The Relationship of Body Image and Eating Disturbances of Fifth, Seventh, Ninth and Twelfth Grade Students

by

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A Research Paper
Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
With a Major in

Guidance and Counseling

Approved: 2 Semester Credits

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University of Wisconsin-Stout

December, 2003

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ABSTRACT

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The Relationship of Body Image and Eating Attitudes of Fifth, Seventh, Ninth and Twelfth Grade Students.
(Title)

Guidance and Counseling Dr. Amy Schlieve 12/03 69
(Graduate Major) (Research Advisor) (Month/Year) (No. of Pages)

American Psychological Association (APA) Publication Manual. 5th Edition
(Name of Style Manual Used in this Study)

Studies have examined body image and eating disturbances of fifth, seventh, ninth and twelfth grade students. There are many factors that have been identified such as the family, media, and peers that influence the perceptions and attitudes of children and adolescents. Little research has been done on how perceptions and attitudes compare between the grades. The researcher surveyed 48 fifth grade students, 47 seventh grade students, 61 ninth grade students and 75 twelfth grade students at three different schools in a division one west central school district in Wisconsin. The researcher hypothesized that there is a relationship between body image and eating attitudes in all of the grade levels. The researcher also hypothesized that there is a relationship between the genders as they are surveyed. Thirdly, the researcher hypothesized that there is a difference between the males and the females at each grade level. The researcher found that overall, there was not a direct relationship between genders, body image, and eating attitudes in

all grade levels nor was there a relationship between grade and gender. Means, frequencies and percentages across grade and gender were also calculated. Results indicated a significant number of students at each grade level as well as gender that were being affected by their body image and/or eating attitudes. Twelfth grade girls and seventh grade girls were tabulated as having the highest percentage overall. A number of implications for this study are made as well as recommendations for further research and prevention.

ACKNOWLEDGEMENTS

During the time that I have been pursuing my thesis, I have had a great support system. First, my husband, Troy, was very supportive in all of the extra time that I spent either working on assignments, going to class or doing research for this thesis. Next, I have two wonderful friends that were always there for me when I needed a pick-me-up as well as for sounding blocks. Thanks Kelly and Heidi!

This thesis is in dedication to my Dad since I learned my work ethic and passion for life from him as well as from my mom. I love you Mom. I love you Dad – I miss you!

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CHAPTER ONE

INTRODUCTION

We live in a culture that objectifies the human body. One can look anywhere and see messages that deal with body image and the pressure to have a perfect body. These messages occur in many different avenues such as in the family, in the media, and among peers. Messages may subtly deliver different images for males and for females; therefore, there may be differences in how males and females view body image. In Smolak and Levine (2001), it is stated that for boys, there may be the pressure to gain weight and have the pressure to look athletic, muscular, and lean. As for girls, there is the pressure to be thin and to loose weight. Females have the pressure to look thin, flawless, yet well-proportioned. It is this pressure that could lead people down an alternative and possibly negative path to "look good."

The media contains a plethora of avenues that bombard children. In television, movies, and magazines, children see different body images of males and females. "According to social learning theory, children do not have to experience reinforcements directly to learn; they can also learn by observation, watching what is going on around them and how different people act" (Beal, 1994, p. 70). Many of the women and/or girls that are in different television productions are beautiful, flawless, and thin, where males are handsome, muscular, and lean. According to Beal (1994), the strongest television message

given about females is that they should be young, thin, and beautiful. "Boys are bombarded with images of sculpted torsos and six-pack abdominal muscles" (Fanning, 2003, p. 16). Research indicates that children watch television an average of 24 hours a

week (Robinson & Killen, 2001). When children watch television, they see many different depictions of males and females over and over because of the amount of time spent watching television.

