & Heuer, 2010). This represented public support for an additional federal law with specific provisions with weight discrimination, but not as a disability under the Americans with Disabilities Act (Puhl & Heuer, 2010).

Research documented throughout the years reported that weight bias and discrimination exists, which has negative social consequences. This justifies the necessity of legal action upon policymakers to protect overweight people from employment, housing opportunities, education, etc. (Puhl & Heuer, 2010). Legal approaches have the opportunity to further prevent weight bias and discrimination; however it must be noted that an additional federal or state law would not make it acceptable for individuals to become overweight or obese, but ensure the fair treatment of all individuals, including overweight persons. Enacting a new policy or adding weight as a subcategory to an existing policy would prevent this unfair treatment.

Future Research

This was the first study to examine the relationship between attitudes towards obese students, beliefs about obesity, and self-esteem of certified educators. While the findings have indicated a significant relationship between negative attitudes and beliefs

about the controllability of obesity and the predictive value of self-esteem on attitudes towards obese students, future studies need to be conducted to further gain insight into the relationship between the three variables (i.e. attitudes, beliefs, and self-esteem).

Although the ATOP and BAOP have produced reliability and validity in previous research (Allison et al., 1991; Neumark-Sztainer et al., 1999; Puhl & Brownell, 2006) it is important to note that future research could further validate both scales as psychometric measures. Also, when administering both the ATOP and BAOP scale (Allison et al., 1991) future research could focus on diverse groups of participants in order to close in on some of the gaps. The majority of participants were Caucasian females; additional research should focus on sampling procedures to include a diverse sample of participants (i.e. African Americans, Asians, Hispanic, etc.). Additionally, it could focus on specific level of schools (i.e. elementary, middle, and high school) in order to develop comparative results. This type of sampling is called stratified sampling. Stratified sampling is a specific sample of participants that would reflect an equal amount within the population (i.e. gender, ethnicity, age, etc.; Fowler, 1984). Finally, future studies should utilize other sampling techniques such as random sampling to reduce researcher bias among the results.

Since this research did not establish causality between attitudes and beliefs, future research could establish a causal relationship between attitudes toward obese students and beliefs about the controllability of obesity. Additional research should consider identifying certified educators BMI (height & weight) to further investigate a correlation between an individual's BMI with attitudes and beliefs. Moreover, further analysis should be conducted to determine predictive abilities of self-esteem on beliefs about the

controllability of obesity and identification of relationships with obese family members and friends.

This study was conducted using primarily quantitative methods. Quantitative methodology allows for a vast amount of participants within a small time frame. Future research in this area could be conducted with mixed methods and/or qualitative methods. One previous study explored weight bias of adolescent girls through interviews (Neumark-Sztainer et al., 1998), which gathered additional insight into participant's thoughts and experiences. This study could be replicated by using both the ATOP and BAOP scales and qualitative methods (i.e. interviews, focus groups, etc.), which would gain insight into certified educators' attitudes and beliefs about obese students.

Closing Thoughts

Overall, this study investigated certified educators' general attitudes towards obese students and beliefs about whether or not weight is controllable. Additionally, the study examined the relationship between attitudes and beliefs and the predictive abilities of self-esteem with these two variables. The findings provided further information about educators' portraying slightly positive attitudes towards obese students and higher scores on the belief scale, which signifies participant's belief that weight is within an individual's control. Furthermore, findings provided evidence that among certified educators, a positive correlation exists between attitudes toward obese persons and beliefs about obesity being controllable. Likewise, data represented a positive relationship between certified educators' positive attitudes toward obese students and the belief that obesity is not within an individual's control. Self-esteem was also a predictor of increased scores on the attitudes scale (as measured by ATOP; Allison et al., 1991). Although

certified educators showed slightly positive attitudes, some of the individual sentence stems produced strong negative attitudes. School districts should become aware of this bias, if any exists in schools with obese students, and provide the necessary training to staff.

References

Abrams, D., & Hogg, M.A. (1988). Comments on the motivational status of self-esteem in social identity and intergroup discrimination. *European Journal of Social Psychology,* 18, 317-334.

Adams, R. E., & Bukowski, W. M. (2008). Peer victimization as a predictor of depression. *Journal of Child Psychology and Psychiatry.*, *49*(8), 858-866.

Allison, D. B., Basile, V. C., & Yuker, H. E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders*, *10*(5), 599-607.

Alreck, P. L., & Settle, R. B. (2004). *The survey research handbook*. Boston: McGraw-Hill/Irwin.

American Diabetes Association. (2000).Type 2 diabetes in children and adolescents. *Diabetes Care*, *23*(3), 381-389. doi: 10.2337/diacare.23.3.381

Americans With Disabilities Act of 1990, 42 U.S.C. §§ 12101 *et seq.*

Andreyeva, T., Puhl, R. M., & Brownell, K. D. (2008). Changes in perceived weight discrimination among Americans, 1995–1996 through 2004–2006. *Obesity*, *16*(5), 1129-1134. doi: 10.1038/oby.2008.35

Belamarich, P. F., Luder, E., Kattan, M., Mitchell, H., Islam, S., Lynn, H., & Crain, E. F. (2000). Do obese inner-city children with asthma have more symptoms than nonobese children with asthma? *Pediatrics*, *106*(6), 1436-1441. doi: 10.1542/peds.106.6.1436

Bell, C.G., Walley, A.J., & Froguel, P. (2005). The genetics of human obesity. *Nature Reviews,* 6, 221-234.

Binghamton Human Rights Law, §§ 45-1-10 (2008).

Black, T. R. (1999). *Doing quantitative research in the social sciences: an integrated approach to research design, measurement and statistics*. London: SAGE.

Blascovich, J., & Tomaka, J. (1991). Chapter 4: measures of self-esteem. In J. P. Robinson, P. R. Shaver, L. S. Wrightsman, & F. M. Andrews (Authors), *Measures of personality and social psychological attitudes*. San Diego: Academic Press.

Branscombe, N.R. & Wann, D.L. (1994). Collective self-esteem consequences of outgroup derogation when a valued social identity is on trial. *European Journal of Social Psychology,* 24, 641-657.

Brochu, P. M., & Morrison, M. A. (2007). Implicit and explicit prejudice toward overweight and average-weight men and women: testing their correspondence and relation to behavioral

intentions. *The Journal of Social Psychology*, *147*(6), 681-706. doi: 10.3200/SOCP.147.6.681-706

Brownell, K. D. (2005). *Weight bias: nature, consequences, and remedies*. New York: Guilford Press.

Burns, N., & Grove, S. K. (2003). *Understanding nursing research*. Philadelphia, PA: Saunders.

Byrne, B. M., & Shavelson, R. J. (1987). Adolescent self-concept: Testing the assumption of equivalent structure across gender. *American Educational Research Journal*, *24*(3), 365. doi: 10.2307/1163115

Campbell, K.J., Crawford, D.A., & Ball, K. (2006). Family food environment and dietary behaviors likely to promote fatness in 5-6 year-old children. *International Journal of Obesity,* 30, 1272-1280.

Carels, R. A., & Musher-Eizenman, D. R. (2009). Individual differences and weight bias: Do people with an anti-fat bias have a pro-thin bias? *Body Image*, *7*, 143-148.

Center for Disease Control (2007). Contributing Factors. Retrieved September 16, 2011, from http://www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm.

Center for Disease Control (2010, June). Defining overweight and obesity. Retrieved September 11, 2011, from http://www.cdc.gov/obesity/defining.html.

Center for Disease Control (2011a, January). Genomics and health. Retrieved September 16, 2011, from http://www.cdc.gov/genomics/resources/diseases/obesity/index.htm

Center for Disease Control (2011b, February). Healthy weight: Assessing your weight: BMI: About BMI for children and teens. Retrieved April 04, 2011, from http://cdc.gov/

Chambliss, H. O., Finley, C. E., & Blair, S. N. (2004). Attitudes toward obese individuals among exercise science students. *Medicine & Science in Sports & Exercise*, *36*(3), 468-474. doi: 10.1249/01.MSS.0000117115.94062.E4

Chan, J., Edman, J. C., & Koltai, P. J. (2004). Obstructive sleep apnea in children. *American Family Physician*, *69*(5), 1147-1154.