Smolak and Levine (2001) state that when children go shopping with parents and/or peers, toys such as Barbie, GI Joe, and action figures are wanted and sometimes purchased and that Barbie is a misrepresentation of the female body and that GI Joe is very masculine, yet this image is impossible to attain for most young boys (Olivardia, 2002). Children, especially young girls, see what a "female body" looks like when the Barbie's clothes are changed. "1 in 100,000 women are likely to have body proportions similar to Barbie's" (Smolak & Levine, 2001, p. 51). A primary way to play with Barbie is to change her clothes which may place a focus on the importance of looking good in clothes which in turn may be another sociocultural influence on body image in young children (Cash & Pruzinsky, 2002). According to Kwoalski (2002):

> No one should feel that he or she has to conform to a certain beauty "ideal" – whatever it is. Besides, the "ideals" are impossible. A real-life Barbie doll would have a 38-inch chest. Her tiny waist would measure just 19 inches. Some action figures' muscular arms would be almost as thick as their waists! (p. 2)

Various research studies (Weisman, Gray, Mosimann, & Ahrens, 1992; Morris, Cooper, & Cooper, 1989; Silverstein, Perdue, Peterson, & Kelly, 1986; Turner & Hamilton, 1997) have shown that over the last several decades the weight of the ideal body image for women portrayed in the media has decreased" (cited in Kelly, 2000, p.1). With the bombardment of images from various sources, some may be influenced by the

unrealistic body types. "As with other aspects of the self, the body image is a mental construction, not an objective evaluation" (Grogan, 1999, p. 101).

According to Gilbert and Miles (2002), parents may be the source of where children gain their perceptions of body image and eating attitudes and/or habits. This may be communicated in different ways. Mothers and fathers may be consumed with what their bodies look like; therefore, children may adopt these same views because it is what they know and what they have grown up with. Parental influence on children and adolescents may not just be what is modeled, but it may also be what is said. Inferring what children should wear or what they should eat could cause children to become overly aware of what they are eating and what they should look like. Eating habits are also communicated by what is brought home to eat, not just communicated verbally.

As a result of body image pressure on children and adolescents, there have been studies done looking at the effects of the pressure. In a Pennsylvania State University study, researchers interviewed 197 five-year-old girls. It was found that parental influence had an effect on children. "...Parents' concern about their child's weight status and restriction of access to food are associated with negative self-evaluations among girls" (Torrance, 2001, p. 64). Actions and verbalizations by parents can have an influence how a child views his or her body. "Perceptions by both young girls and boys that parents are concerned about their child's weight have been associated with children's levels of body dissatisfaction" (cited in Ricciardelli &McCabe, 2001, p. 330). It is not only girls that may struggle with their body image; boys are also becoming more aware of how they look. "Dissatisfaction with body size and shape has become the norm for

females in America, and those concerns are increasing among boys" (Kater, Rohwer, & Londre, 2002, p. 199).

Obesity may be a factor in why more children are looking to diet and/or to lose weight. "Both girls and boys aged between 8 and 10 years hold similar perceptions about the value of thinness and the curse of obesity (cited in Ricciardelli & McCabe, 2001, p. 330). The increase in childhood and adolescent obesity has increased over the past twenty years. According to the American Obesity Association (2000), 15.5% of adolescents (ages 12 to 19) and 15.3% of children (ages 6 to 11) are obese. This is an increase from 5% of adolescents and 7% of children from 1980. Also, approximately 30.4 % of adolescents and 30.3 % of children are categorized as being overweight.

This study will focus on children and adolescents and their views of body image and eating attitudes. The purpose of this study is to increase the awareness of how children and adolescents view their bodies as well as to make distinctions between males and females. This study will examine the impact of various factors such as the media, parents, and gender on body image and eating attitudes in children and adolescents. Additionally, this study will look at whether or not there is a link between body image and eating attitudes of children and adolescents. In the past, research as well as intervention and prevention programs have focused more on negative body image and eating disorders in adolescents and adults. This study will begin to demonstrate that more programs of prevention and intervention need to be at all levels to help prevent negative body image and eating attitudes.