Childhood Obesity - Obesity Action Coalition - OAC. (n.d.). *OAC - Obesity Action Coalition*. Retrieved March 23, 2011, from http://www.obesityaction.org/aboutobesity/childhoodobesity/childhood.php

Childhood obesity in the United States: Facts and Figures. (2004, September). *IOM Home - Institute of Medicine*. Retrieved April 04, 2011, from http://www.iom.edu/

Chung, J. & Monroe, G.S. (2003). Exploring social desirability bias. *Journal of Business Ethics,* 44(4), 291-302.

Clark-Carter, D. (2010). *Quantitative psychological research: the complete student's companion*. Hove [u.a.: Psychology Press.

Cook v. Rhode Island Department of Mental Health, Retardation, and Hospitals, 10 F.3d 17 (1st cir. 1993).

Cramer, P. & Steinwert, T. (1998). Thin is good, fat is bad: How early does it begin? *Journal of Applied Developmental Psychology*, *19*(3), 429-451. doi: 10.1016/S0193-3973(99)80049-5

Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology*, *66*(5), 882-894. doi: 10.1037//0022-3514.66.5.882

Crandall, C. S. (2000). Ideology and lay theories of stigma: The justification of stigmatization. In T. F. Heatherton (Author), *The social psychology of stigma* (pp. 126-152). New York: Guilford Press.

Crandall, C. S., & Cohen, C. (1994). The personality of the stigmatized. Cultural worldview, conventionalism, and self-esteem. *Journal of Research in Personality*, *28*, 461-480.

Crandall, C. S., & Schiffhauer, K. L. (n.d.). Anti-fat prejudice: beliefs, values, and American culture. *Obesity Research*, *6*, 458-460.

Crandall, C. S., D'Anello, S., Sakalli, N., Lazarus, E., Nejtardt, G. W., & Feather, N. T. (2001). An attribution-value model of prejudice: anti-fat attitudes in six nations. *Personality and Social Psychology Bulletin*, *27*(1), 30-37. doi: 10.1177/0146167201271003

Crespo, C.J., Smit, E., Troiano, R.P., Bartlett, S.J., Macera, C.A., & Anderson, R.E. (2001). Television watching, energy intake, and obesity in US children. *Archives of Pediatric Adolescent Medicine,* 155, 360-365.

Creswell, J. W. (2007). *Qualitative inquiry & research design: choosing among five approaches*. Thousand Oaks: Sage Publications.

Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

Crothers, L.M. & Theodore, L.A. (2009). Correlates and suspected causes of obesity in children. *Psychology in the Schools,* 46(8), 787-796.

Daniels, S. R. (2006). The consequences of childhood overweight obesity. *The Future of Children*, *16*(1), 47-67. doi: 10.1353/foc.2006.0004

D.C. Code ANN. § 2-1401.02 (2001)

Dillman, D.A. (2000). Mail and internet surveys: The Tailored design method. New York: Wiley.

Dillman, D. A. (2007). Mail and internet surveys: The tailored design method (2ND ed.). Hoboken, NJ: Wiley.

Drew, C.J., Hardman, M.L, & Hosp, J.L. (2008). Designing and conducting research in education. Thousand Oaks, CA: Sage Publications, Inc.

Eisenberg, M.E., Neumark-Sztainer, D., Haines, J., & Wall, M. (2006). Weight-teasing and emotional well-being in young adults: Longitudinal findings from Project EAT. *Journal of Adolescent Health*, *38*, 675-683.

Eisenberg, M.E., Neumark-Sztainer, D., Story, M. (2003). Associations of weight-based teasing and emotional well-being among young adolescents. *Archives of Pediatric and Adolescent Medicine,* 157(8), 733-738.

Ellin, A. (2000, July 26). Seeking laws for disabilities of the attitude [Editorial]. *New York Times*. Retrieved August 27, 2011, from http://www.nytimes.com/library/jobmarket/072600work-disabilities.html.

Equal Opportunity Act of 1995, § 42 (1995).

Farooqi, I.S. & O'Rahilly, S. (2007). Genetic factors in human obesity. *Obesity Reviews,* 8(1), 37-40.

Farooqi, I.S. & O'Rahilly, S. (2000). Recent advances in the genetics of severe childhood obesity. *Arch Dis Child,* 83, 31-34.

Field, A. P. (2009). *Discovering statistics using SPSS: (and sex and drugs and rock 'n' roll)*. Thousand Oaks, CA: SAGE Publications.

Fink, A. (2009) How to conduct surveys: A step-by-step guide (4th eds). Thousand Oaks, CA: Sage Publications.

Fisher, R.J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research,* 20(2), 303-315.

Flegal, K. M., Graubard, B. I., Williamson, D. F., & Gail, M. H. (2005). Excess deaths associated with underweight, overweight, and obesity. *Obstetrical & Gynecological Survey*, 60(9), 593-595.

Flegal, K.M. Carroll, M. D., Ogden, C. L., & Curtin, L. R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. *The Journal of the American Medical Association*, 303(3), 235-241.

Fox, K. R., & Edmunds, L. D. (2000). Understanding the world of the "fat kid": Can schools help provide a better experience? *Reclaiming Children and Youth*, *9*(3), 177-181.

Fox, C.L. & Farrow, C.V. (2009). Global and physical self-esteem and body dissatisfaction as mediators of the relationship between weight status and being a victim of bullying. *Journal of Adolescence,* 32, 1287-1301.

Fowler, F.J. (1984). *Survey Research Methods*. Beverly Hills, CA: Sage Publications.

Friedman, R. R. (2008, May). Weight bias: the need for public policy (Rep.). Retrieved September 13, 2011, from http://www.yaleruddcenter.org/resources/upload/docs/what/bias/WeightBiasPolicyRuddReport.pdf

Friedman, K. E., Reichmann, S. K., Costanzo, P. R., Zelli, A., Ashmore, J. A., & Musante, G. J. (2005). Weight stigmatization and ideological beliefs: relation to psychological functioning in obese adults. *Obesity Research*, *13*(5), 907-916. doi: 10.1038/oby.2005.105

Friedlander, S.L., Larkin, E.K., Rosen, C.L., Palermo, T.M., Redline, S. (2003). Decreased quality of life associated with obesity in school-aged children. *Archives of Pediatrics & Adolescent Medicine,* 157, 1206-1211.

Geier, A. B., Schwartz, M. B., & Brownell, K. D. (2003). "Before and after" diet advertisements escalate weight stigma. *Original Research Paper*, *8*, 282-288.

Gimello v. Agency Rent-A-Car Systems, 594 A.2d 264 (N.J. Super. Ct. App. Div. 1991)

Gravetter, F. J., & Wallnau, L. B. (2009). Correlation. In *Statistics for behavioral sciences* (8th ed., pp. 519-562). Belmont, CA: Wadsworth.

Gray, W. N., Kahhan, N. A., & Janicke, D. M. (2009). Peer victimization and pediatric obesity: A review of the literature. *Psychology in the Schools*, *46*(8), 720-727. doi: 10.1002/pits.20410

Gray-Little, B., Williams, V. L., & Hancock, T. D. (1997). An item response theory analysis of the Rosenberg self-esteem scale. *Personality and Social Psychology Bulletin*, *23*(5), 443-451. doi: 10.1177/0146167297235001

Greenleaf, C., & Weiller, K. (2005). Perceptions of youth obesity among physical educators. *Social Psychology of Education*, *8*(4), 407-423. doi: 10.1007/s11218-005-0662-9

Greenleaf, C., Starks, M., Gomez, L., Chambliss, H., & Martin, S. (2004). Weight-related words associated with figure silhouettes. *Body Image*, *1*(4), 373-384. doi: 10.1016/j.bodyim.2004.10.004

Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology*. Hoboken, NJ: J. Wiley & Sons.

Hare, S. W., Price, J. H., Flynn, M. G., & King, A. K. (2000). Attitudes and perceptions of fitness professionals regarding obesity. *Journal of Community Health*, *25*(1), 5-21.

Harris, M. B., & Smith, S. D. (1982). Beliefs about obesity: effects of age, ethnicity, sex, and weight. *Psychological Reports*, *51*, 1047-1055.

Harvey, E. L., & Hill, A. J. (2001). Health professionals' views of overweight people and smokers. *International Journal of Obesity*, *25*, 1253-1261.

Harvey, E. L., Summberbell, C. D., Kirk, S. L., & Hills, A. J. (2002). Dietician's views of overweight and obese people and reported management practices. *The Journal of Human Nutrition and Dietetics*, *15*, 331-347.

Hawker, D. J., & Boulton, M. J. (2000). Twenty years of research on peer victimization and psychosocial maladjustment: a meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry*, *41*(4), 441-455. doi: 10.1111/1469-7610.00629

Healthy Workplace Bill, H.R. AB166 (2009).

Hensrud, D. D. (2002). Chapter 3: What causes obesity?. *Mayo Clinic on Healthy Weight*, 21. Retrieved from EBSCO*host.*

Hill, J.O. & Peters, J.C. (1998). Environmental contributions to the obesity epidemic. *Science,* 280, 1371-1374.

Hinton, P. R., Brownlow, C., McMurray, I., & Cozens, B. (2004). Chapter 15. In *SPSS explained* (pp. 295-317). London: Routledge.

Hoppe, R. & Ogden, J. (1997). Practice nurses' beliefs about obesity and weight related interventions in primary care. *International Journal of Obesity*, 21, 141-146.

Israel, G. D. (1992). Determining sample size. *The Institute of Food and Agricultural Sciences*, 1-7.

Jalongo, M. R. (1999). Matters of size: obesity as a diversity issue in the field of early childhood. *Early Childhood Education Journal*, *27*(2), 95-103.

Johnson, B. K. (1998). A correlational framework for understanding sexuality in women age 50 and older. *Health Care for Women International*, *19*(6), 553-564. doi: 10.1080/073993398246115

Judge, S., & Jahns, L. (2007). Association of overweight with academic performance and social behavioral problems: an update from the early childhood longitudinal study. *Journal of School Health*, *77*(10), 672-678.

Khan, N. (1998). *Quantitative methods in geographical research*. New Delhi: Concept Pub.

Klaczynski, P.A., Goold, K.W., & Mudry, J.J. (2004). Culture, obesity stereotypes, self-esteem, and the "thin ideal": A social identity perspective. *Journal of Youth and Adolescence,* 33 (4), 307-317.

Klein, S., Burke, L. E., Bray, G. A., Blair, S., Allison, D. B., Xavier, P. S., ... Eckel, R. H. (2004). Clinical implications of obesity with specific focus on cardiovascular disease: a statement for professionals from the American heart association council on nutrition, physical activity, and metabolism: endorsed by the American college of cardiology foundation. *Circulation*, *110*(18), 2952-2967. doi: 10.1161/01.CIR.0000145546.97738.1E

Kostanski, M., & Gullone, E. (2007). The impact of teasing on children's body image. *Journal of Child and Family Studies*, *16*(3), 307-319.

Kraig, K. A., & Keel, P. K. (2001). Weight-based stigmatization in children. *International Journal of Obesity*, *25*, 1661-1666.

Latner, J. D., & Schwartz, M. B. (2005). Weight bias in a child's world. In K. D. Brownell (Author), *Weight bias: nature, consequences, and remedies*. New York, NY: Guilford Press.

Latner, J.D. & Stunkard, A.J. (2003). Getting worse: The stigmatization of obese children. *Obesity Research,* 11(3), 452-456.

Maiman, L. A., Wang, L. W., Becker, M. H., Finlay, J., & Simonson, M. (1979). Attitudes toward obesity and the obese among professionals. *Research*, *74*, 331-336.

Massachusetts House No. 1844, §§ 151B-1-10 (2007).

McCardle, M. (2008). *Weight bias and social work practice: an empirical exploration* (Unpublished doctoral dissertation). City University of New York.

Mertens, D. M. (2007). Transformative paradigm: mixed methods and social justice. *Journal of Mixed Methods Research*, *1*(3), 212-225. doi: 10.1177/1558689807302811

Mertens, D. M. (2005, May). *The transformative prism: Resilience and social justice in mixed methods research* (Rep.). Retrieved September 12, 2011, from University of Illinois, Urbana-Champaign website: http://www.iiqi.org/C4QI/httpdocs/qi2005/papers/mertens.pdf

Mertens, D. M. (2009). Transformative research and evaluation. New York: Guilford Press.

Mertens, D. M. (2010). Transformative mixed methods research. *Qualitative Inquiry*, *16*, 469-474.

Mich. Stat. Ann. § 3.548 (102) (2000).

Michigan, Michigan Department of Education. (2001, September). *The Role of Michigan Schools in Promoting Healthy Weight*. Retrieved August 28, 2011, from http://michigan.gov/documents/healthyweight_13649_7.pdf.

Miller, J., Rosenbloom, A., Silverstein, J. (2004). Childhood obesity. *The Journal of Clinical Endocrinology & Metabolism,* 89(9), 4211-4218.

Mokdad, A.H., Bowman, B.A., Ford, E.S., Vinicor, F., Marks, J.S., & Koplan J.P. (2001). The continuing epidemics of obesity and diabetes in the United States. *The Journal of the American Medical Association,* 286(10), 1195-1200.

Morrison, T. G., & O'Connor, W. E. (1999). Psychometric properties of a scale measuring negative attitudes toward overweight individuals. *The Journal of Social Psychology*, *13*(4), 436-445.

Moyers, P., Bugle, L., & Jackson, E. (2005). Perceptions of school nurses regarding obesity in school-age children. *The Journal of School Nursing*, *21*(2), 86-93. doi: 10.1622/1059-8405(2005)021[0086:POSNRO]2.0.CO;2

National Center for Education Statistics. http://nces.ed.gov/ccd/districtsearch/

Neumark-Sztainer, D., Story, M., & Faibischedd, L. (1998). Perceived stigmatization between overweight African-American and Caucasian adolescent girls. *Journal of Adolescent Health*, *23*(5), 264-270. doi: 10.1016/S1054-139X(98)00044-5

Neumark-Sztainer, D., Story, M., & Harris, T. (1999). Beliefs and attitudes about obesity among teachers and social health providers working with adolescents. *Journal of Nutrition Education*, *31*, 3-9.

New Jersey Department of Education. http://www.nj.gov/education/

Nihiser, A. J., Lee, S. M., Wechsler, H., McKenna, M., Odom, E. R., Reinold, C., Thompson, D., Grummer-Strawn, L. (2007). Body mass index measurement in schools. *Journal of School Health*, *77*(10), 651-671.

Nunnally, J. C. (1978). The theory of measurement error. In *Psychometric theory: 2nd ed.* New York: Mcgraw-Hill.

Obesity and Overweight for Professionals: Defining | DNPAO | CDC. (n.d.). Centers for Disease Control and Prevention. Retrieved September 11, 2011, from http://www.cdc.gov/obesity/defining.html

Ogden, C., & Carroll, M. (2010). Prevalence of obesity among children and adolescents: United States, trends 1963-1965 through 2007-2008. *National Center for Health Statistics.*

Pierce, J.W. & Wardle, J. (2006). Cause and effect beliefs and self-esteem. *The Journal of Child Psychology and Psychiatry,* 38(6), 645-650.

Pomeranz, J.L. (2008). A historical analysis of public health, the law, and stigmatized social groups: The need for both obesity and weight bias legislation. *Obesity,* 16 (supplement 2), S93-S103.

Publication manual of the American Psychological Association. (2010). Washington, DC: American Psychological Association.

Puhl, R., & Brownell, K. D. (2001). Bias, discrimination, and obesity. *Obesity*, *9*(12), 788-805. doi: 10.1038/oby.2001.108

Puhl, R., & Heuer, C. A. (2010). Obesity stigma: important considerations for public health. *American Journal of Public Health*, *100*(6), 1019-1028.

Puhl, R.M. & Heuer, C. (2010). Public opinion about laws to prohibit weight discrimination in the United States. *Obesity*, 1-9.

Puhl, R.M., Heuer, C., Sarda, V. (2011). Framing the message about weight discrimination: Impact on public support for legislation. *International Journal of Obesity,* 35, 863-872.

Puhl, R. M., Andreyeva, T., & Brownell, K. D. (2008). Perceptions of weight discrimination: prevalence and comparison to race and gender discrimination in America. *International Journal of Obesity*, *32*(6), 992-1000. doi: 10.1038/ijo.2008.22

Puhl, R. M., & Brownell, K. D. (2003). Psychosocial origins of obesity stigma: Towards changing a powerful and pervasive bias. *Obesity Reviews*, *4*, 213-227.