Statement of the Problem

The purpose of this study was to show that there is relationship of body image and eating habits/attitudes between boys and girls in fifth, seventh, ninth and twelfth grades students. Data was collected with a modified ChEAT survey during the fall of 2003. The reason for this study was to heighten awareness of the relationship between body image and eating attitudes in children and adolescents. Information gathered may be distributed to staff, parents, as well as students in awareness programs at school. All students may receive information during class time from trained counselors and/or teachers in the topic area of body image, eating attitudes and/or media literacy. Parents may receive information through handouts and/or through parent meetings at school. Teachers would receive information and training during an in-service.

Research Hypotheses

This study focused on different research hypotheses. First, there was a relationship of body image and eating attitudes between the grades of fifth, seventh, ninth and twelfth. Next, there was a relationship between body image and eating attitudes of boys and girls in the study. Finally, there was a relationship between body image and eating attitudes of boys and girls in fifth, seventh, ninth and twelfth grade students.

Definition of Terms

There are five terms that need to be defined for clarity and understanding. They are:

Body dissatisfaction: The discrepancy between one's ideal and actual body image; the larger the discrepancy the more body dissatisfaction (Dounchis, Hayden & Wilfley, 2001).

Body image: A person's perceptions, thoughts and feelings about his or her body; largely determines body satisfaction.

Body shame: The perception of being flawed, inadequate and in some way carrying undesirable attributes (Gilbert & Miles, 2002).

Eating disorders: Disorders such as Anorexia Nervosa and Bulimia Nervosa that are classified as more severe than eating disturbances.

Eating disturbances/problems: Problems that occur that are associated with eating which include dieting, binging, over-eating, avoidance of food, and fear of fatness.

Assumptions and Limitations

Within this study, there are assumptions and limitations. It is assumed that those who are involved in the study answer questions honestly. A limitation may be that a participant may want to help out and please the researcher so that answers are given that the subjects think the researcher wants to hear. This is a small sample from a mid-western, predominantly white community. This may cause difficulty in further application in other cities and cultures. Children are difficult to survey and assess because they may have limited and various attention spans as well as vocabulary understanding. This could cause false answers.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter will include a discussion of the history and theories related to body image, followed by a discussion of how the media, parents and peers influence children's perceptions of their body and eating habits. In addition, research will show the similarities and differences of body image perceptions and eating patterns of boys and girls. Finally, a review of the literature will explore the relationship between body image and eating attitudes.

History and Related Theories

Body image originated in the 1920s with the work of Paul Schilder as he examined body image within a psychological and sociological framework. Prior research was limited to a distorted body image of people with brain damage. He defined body image as "the picture of our own body which we form in our mind, that is so say, the way in which the body appears to ourselves" (cited in Grogan, 1999, p. 1). Since the 1950s, body image has been redefined by many people in the field.

According to Grogan (1999), cultural standards for male and female ideal bodies may differ in size and shape which began with early paintings from the Middle Ages depicting females as reproductive figures where being plump was idealized. Grogan (1999) also examined the early male body looking at the sculpted bodies in Greece where the male body was more revered than the female body. It was at this time that the male ideal was to be broad-shouldered and narrow-hipped (Grogan, 1999). The author also stated that the male ideal continued to dominate art until the mid 1800s when the female

body became more revered. The 1800s also continued the larger, more voluptuous and plump female body as the norm; slimness in women really began in the 1920s, where it is believed that the thin ideal was the result of successful marketing by the fashion industry which was in part due to the highly distributed mass-market fashion magazines (Grogan, 1999). The author continued that to be "in fashion," many women used starvation diets and vigorous exercise to get their bodies to look boy-like; however, the 1930s through the 1940s showed women as being more curvy and shapely and at this time, looking good in a sweater was what the culture defined as being ideal, again, the fashion industry had its influence (Grogan, 1999). The author states that the 1950s set the slim tone for women once again, which has continued to prevail in to the present. Also, at this time, the portrayal of males in the movies became more publicized, where poses were designed to flatter their muscularity (Grogan, 1999). The 1980s and 1990s had the male muscular body shown in photographs and movies semi-nude; today, the muscular physique for men still prevails, although waif-like male bodies are beginning to appear in fashion magazines as well as on commercials; the slim, flawless, and beautiful physique continues to be the ideal (Grogan, 1999).