Puhl, R. M., & Brownell, K. D. (2006). Confronting and coping with weight stigma: An investigation of overweight and obese adults. *Obesity*, *14*(10), 1802-1815. doi: 10.1038/oby.2006.208

Puhl, R. M., & Friedman, R. R. (2008). *Weight bias: The need for public policy* (Issue brief). Retrieved August 27, 2011, from Yale Rudd Center website: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/WeightBiasPolicyRuddReport.pdf

Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: a review and update. *Obesity*, *17*(5), 941-964. doi: 10.1038/oby.2008.636

Puhl, R. M., & Latner, J. D. (2007). Stigma, obesity, and the health of the nation's children. *Psychological Bulletin*, *133*(4), 557-580. doi: 10.1037/0033-2909.133.4.557

Puhl, R.M., Masheb, R.M., White, M.A., & Grilo, C.R. (2010). Attitudes toward obesity in obese persons: A matched comparison of obese women with and without binge eating. *Eating & Weight Disorders*, 15, 173-179.

Puhl, R. M., Schwartz, M. B., & Brownell, K. D. (2005). Impact of perceived consensus on stereotypes about obese people: A new approach for reducing bias. *Health Psychology*, *24*(5), 517-525. doi: 10.1037/0278-6133.24.5.517

Quinn, B. H. (1987). *Attitudinal ratings of educators toward normal weight, overweight, and obese teenage girls* (Unpublished doctoral dissertation). Texas Women University. Retrieved March 30, 2011, from ProQuest Dissertations and Theses.

Rehabilitation Act of 1973, 29 U.S.C. §§ 791 *et seq.*

Ricciardelli, L.A. & McCabe, M.P. (2001). Children's body image concerns and eating disturbance: A review of the literature. *Clinical Psychology Review*, 21(3), 325-344.

Report on size discrimination. (1994). *National Education Association*.

Robinson, S. (2006). Victimization of obese adolescents. *The Journal of School Nursing*, *22*(4), 201. doi: 10.1622/1059-8405(2006)22[201:VOOA]2.0.CO;2

Rogers, C.R. (1949). A coordinated research in psychotherapy: A non-objective introduction. *Journal of Consulting Psychology*, 13(3), 169-175.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rosner, B., Prineas, R., Daniels, S., & Loggie, J. (2000). Blood pressure differences between black and whites in relation to body size among US children and adolescents. *Journal of Epidemiology*, *151*(16), 1007-1019.

San Francisco, CA., Police Code ch. 33(2000)

Santa Cruz, CA., Municipal Code ch. 9.83 (1995)

Schmitt, N., & Bedeian, A. G. (1982). A comparison of LISREL and two-stage least squares analysis of a hypothesized life-job satisfaction reciprocal relationship. *Journal of Applied Psychology*, *67*(6), 806-817. doi: 10.1037/0021-9010.67.6.806

Schroer, N. A. (1985). *Perceptions of in-service teachers and pre-service teachers toward obese and normal-weight children (corpulence, child psychology, body-image, physical*

development, teacher-student relationships) (Unpublished doctoral dissertation). Texas A & M University. Retrieved March 30, 2011, from ProQuest Dissertations and Theses.

Schwartz, M. B., & Puhl, R. (2003). Childhood obesity: a societal problem to solve. *Obesity Reviews*, *4*, 57-71.

Schwimmer, J. B., Burwinkle, T. M., & Varni, J. W. (2003). Health-related quality of life of severely obese children and adolescents. *Journal of American Medical Association*, *289*(14), 1813-1819.

Shapiro, J.P. & Stefkovich, J.A. (2010) Ethical *leadership and decision making in education: Applying theoretical perspectives to complex dilemmas.* Mahwah, NJ: Lawrence Erlbaum Associates.

Sheerer, E.T. (1949). An analysis of the relationship between acceptance of and respect for self and acceptance of and respect for others in ten counseling cases. *Journal of Consulting Psychology,* 13(3), 169-175.

Simon, H. A. (1954). Spurious correlation: a causal interpretation. *Journal of the American Statistical Interpretation*, *49*, 467-479.

Singh, K. (2007). *Quantitative social research methods*. Los Angeles: Sage Publications.

Solovay, S. (2005). Remedies for weight-based discrimination. In K. D. Brownell (Author), *Weight bias: nature, consequences, and remedies* (pp. 212-221). New York: Guilford Press.

Springer, D. W., Abell, N., & Nugent, W. R. (2002). Creating and validating rapid assessment instruments for practice and research: part 2. *Research on Social Work Practice*, *12*(6), 768-795. doi: 10.1177/104973102237474

STATS.org - What is the difference between causation and correlation? (n.d.). Retrieved April 18, 2011, from http://www.stats.org/in_depth/faq/causation_correlation.htm

Strauss, R.S. (2000). Childhood obesity and self-esteem. *Pediatrics,* 105(1), 1-5.

Strauss, R.S. & Pollack, H.A. (2003). Social marginalization of overweight children. *Archives of Pediatrics & Adolescent Medicine*, 157, 746-752.

Sullivan, L.E. (2009). The sage glossary of the social and behavioral sciences. Thousand Oaks, CA: Sage Publications, Inc.

Sweeting, H., & West, P. (2001). Being different: correlates of the experience of teasing and bullying at age 11. *Research Papers in Education*, *16*(3), 225-246.

Tajfel, H. & Turner, J. C. (1986). An integrative theory of intergroup conflict. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations* (pp. 2-24). Chicago: Nelson-Hall.

Tang-Péronard, J. L., & Heitmann, B. L. (2008). Stigmatization of obese children and adolescents, the importance of gender. *Obesity Reviews*, *9*(6), 522-534. doi: 10.1111/j.1467-789X.2008.00509.x

Taussig, W.C. (1994). Weighing in against obesity discrimination: Cook v. Rhode Island, department of mental health, retardation, and hospitals and the recognition of obesity as a disability under the rehabilitation act and the Americans with disabilities act. *Boston College Law Review,* 35(4), 927-963.

Teachman, B. A., & Brownell, K. D. (2001). Implicit anti-fat bias among health professionals: is anyone immune? *International Journal of Obesity*, *25*, 1525-1531.

Thompson, J. K., Fabian, L., Moulton, D., Dunn, M., & Altabe, M. (1991). Development and validation of the physical appearance related teasing scale. *Journal of Personality Assessment*, *56*(3), 513-521. doi: 10.1207/s15327752jpa5603_12

Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 1983

Urbana, IL., Municipal Code Article III 12-37 (1979)

Vila, G., Zipper, E., Dabbas, M., Bertrand, C., Robert, J.J., Ricour, C., Mouren-Simeoni, M.C. (2004). Mental disorders in obese children and adolescents. *Psychosomatic Medicine,* 66, 387–394.

Wadden, T.A. & Stunkard, A.J. (2002). Handbook of Obesity Treatment. NY, NY: Guilford Press.

Wang, S. S., Brownell, K. D., & Wadden, T. A. (2004). The influence of the stigma of obesity on overweight individuals. *International Journal of Obesity*, *28*(10), 1333-1337.

Wardle, J., & Cooke, L. (2005). The impact of obesity on psychosocial well-being. *Best Practice & Research Clinical Endocrinology & Metabolism*, *19*(3), 421-440.

Warschburger, P. (2005). The unhappy obese child. *International Journal of Obesity*, *29*, S127-S129. doi: 10.1038/sj.ijo.0803097

Watson, J. C., & Simpson, L. (2010). Predictive designs. In C. J. Sheperis, M. H. Daniels, & J. S. Young (Authors), *Counseling research: quantitative, qualitative, and mixed methods* (pp. 61-79). Boston, MA: Pearson.

Whetstone, L. M., Morrissey, S. L., & Cummings, D. M. (2007). Children at risk: the association between perceived weight status and suicidal thoughts and attempts in middle school youth. *Journal of School Health*, *77*(2), 59-66.

www.fatism.org

www.yaleruddcenter.org/weightbias

Young, J. S. (2010). An overview of survey research. In C. J. Sheperis, M. H. Daniels, & J. S. Young (Authors), *Counseling research: quantitative, qualitative, and mixed methods* (pp. 80-92). Boston, MA: Pearson.