Various social theories are related to body image and eating disturbances. The Social Comparison Theory developed by Leon Festinger in 1954, states that as humans we desire accurate and objective evaluations of our abilities and attitudes. When we cannot do this for ourselves at a satisfactory level, we compare ourselves with other people (cited in Grogan, 1999). When looking at messages the media sends, this theory predicts that people might use images projected by the media as standards for comparison. From this viewpoint, many people may be dissatisfied with how they look

because they are comparing themselves with models and movie stars. Women, in particular, look at fashion magazines that show the ultimate in clothing, cosmetics, and beauty. "Turner and Hamilton (1997) found that being exposed to fashion magazines was related to female's great preoccupation with being thin, dissatisfaction with their bodies, frustrations with their weight, and fear about moving away from the ideal standard of thinness" (cited in Kelly, S., 2000, p. 15-16). When considering what people see in the media, it is a tough act to follow. "The average female fashion model is 23% thinner than the average American woman. The average model is 5' 9" tall and weighs 110 pounds. The average woman is 5' 4" tall and weighs 140 pounds" (Cooley, 1998, p. 2). Additionally, the current fashion model body type is possible for about 10% of the population and you can't diet to get this body type because it is determined by genes (Cooley, 1998). It is this type of messaging that could put people at risk of trying to conform to becoming thin. This could include trying to diet and exercise to get the perfect body. It is also difficult for boys looking at action figures. Male action figures have change with the times. At the present time, the figures are very muscular and may convey to boys an unrealistic body ideal (Smolak & Levine, 2001).

Anderson, Huston, Schmitt, Linebarger and Wright (2001) discussed how children learn social information from television. Observational Learning theory states that "children attend to, encode, and store in memory the information and behavior they see and hear on television or other media and that they use that information to guide their own interests, motivations, and actions" (Anderson et al., 2001, p. 3). Children watch television on an average of 24 hours a week; therefore, they have a heightened potential of learning inaccurate male and female body types. "Repeated viewing leads children to

retrieve, rehearse, solidify, and expand existing scripts, resulting in cumulative long-term effects" (Anderson et al., 2001, p. 3).

The looking-glass self was coined by Cooley in 1902. Cooley describes that how we feel about ourselves, and how we judge ourselves is one part of this theory, the other part is how we think others judge and feel about us (Gilbert, 2002). In relation to this theory, it could be argued, that with all of the messages about what is "accepted" in our culture in relation to body image, one is going to self-evaluate and/or self-criticize. Once this self-evaluation is done, a comparison to other people may occur, as described social comparison theory. These theories do not pertain to everyone. However, it is the people that these theories do pertain to who are the focus of this study. These are the people who need information about what kind of bodies are healthy and what kind of eating habits are healthy.

According to Van Den Heuvel (n.d.), children and adolescents have emerging physical and psychological capabilities. Children that are age five to ten and are in grades kindergarten to six have different learning and development patterns as compared to children ranging from age eleven to fourteen and are in grades seven to nine as well as compared to those that are ages fifteen to nineteen and in grades ten to twelve.

Cognitive Development of Boys and Girls

Children in grades kindergarten to grade six or ages five to ten years old have various capabilities in emerging physical and psychological capabilities. Van Den Heuvel (n.d.) states that these students have (1.) a concrete operations view on reality. "Beginning at about seven or eight, children enter the concrete-operational period, when they attain logical thought but only in respect to concrete objects. They now understand

new kinds of logical operations involving reversible transformations" (Schell & Hall, 1983, p. 69). (2.) These students also have an active memory, effective language usage and have emerging gender identification and relationships. Van Den Heuvel (n.d.) also gives other behaviors common to this age category. They are: (3.) awareness of self in a social context, (4.) an awareness of the psychological self and (5.) an acclimation to social, cultural and gender stereotyping.