Yuker, H. E., & Block, J. R. (1986). *Research with the attitudes towards disabled persons scales (ATDP) 1960-1985*. Hempstead, NY: Center for the Study of Attitudes Toward Persons with Disabilities, Hofstra.

Appendices

Appendix A
IRB Application

Rowan University
INSTITUTIONAL REVIEW BOARD
HUMAN RESEARCH REVIEW APPLICATION
INSTRUCTIONS: Check all appropriate boxes, answer all questions completely, include attachments, and obtain appropriate signatures. Submit an original and two copies of the completed application to the Office of Research, Bole Hall Annex. NOTE: Applications must be typed. Incomplete and handwritten applications will be returned. Be sure to make a copy for your files.
Step 1: Determine if the proposed research is subject to IRB review.
All research involving human participants conducted by Rowan University faculty and staff is subject to IRB review. Some, but not all, student-conducted studies that involve human participants are considered research and are subject to IRB review. Consult the "Frequently Asked Questions" on the IRB website and your faculty advisor regarding student research. Some research may be eligible for exemption from IRB review. However, it should be submitted to the IRB Committee to determine whether an exemption applies. If you think your research is eligible for exemption, please fill out the application and attach a cover letter explaining why you think your research should be exempted. More details on what is considered research and types of exemptions can be found in Appendix A. You may also consult the "Frequently Asked Questions" on the IRB website.
Step 2: If you have determined that the proposed research is subject to IRB review, complete the identifying information below.
Project Title: Weighing in on Teacher's Perceptions of Obese Students: A Descriptive Correlational Design

Researcher: Angelina Pecoraro	Date: March 1, 2011
Department: Ed.D in Leadership	Location: Rowan University
Mailing Address:	
Street: 13 Cardinal Way	
Town/State/Zip: Raritan, NJ 08869	
E-Mail: Angiep19@aol.com	Telephone: (908) 872-2479
Co-Investigator/s:	
Julie Benavides	Faculty Sponsor (if student)* Dr. Kara Ieva
	Department: Special Education Services/Instruction
	Location: Rowan University
E-Mail: Ieva@rowan.edu	Telephone: 856-256-4500 x 3827

Approved For Use by Rowan IRB: 5/10
Step 3: Determine if your research study requires a full IRB review
The Rowan University IRB handles reviews on an expedited basis (meaning that the protocol is examined by one IRB reviewer and the chair) with the exception of those that put the participant at greater than "minimal risk" (see below).

(Note: "Minimal risk" means that the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during performance of routine physical or psychological examinations or tests. The concept of risk goes beyond physical risk and includes risks to the participant's dignity and self-respect as well as psychological, emotional, or behavioral risk.)

Please indicate the level of risk participants will face in your research study:

☐ Greater than minimal risk ☒ Not greater than minimal risk

Step 4: Complete the following information:

PROTOCOL DESCRIPTION:

THE HUMAN SUBJECTS INVOLVED IN THIS RESEARCH:

a) Who are the subjects?

The subjects involved in this research study will be all certified staff members currently employed at Southern New Jersey School District in the Elementary, Middle, and High School. The four schools are called B. Bernice Young Elementary School, Fountain Woods Elementary School, Southern New Jersey Middle School, and Southern New Jersey High School.

b) How many subjects will be involved in the project?

Approximately 350 subjects (all certified staff members) will be involved in the project.

c) Specify your plans for including women and minorities, if appropriate.
N/A

d) List all inclusion and exclusion criteria.
The inclusion criteria are teachers must be certified staff members working in Southern New Jersey School District. The staff members who will be excluded are any non-certified staff members such as: classroom aides, lunch aids, custodians, etc.

e) Do your subjects include any of the following:

☐ Yes ☒ No Pregnant Women or Human Fetuses or Neonates?
☐ Yes ☒ No Children and Minors ages seven through seventeen?
☐ Yes ☒ No Infants or Children younger than seven years of age?
☐ Yes ☒ No Cognitively Impaired Persons?
☐ Yes ☒ No Inmates/Prisoners?
☐ Yes ☒ No Elderly/Aged Persons?
☐ Yes ☒ No Non-English Speaking Persons?

f) Are your subjects students?

☐ Yes ☒ No If YES, name the institution(s) in which they are enrolled:

g) Are there prospective subjects who, if selected for this project, would be especially vulnerable to risk because of the procedures you will be using?

☐ Yes ☒ No If YES, describe the process you will use to screen such subjects:

2. <u>RECRUITMENT</u>:

a) Specify how you will gain access to, recruit, and select your subjects.
I will gain access to the institution through approval from the Southern New Jersey Board of Education. I will recruit and select my subjects

through a workshop presentation at each school within the district. All members will be give professional development hours to be applied to their allotted professional development for the year. The participants will then be selected by those who voluntarily and accurately complete the surveys. Even the participants do not participate they will still receive professional development and be allotted one hour of professional development for the school year.

b) Are you advertising or posting a notice for subjects/volunteers?

☐ Yes ☒ No If YES, submit a copy of the advertisement or notice.

c) Will the subjects be recruited from your place of employment?

☐ Yes ☒ No If YES, explain how this research relates to your job role and provide any other information pertinent to your relationship with the subjects (e.g., how will you ensure against the possibility of coercion?):

3. COST/PAYMENT:

a) Are you paying your subjects?

☐ Yes ☒ No If YES, indicate the amount of payment and describe if (and how) you will pro-rate the payments to subjects who withdraw before they complete their participation:

Will participation in the study involve any cost to the subject?

☐ Yes ☒ No If YES, indicate the anticipated costs to the subject.

4. INFORMED CONSENT:

a) Does your protocol involve the use of an informed consent form?

☐ Yes ☒ No If YES, enclose a copy of the form. Informed consent must be obtained from the subjects and/or, in the case of minors under the age of 18, the parent or legal guardian. See Appendix B for instructions o n informed consent. All requirements must be met. If NO, explain how consent will be obtained.

I am not using an informed consent form because the only identifying link between the subject and this research project would be the consent form. I am conducting a survey and not asking participants to identify themselves on the forms. If I use a consent form this would require the participants to reveal their identity by signing the form. However, an initial introduction to the survey will be attached to state that all participation is voluntary, purpose for conducting the research project, purpose of the research, notifying all participants that records will be kept anonymous and confidential, notifying all participants that they do not need to respond to all questions, and contact information for myself (the Principal Investigator) and Dr. Kara Ieva (faculty sponsor).

NOTE: If the only record linking the subject and the research would be the consent document and the research presents no more than minimal risk of harm to subjects, you may use an alternative procedure for consent. (See Appendix B for more information)

b) Will the research be conducted at a site other than Rowan institution?

☒ Yes ☐ No

If YES, list the institutions and provide letters from appropriate institutional official(s) with the authority to approve research at their institution (e.g. school principal, school superintendent, director of institution, IRB): The research will be conducted at Southern New Jersey School District (see attached approval by the superintendent).

5. THE RESEARCH PROCEDURES:

Describe in non-scientific language exactly what you will be doing to, or with, your subjects. Include in your description:

Goal of the research:

The goal of this research is to explore teacher perceptions of obese students and their beliefs about obesity. Perceptions are defined in this study as one's beliefs about the causes and nature of obesity and one's attitudes toward obese students. The investigation specifically focuses on the relationship between 1.)Teacher's position and his/her perceptions about obesity 2.)Within perceptions the relationship between beliefs and attitudes 3.)Teachers self-perceptions about their body weight and their perceptions about obesity and 4.) how the attitudes and beliefs predict teacher's perceptions in school. A survey research design will be used, and it will involve collecting quantitative data through three different self-administered surveys and a demographic form from a random sampling of 350 certified staff members from Southern New Jersey School District to test their perceptions of obese students. There are many studies contributing to the attitudes and beliefs of the general public, health and medical staff, physical educators, and peers. However, limited amount of studies that have explored how teachers perceive obese students in the classroom. Overall, this research project is an attempt to reveal through a series of surveys and assessments the teacher perceptions and attitudes of obese students in the school.

Procedures to be followed:

Once approval is granted from the school district and IRB I will then contact each individual principal to set up a date when I could collect surveys from the participants in each school. Once the date is established I will then begin my data collection. Data collection consisted of three self-administered assessments that participants in each school will complete voluntarily.