Students in grades seven to nine or ages eleven to fourteen have different emerging physical and psychological capabilities. The "emerging" capabilities are on a continuum and may be reached at different ages and are different for each individual. According to Van Den Heuvel (n.d.), these students have the following characteristics. (1.) They are in formal operational thought. This means that an adolescent can "achieve a new range and flexibility of mental processes...an increased capacity for planning, for the mental rehearsal of alternative plans of action, and for guiding behavior according to long-range purposes" (Schell & Hall, 1983, p. 436). (2.) These students also have a self-concept of intellectual and social identity, an identification of self-concept and self-esteem in family, school and peer contexts, and affiliation with reference groups and a sex-role orientation (Van Den Heuvel, n.d.).

Students who are ages fifteen to nineteen and are in grades ten to twelve have different characteristics. (1.) These students have mature formal operational thought patterns, (2.) they have abstract and logical thinking, and (3.) they have complex mental associations and relationships. Other characteristics may include (4.) having a self-concept in various social contexts, (5.) an internalization of values, (6.) and a sense of self-evaluation in various situations (Van Den Heuvel, n.d.).

In the years of childhood and in the years of adolescence, boys and girls are cognitively forming different habits, beliefs, and perceptions from various influences. It is during this time that boys and girls need accurate information about different body types and eating habits. Therefore, there is a need for prevention and intervention in children and adolescents in the area of negative body image and eating attitudes. According to Van Den Heuvel (n.d.), children are very impressionable in their elementary years as well as in to their middle and high school years and may look for others to give them direction. Getting staff, parents, and the community involved is a place to start. Children and adolescents spend most of their school year with teachers who they see as authority figures. Teachers need to be equipped with lessons and information that can help children develop positive body images that are healthy and that do not influence eating habits. School counselors also need to have information ready for parents, staff, and the community so that various body images are accepted, not ridiculed. This study will show that children and adolescents are aware of their bodies and that heightened education at each level will help children and adolescents feel more accepting of themselves and others.

Body Image and Eating Patterns – Factors That Influence

The media, parents, and peers all play important roles in influencing children's body image and eating patterns. These factors could either be positive or negative influences. Some children may still strive to be the cultural ideal and develop various eating habits and/or attitudes to aid them in their quest.

It has been established that the media uses many different genres to promote the idealized thin female and muscular male. The family is another source that influences a

child's behavior. "Parental attitudes and behaviours to their children's appearance can have an enormous impact on what children are subjected to and how they learn about what is acceptable and unacceptable in their appearance or bodily functions" (Gilbert & Miles, 2002, p. 30). According to Smolak and Levine (2001), many parents comment on their child's weight, noting that he or she is too fat or too thin and may encourage him or her to slim down or to eat more. Parents can impact their children with their own eating habits, body dissatisfaction, and negative comments. What is said at the table about how much food should be eaten or what foods should be eaten could narrowly shape a child's perception about eating. According to Fisher and Birch (2001), "Parental influences on children's eating may not only affect children's eating experience and development but may also promote intergenerational transfer of eating behavior" (p. 33). Looking at eating patterns from a theoretical perspective, children see what their parents eat and therefore that is what they know. Fisher and Birch (2001) indicated that parents provide children with a model of eating behavior, the eating environment and the feeding strategies used to structure children's eating. Leading experts indicate that modeling and direct transmission of parents attitudes and beliefs about eating and weight begin very early in children's lives (Ricciardelli & McCabe, 2001). It has been shown that children as young as five are influenced by their parents in this regard (Steinberg & Phares, 2001). According to Gardner, Sorter and Friedman, "The perceived views of parents are particularly important influences in shaping children's levels of body dissatisfaction" (cited in Ricciardelli & McCabe, 2001, p. 330).

The media and parents play important roles in the way children shape their eating habits, as well as how they begin to view their own bodies. It is important to realize that it

is not just those children who are influenced by parents who are overly health-conscious, but also those children who are influenced by parents who may eat too much. As a result of these eating patterns, obesity may occur. In 1998, it was indicated that approximately 25% of children are either obese or at risk of becoming obese and this trend is on the rise (Trioano & Flegal, cited in Thompson & Smolak, 2001). Also supporting the fact that obesity is increasing in the United States is the Third *National Health and Nutrition Examination Survey*. This survey found that 12% to 35% of American children were found to be obese (Centers for Disease Control and Prevention, cited in Thompson & Smolak, 2001).

Peers play an important role in how children shape views about themselves; as a result, children may compare themselves socially. This is a factor as children become increasingly aware of whether they are overweight or not, and why they feel bad about it. In turn, this contributes to the awareness of negative stereotypes associated with body fat (Smolak & Levine, 2001). Children at an elementary school level can be cruel, teasing and bullying may occur each day. Teasing others about their body, hair, the way they talk, the way they walk, and what others wear can cause a lot of harm to the children being teased. "Not surprisingly, teasing is positively correlated with body dissatisfaction in elementary school" (Smolak, 2002, p. 70). The teasing compounded by the media and family messages could be very overwhelming to elementary children. If proper education is not taught about what a natural body looks like, children of all ages may be left with images that are not reachable and thus a false hope of striving for what the culture deems as beautiful. This could leave a child with a negative body image and curbed eating patterns in order to try and achieve the idealized body.

Link Between Body Image and Eating Attitudes

Recent literature indicates children as young as six years old have a negative body image (Cash & Pruzinsky, 2002; Gilbert & Miles, 2002; Grogan, 1999; Natenshon, 2000-2002; Ricciardelli & McCabe, 2001) as well as having eating disturbances (Cash & Pruzinsky, 2002; Ricciardelli & McCabe, 2001; Thompson & Smolak, 2001). Consequences of a negative or poor body image are the potential risk for eating disturbances (Ricciardelli & McCabe, 2001; Smolak & Levine, 2001) and the possibility of an eating disorder (Honig & Bentovim, 1996). Dieting at young age may contribute to possible eating disorders in the future because of non-healthy eating patterns. Kater et. Al (2002) found the following:

> Long-term effects of dieting are counter-productive, often harmful, and may actually contribute to the fattening of America. Undue anxiety about fatness and dieting for weight loss are the primary risk factors for debilitating eating disorders. Some researchers suggest that the fear of fatness and recurrent dieting are more than risk factors, actually representing the early stages of the disorder, at least for some people. (p. 200)

To achieve a cultural standard of being thin, some people may not include a concern for becoming healthier. "The normative preoccupation with eliminating fatness is not based on concern for healthy weight. Rather, it represents unprecedented preoccupation with achieving the "right" appearance, and a willingness to compromise physical, psychological, and ethical integrity to achieve that "look" (Kater et. al., 2002, p. 200). Not all children and adolescents will develop eating disorders or further body image dissatisfaction as they age. However, it is the percentage of children and adolescents that

may develop problems later on that need to be reached. According to Ricciardelli & McCabe (2001), a view held by many researchers is that "early dieting and related behaviours are risk factors, which in the long run may be associated with chronic body image problems, weight cycling, obesity, and eating disorders" (p. 3).

Prevention and Intervention

There is a need for educational, prevention and intervention programs in the schools for both boys and girls. Ricciardelli & McCabe (2001) state that programs need to address children's body image concerns, which include methods to change body shape and size. These methods need to be addressed before they develop in frequency and severity (p. 3).