In order to ensure a total population survey the incentive I have in place is to offer all staff members a professional development workshop on weight-bias, which would in turn give all participants one hour towards their professional development bank for the 2011-2010 school year.

Data collection will begin in August 2011 when participants will be invited to participate in a one-hour professional development workshop entitled, "Weight Bias in Schools and at Home." Next participants will be asked to take the first ten minutes of the workshop session and complete three assessments and a demographic form (See attached

forms): Rosenberg's Self-Esteem Scale, Attitudes Towards Obese Persons, and Beliefs About Obese Persons. Participants will be given a brief description of the study and its purpose and notified that the completion of surveys are completely voluntary and will be kept anonymous at all times. Once surveys are complete and collected, I show participants a brief video on weight bias in schools at a home with a follow-up discussion about the video. The video covers the topic of obesity, how and why students experience bias in schools and at home from various persons, and how to become more sensitive to the needs of obese students.

Will you be carrying out procedures or asking questions that might disturb your subjects emotionally or produce stress or anxiety?

☐ Yes ☒ No If YES, describe your plans and criteria for counseling such subjects:

Are you using a questionnaire, survey, and/or an interview as part of your procedure?

☒ Yes ☐ No If YES, submit a copy of the questionnaire(s) and/or interview questions.

Are you using focus group discussions as a part of your procedure?

☐ Yes ☒ No If YES, submit a copy of the focus group guide.

Does your study involve deception of your subjects?

☐ Yes ☒ No If YES, describe the deception, justify its need, and describe the procedure you will use to debrief your subjects. Submit a copy of the debriefing statement, which should include a statement of your willingness to allow subjects to withdraw from your study after debriefing and to remove from your files all records of their involvement.

a) Will this study involve the use of existing data, documents, records, pathological specimens, or diagnostic specimens?

☐ Yes ☒ No If YES, include authorization to access the data if not publicly available from an official with authority to provide such permission.

6. DATA STORAGE/DISPOSITION:

a) Will participants' names be kept:

☐ confidential ☒ anonymous ☐ neither

(See Appendix B (Informed Consent) for definitions of these terms)

b) If participants' names are to remain confidential how will confidentiality be maintained?

c) Describe how you will keep your data secure:

The data collected (surveys) will be kept in a locked filling cabinet at the researcher's home in order to ensure safety and confidentiality of the data and I will be the only person to have access to the key.

d) Describe how you will ultimately dispose of your data (notes, drafts, lists of subjects, photographic records, tapes, computer disks, etc.) after you have completed your research (e.g. shredding, burning) (please note that all research records must be maintained for at least three years after the completion of the

research, including consent forms, flyers, etc.). If you do not plan to destroy research data, please provide a justification for maintaining the data for an indefinite period of time and how you will ensure confidentiality:

All data will be kept in a locked storage with the only person having the access to the key and I will ultimately dispose the data by shredding all surveys. This will be completed after three years from the completed research date in order to ensure confidentiality of the information provided.

7. RISK/BENEFIT:

In three or four sentences, summarize the risk/benefit ratio of the proposed research, with regard to the human subjects, the risks to them, and the potential benefits to knowledge or society:

There are no risks factors involved to human subjects. The potential benefits to knowledge and society is the views teachers hold towards obesity. If teachers present negative bias and stereotypes towards obesity, then further research can be implicated to provide intervention strategies, workshops, or professional development to teachers to reduce obesity bias. Also, future research through the data collected in this study can be extended through the impact of student achievement through teacher's perceptions of obesity. Another potential benefit could be to assist policymakers in facilitating school wide programs to protect our obese students from becoming victims of discrimination, bias, and/or stigmatization.

8. COLLABORATION:

Does this research project involve the IRB approval of one or more participating institutions or organizations other than that of Rowan?

☐ Yes ☒ No If YES, list the institutions and submit copies of the related IRB approval notices.

9. ADDITIONAL INFORMATION (OPTIONAL) (Attach a separate sheet if needed)

CERTIFICATIONS:

Rowan University maintains a Federal-wide Assurance (FWA) with the Office of Human Research Protection (OHRP), U.S. Department of Health & Human Services. This Assurance includes a requirement for all research staff working with human participants to receive training in ethical guidelines and regulations. "Research staff" is defined as persons who have direct and substantive involvement in proposing, performing, reviewing,
or reporting research and includes students fulfilling these roles as well as their faculty advisors.

Please attach a copy of your "Completion Certificate for Human Participant Protections Education for Research Teams" from the National Institutes of Health.

If you need to complete that training, go to the Web Tutorial at http://cme.nci.nih.gov/

Researcher: I certify that I am familiar with the ethical guidelines and regulations regarding the protection of human participants from research risks and will adhere to the

policies and procedures of the Rowan University Institutional Review Board. I will ensure that all research staff working on the proposed project, who will have direct and substantive involvement in proposing, performing, reviewing, or reporting this research (including students fulfilling these roles), will complete IRB approved training. I will not initiate this research project until I receive written approval from the IRB. I agree to obtain informed consent of participants in this project if required by the IRB; to report to the IRB any unanticipated effects on participants which become apparent during the course or as a result of experimentation and the actions taken as a result; to cooperate with the IRB in the continuing review of this project; to obtain prior approval from the IRB before amending or altering the scope of the project or implementing changes in the approved consent form; and to maintain documentation of consent forms and progress reports for a minimum of three years after completion of the final report or longer if required by the sponsor or the institution. I further certify that I have completed training regarding human participant research ethics within the last three years as indicated below my signature.

Signature of Researcher: _____ Date: _____

Faculty Advisor (if Researcher is a student): I certify that I am familiar with the ethical guidelines and regulations regarding the protection of human participants from research risks. I further certify that I have completed training regarding human participant research ethics within the last three years as indicated below my signature (attach copy of your "Completion Certificate for Human Participant Protections Education for Research Teams" from the National Institutes of Health).

Signature of Faculty Advisor: _____ Date: _____

Please check one of the following:

____ Full Review Needed

____ Expedited Review Needed

_X__ Expedited Review with Exemption Number _2__ (See Appendix B)

Appendix B
Southern New Jersey School District Proposal

February 23, 2011
Dear Assistant Superintendent & Superintendent of Schools:

Please accept this proposal as a request for Angelina Pecoraro and I to conduct research at the Southern New Jersey School District.

I Julie Benavides am a 6th grade teacher at the Middle School. I am also a Doctoral Candidate at Rowan University working on a mixed methods research project focusing on the experiences of obese adolescents.

Angelina is a teacher at the Regional School District. She is also a Doctoral Candidate at Rowan University. Her quantitative research study is focused on exploring teacher's perceptions of obese students.

Our studies together will increase awareness of the impact of attitudes, behaviors and perceptions toward overweight students. Collaboratively, our results will be used to compare perceptions amongst students and teachers.

Purpose of the research

Study 1
The purpose of this phenomenological research study is to understand and explore the lived social, emotional and academic experiences of overweight adolescent 8th and 9th grade students.

Central Research Question

This mixed methods research study attempts to answer the following central question:
What is the meaning of living with obesity for students?
What is it like for adolescents emotionally and socially to live with obesity?
What strategies are in place to support obese students in school?
Seek to understand the contributors and challenges of obesity.
Study 2
The purpose of this study is to explore teacher perceptions of obese students and their beliefs about obesity. The investigation specifically focuses on the relationship between 1.)Teacher's position and his/her perceptions about obesity 2.)Within perceptions the relationship between beliefs and attitudes 3.)Teacher's self-perceptions about their body weight and their perceptions about obesity. A survey research design will be used, and it will involve collecting quantitative data through three different self-administered surveys from a random sampling of approximately 300 certified staff members from Southern New Jersey School District to explore their perceptions of obese students.

Research Questions
I intend to investigate four research questions, one being a central question, to explore elements, which demonstrate teacher perceptions of overweight students in the school setting. This survey study attempts to answer the following central question: How do teachers perceive obese students in the classroom?

1. Do their beliefs about obesity correlate to their attitudes toward obese students?
2. Do their attitudes reflect their self-perceptions?
3. How do self-perceptions, attitudes toward obese students, and beliefs about obesity correlate?

Research Participants

Study 1

The intent is to survey the entire 8th and 9th grade student population. Through the response rate, 12 participants will be randomly chosen to be interviewed.

Study 2

The goal is to survey all certified staff members.

Risk/Benefit

There are no risk factors involved in either study to human subjects, weather teachers or students. The potential benefits will be used to assist policymakers in facilitating school wide programs to protect our obese students from becoming victims of discrimination, bias and or stigmatization.

Duration

Study 1

It is my intention to survey the student population before the end of the 2010-2011 academic school year. With parental permission I will conduct interviews throughput the summer to eliminate interruptions in instructional time.

Study 2

Upon Board approval and review of the district calendar it is the intent to distribute and collect teacher surveys during a professional development day and/or morning which affords the researcher the opportunity to offer a professional development workshop, on obesity, throughout the district.

Methods of Confidentiality

Study 1

Initial student survey will be kept confidential and only signed if the student wishes to be selected for the interview phase of research. All collected data will be kept in a locked cabinet at the researchers' home to ensure safety.

Study 2

Teacher's names will be kept anonymous at all times. This study is completely voluntary and teachers will be given an informed consent form to read not sign. The participants will not be asked to identify themselves in any way or to reveal their identity by signing a consent form. All surveys will be kept confidential and in a locked cabinet in the researcher's home to ensure its safety.

Project Incentives

Study 1

Interview participants (10-12) will be offered a 20$ incentive gift card for compensation of time.

Study 2

Teachers will be awarded a professional development hour to be applied to their PD earnings for the academic school year. Food and beverages will be provided.

Project cost/funding

Researchers for both studies are personally covering all costs.

Background Information on Obesity

According to the Center for Disease Control and Prevention (1997) obesity is steadily increasing among adolescents in the United States. While it is important to seek healthier life styles and eating habits for those living with obesity, it is equally important that schools maintain unambiguous policies to protect students from weight related teasing, bias and discrimination.

Phenomenon of obesity has been estimated at 13% of 6-11 year olds & 14% 12-19 year olds are obese (US Department of Health & Human Services, 2001).

With this growing number of obesity in children and adolescents there is also an increased amount of anti-fat attitudes, obesity bias, discriminatory weight-related practices, and weight stigmatization (Puhl & Brownell, 2003; Puhl & Heuer, 2010; Greenleaf & Weiller, 2005).

Since obesity is a visible disorder, it provides the opportunity for others to assess weight status and comment on it (Warschburger, 2005).

These anti-fat perceptions against students occur not only in physical education settings but also in the classroom.

Approximately 25% of teachers have reported having a negative opinion about obese students in their classroom such as: being less healthy, neatness, less likely for academic success, and family problems (Gray, Kahhan, & Janicke, 2009).

Evaluation of Project

Both studies are partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership. The studies will be evaluated by a dissertation committee.

Assessment of the Contribution the Project will make to the District

Data collected from these studies can be implicated to provide intervention strategies, workshops and/or focus groups to reduce obesity bias. In addition policy makers have the opportunity to create programs to improve school culture for both staff and students. Both researchers are willing to volunteer any additional time to gather data, statistics, and/or resources on the phenomena of obesity to benefit the district.

Appendix C
Central New Jersey School District Proposal

May 27, 2011

Dear Superintendent,

Please accept this proposal as a request for Angelina Pecoraro to conduct research at the Central New Jersey School District. I am an intervention specialist in the school district. I am also a Doctoral Candidate at Rowan University. My quantitative research study is focused on exploring teacher's perceptions of obese students. In anticipation of the results of this study, it will increase awareness of the impact of attitudes, behaviors, and perceptions toward overweight students.

Purpose of the research

The purpose of this study is to explore teacher perceptions of obese students and their beliefs about obesity. The investigation specifically focuses on the relationship between 1.)Teacher's position and his/her perceptions about obesity 2.)Within perceptions the relationship between beliefs and attitudes 3.)Teacher's self-perceptions about body weight and their perceptions about obesity. A survey research design will be used, and it will involve collecting quantitative data through three different self-administered surveys from a random sampling of approximately 300 certified staff members to explore their perceptions of obese students.

Research Questions

I intend to investigate four research questions, one being a central question, to explore elements, which demonstrate teacher perceptions of overweight students in the school setting. This survey study attempts to answer the following central question: How do teachers perceive obese students in the classroom?

1. Do their beliefs about obesity correlate to their attitudes toward obese students?
2. Do their attitudes reflect their self-perceptions?
3. How do self-perceptions, attitudes toward obese students, and beliefs about obesity correlate?

Research Participants

The goal is to survey all certified staff members.

Risk/Benefit

There are no risk factors involved in either study to human subjects, whether teachers or students. The potential benefits will be used to assist policymakers in facilitating school wide programs to protect our obese students from becoming victims of discrimination, bias, and/or stigmatization.

Duration

Upon approval from the superintendent and IRB office at Rowan University, it is anticipated to distribute three internet surveys through Survey Monkey in September at

the start of the school year. Utilizing internet surveys will not impact instructional time and teachers can answer the surveys at any time and on their own time.

Methods of Confidentiality

The school district and teacher's names will be kept anonymous at all times. This study is completely voluntary and teachers will be given an informed consent document to read not to sign. The participants will not be asked to identify themselves in any way or to reveal their identity by signing a consent form. All surveys will be kept confidential and in a locked cabinet in the researcher's home to ensure its safety.

Project cost/funding

I am personally covering all costs of the research.

Background Information on Obesity

- According to the Center for Disease Control and Prevention (1997) obesity is steadily increasing among adolescents in the United States. While it is important to seek healthier life styles and eating habits for those living with obesity, it is equally important that schools maintain unambiguous policies to protect students from weight related teasing, bias and discrimination.
- Phenomenon of obesity has been estimated at 13% of 6-11 year olds & 14% 12-19 year olds are obese (US Department of Health & Human Services, 2001).
- With this growing number of obesity in children and adolescents there is also an increased amount of anti-fat attitudes, obesity bias, discriminatory weight-related practices, and weight stigmatization (Puhl & Brownell, 2003; Puhl & Heuer, 2010; Greenleaf & Weiller, 2005).
- Since obesity is a visible disorder, it provides the opportunity for others to assess weight status and comment on it (Warschburger, 2005).
- These anti-fat perceptions against students occur not only in physical education settings but also in the classroom.
- Approximately 25% of teachers have reported having a negative opinion about obese students in their classroom such as: being less healthy, neatness, less likely for academic success, and family problems (Gray, Kahhan, & Janicke, 2009).

Evaluation of Project

The study is in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership. A dissertation committee will evaluate the studies.

Assessment of the Contribution the Project will make to the District

Data collected from this study can be implicated to provide intervention strategies, workshops, and/or focus groups to reduce obesity bias. In addition policy makers have the opportunity to create programs to improve school culture for both staff and students.

If you require any additional information on this study please feel free to contact me, Angelina Pecoraro, at apecoraro@brrsd.k12.nj.us.

Thank you for your time and consideration,

Angelina Pecoraro

Appendix D
Northern New Jersey School District Proposal

October 31, 2011

Dear Superintendent,

Please accept this proposal as a request for Angelina Pecoraro to conduct research in the Northern New Jersey School District. The study is in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership at Rowan University. My quantitative research study is focused on exploring teacher's attitudes and beliefs of obese students. In anticipation of the results of this study, it will increase awareness of the impact of attitudes, behaviors, and perceptions toward overweight students.

The purpose of this study is to explore teacher perceptions of obese students and their beliefs about obesity. The investigation specifically focuses on the relationship between teacher beliefs, attitudes, and self-esteem. A survey research design will be used, and it will involve collecting quantitative data through three different internet surveys from a purposeful sampling of educators.

I intend to investigate three research questions, one being a central question, to explore elements, which demonstrate teacher perceptions of overweight students in the school setting. This survey study attempts to answer the following central question: How do teachers perceive obese students in the classroom?

1. Do their beliefs about obesity correlate to their attitudes toward obese students?
2. How do self-esteem, attitudes toward obese students, and beliefs about obesity correlate?

The instrumentation I intend to use for this research is to survey all staff members in the district using survey monkey. Upon approval from the superintendent and IRB office at Rowan University, it is anticipated to distribute three internet surveys through Survey Monkey in September at the start of the school year. Utilizing internet surveys will not impact instructional time and teachers can answer the surveys at any time and on their own time.

There are no risk factors involved in the study to human subjects, whether teachers or students. The potential benefits will be used to assist policymakers in facilitating school wide programs to protect our obese students from becoming victims of discrimination, bias, and/or stigmatization.

The school district and teacher's names will be kept anonymous at all times. This study is completely voluntary and teachers will be given an informed consent document to read not to sign. The participants will not be asked to identify themselves in any way or to reveal their identity by signing a consent form. All surveys will be kept confidential and in a locked cabinet in the researcher's home to ensure its safety. All computerized data will be kept in a password locked laptop, which only the researcher has access to. In addition, all data will be destroyed three years after the study has been completed. There is no cost to the district for allowing me to conduct the research in this school district. If

there any cost, I will personally cover all costs of the research. An incentive will be provided for all participants who participate in the study.

If you require any additional information on this study please feel free to contact me, Angelina Pecoraro, at apecoraro@brrsd.k12.nj.us. If the study is approved, I would need a letter of approval from the Superintendent or Board of Education to submit to IRB at Rowan University for further University approval.

Thank you for your time and consideration,

Angelina Pecoraro

Appendix E
ATOP and BAOP Letter of Approval

Good evening Ms. Pecoraro,

Thank you for your message to Dr. David Allison. I am responding on his behalf while he is out of the office. Dr. Allison is delighted to hear of your interest in his research and is happy to grant your request. As long as you reference the materials appropriately, please feel invited to make the change you suggest.

Should you need anything else, please let me know how I may be of assistance.

With thanks,

Richard F. Sarver
Program Manager II
Section on Statistical Genetics, RPHB 414
205.975.9169 T; 205.975.2541 F

Appendix F
Participant Consent Form

Informed Consent Form (Introduction to Study)

A few days from now you will receive an email, which will ask you to take a brief survey for an important research project being conducted to explore the attitudes and beliefs teachers have towards obesity. This research is entitled, "Teacher's Attitudes Toward Obesity" conducted by Angelina Pecoraro, Doctoral Student at Rowan University. For the purposes of this study obesity is defined as, at or above the 95th percentile of body mass index.

This study will ask you to fill out several survey questions in attempt to discover teacher self-esteem and attitudes beliefs of obese students. In exchange for your participation and as a token of my appreciation a luncheon will be provided to all participants.

Your participation in the study should not exceed 20 minutes. There are no physical or psychological risks involved in this study, and you are free to withdraw your participation at any time without penalty, as your participation is completely voluntary.

The data collected in this study through surveys will be analyzed and will be submitted for publication in a research journal. Your responses will be anonymous and all data gathered will be kept confidential.

By taking this survey you agree that any information obtained from this study may be used in any way thought best for publication or education provided that you are in no way identified and your name is not used. Participation does not imply employment with the state of New Jersey, Rowan University, the principal investigator, or any other project facilitator.

Thank you for your time and consideration. It's only with the generous help of people like you that research can be successful. If you have any questions or problems in, please feel free to contact Angelina Pecoraro at angiep19@aol.com or (908) 872-2479 or her chairperson, Dr. Kara Ieva at ieva@rowan.edu or 856-256-4500 ext. 3827.

Appendix G
Demographics Survey

Background Information
Teacher Information:

Age: ○ Less than 20 ○ 21-30 ○ 31-40 ○ 41-50 ○ 51-older

Ethnicity: ○White ○Hispanic ○African American ○Asian ○Other: _____

Gender: ○ Female ○ Male

Highest education Completed: ○Bachelor Degree ○Masters Degree ○Post Masters

Role at the school: ○General Education Teacher ○Special Ed. Teacher ○Administrator

○Counselor/psychologist ○ Health professional ○ Other (*Please specify)*: _____

How long have you been teaching? _____ years.

Self-Perceptions

Please rate you own current weight using the following rating scale.

○ Extremely underweight ○ Slightly underweight ○ Healthy weight

○ Slightly overweight ○ Extremely overweight (obese)

How satisfied are you with your own body weight?

○ Extremely Unsatisfied ○ Unsatisfied ○ Satisfied ○ Extremely Satisfied

Do you have obese family members or friends?

○ yes ○ no

Do you have a close relationship with an obese individual?

○ yes ○ no

Appendix H
Attitudes Toward Obese Persons Scale

DIRECTIONS: Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Use the numbers on the following scale to indicate your response. Be sure to place a minus or plus sign (- or +) beside the number that you choose to show whether you agree or disagree.

-3	**-2**	**-1**	**+1**	**+2**	**+3**
I strongly Disagree	**I moderately disagree**	**I slightly disagree**	**I slightly agree**	**I moderately agree**	**I strongly agree**

1._____ Obese students are as happy as non-obese students.

2._____ Most obese students feel that they are not as good as other students.

3._____ Most obese students are more self-conscious than other students.

4._____ Obese students cannot be as successful as other students.

5._____ Most non-obese students would not want to marry anyone who is obese.

6._____ Severely obese students are usually untidy.

7._____ Obese students are usually sociable.

8._____ Most obese students are not dissatisfied with themselves.

9._____ Obese students are just as self-confident as other students.

10._____ Most students feel uncomfortable when they associate with obese students.

11._____ Obese students are often less aggressive than non-obese students.

12._____ Most obese students have different personalities than non-obese students.

13._____ Very few obese students are ashamed of their weight.

14._____ Most obese students resent normal weight students.

15._____ Obese students are more emotional than non-obese students.

16._____ Obese students should not expect to lead normal lives.

17._____ Obese students are just as healthy as non-obese students.

18._____ Obese students are just as attractive as non-obese students.

19._____ Obese students tend to have family problems.

20._____ One of the worst things that could happen to a student would be for him/her to become obese.

Appendix I
Beliefs About Obese Persons Scale

DIRECTIONS: Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Use the numbers on the following scale to indicate your response. Be sure to place a minus or plus sign (- or +) beside the number that you choose to show whether you agree or disagree.

-3	**-2**	**-1**	**+1**	**+2**	**+3**
I strongly Disagree	**I moderately disagree**	**I slightly disagree**	**I slightly agree**	**I moderately agree**	**I strongly agree**

1._____ Obesity often occurs when eating is used as a form of compensation for lack of love or attention

2._____ In many cases, obesity is the result of a biological disorder.

3._____ Obesity is usually caused by overeating.

4._____ Most obese students cause their problem by not getting enough exercise.

5._____ Most obese students eat more than non-obese students.

6._____ The majority of obese students have poor eating habits that lead to their obesity.

7._____ Obesity is rarely cause by lack of willpower.

8._____ Students can be addicted to food, just as others are addicted to drugs, and these students usually become obese.

Appendix J
Rosenberg Self-Esteem Scale

DIRECTIONS: Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Use the numbers on the following scale to indicate your response. Be sure to place a minus or plus sign (- or +) beside the number that you choose to show whether you agree or disagree.

-2	**-1**	**+1**	**+2**
I strongly Disagree	**I Disagree**	**I agree**	**I strongly agree**

1._____ On the whole, I am satisfied with myself.

2._____ At times, I think I am no good at all.

3._____ I feel that I have a number of good qualities.

4._____ I am able to do things as well as most other people.

5._____ I feel I do not have much to be proud of.

6._____ I certainly feel useless at times.

7._____ I feel that I'm a person of worth, at least on an equal plane with others.

8._____ I wish I could have more respect for myself.

9._____ All in all, I am inclined to feel that I am a failure.

10._____ I take a positive attitude toward myself.

Appendix K
Thank You Letter

Last week a survey link requesting your participation about teacher's attitudes toward obesity was emailed to you. If you have already completed and returned the questionnaire to me, please accept my sincere thanks of gratitude. If not, please take the time to fill out the brief survey. I am especially grateful for your help because it is only by asking educators like you to share your thoughts that can benefit our students and future research.

If you did not receive the survey link, or had difficulty with locating the survey, please feel free to contact me at Angiep19@aol.com or (908)872-2479 or my chairperson Dr. Kara Ieva at ieva@rowan.edu or 856-256-4500 ext. 3827.

Sincerely,

Angelina Pecoraro

need to add to figure `1

[1]Information adapted from, Ogden, C.L. & Carroll, M.D. (2010). Prevalence of obesity among children and adolescents: United States trends 1963-1965 through 2007-2008. *National Center for Health Statistics.*