Educational programs can exist in schools for both students and parents. This needs to be approached delicately because it could lead to a more heightened awareness and to an introduction of weight loss techniques to some children (O'Dea, 2002). One way to approach prevention is to build children's self-esteem. "High self-esteem envelops a realistic self-appraisal of the child's characteristics and competencies coupled with an attitude of self-acceptance, self-respect, and self-worth" (O'Dea, 2002, p. 6).

Natenshon (2000) suggests the following educative approaches. Parents can be given information so that they model a healthy relationship with food. Children can be given information that the body needs fuel and maintenance that is life-sustaining rather then looking at food as the enemy. Parents can also listen to their children about body concerns. Finally, children should know what images are distorted media images and given proper knowledge about fashion. Another approach suggested by Burgard (1999) is

to teach diversity, take a weight neutral approach and focus on self-care skills, and be culturally aware.

Along with giving verbal information, give visual information as well. Griffin (2003) provides the following advice:

> Provide children with alternate images. The problem really is not that there are many images of beauty constantly bombarding us. The problem is that there is really only one for each gender. Models looking like Barbie and GI-Joe should not be the standard for real life people to base their ideal of personal success on, and yet many of us unconsciously do. We can help our children to understand that beauty comes in many packages by providing them with many images of real human diversity. (7)

Conclusion

As research indicates, the media, the family and peers may influence children and adolescents in how they view or feel about their bodies. Each factor may influence children and adolescents to a different degree and at different points in development. At points in development, there may be the readiness to learn based on individual cognitive ability and comprehension. When children and adolescents are ready to learn, influential situations may shape views and perceptions. A child or adolescent's perceptions on body image may be affected by an advertisement, television show, a parent or peers to a negative degree while another child or adolescent may not be affected at all. It is the population that is negatively affected that is the researcher's focus.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter will include information about the subject selection and subject description, the instrumentation being used, data collection, and data analysis. The chapter will conclude with methodological limitations of the study.

Subject Selection and Description

A sample of forty-eight fifth graders (22 males and 25 females), forty-seven seventh graders (18 males and 26 females), sixty-one ninth graders (26 males and 28 females), and seventy-five twelfth graders (27 males and 42 females) were given a sample survey by the researcher and classroom teachers. The school board and administrators were contacted so that the study was approved before any data collection occurred. In addition to the approval of the school board and administrators, teacher and parent permission was sought out before any data is collected (see Appendix B). Boys and girls were asked to participate in the study. The students were selected with the school board's permission, administration permission, teacher permission, parent permission, and student permission.

Instrumentation

The survey is a modified form of the ChEAT (Children's Eating Attitudes Test). This survey is a child's version of the EAT (Eating Attitudes Test) that contains statements concerning dieting, concern with eating, and social pressure to gain weight. The modified version of the ChEAT for this study will contain eight items that are focused on eating attitudes, eating behaviors, and body image. Items are on a 4-point

Likert scale where answers are "never," "rarely," "sometimes," and "always." The modified ChEAT needs additional research on reliability and validity. Lina Ricciardelli, Deakin University, in Australia, is also conducting this modified survey. Email and fax correspondence has given this study the information needed for the modified ChEAT. A copy of this survey is located in Appendix A.

Data Collection

Approval for research was obtained from the Institutional Review Board after the completion of the Protection of Human Subjects in Research Form. Research was allowed for the fall of 2003.

Permission was given from the Division One School Board, building principals, classroom teachers, and parents during the fall semester of 2003. Permission was granted from the School Board, from an elementary school principal, a middle school principal and a high school principal. Permission was then granted from classroom teachers and from the parents of the students. Letters were sent home to parents describing the study. Included in the letters was the option of students participating or not participating. Follow-up results will be mailed to parents and students upon request. Once permission was granted, students were given the survey in a classroom setting by the researcher and classroom teachers. The survey was conducted with both boys and girls. Dates and times were set up to give out the survey materials at the fifth, seventh, ninth and twelfth grade levels. The children that were allowed to participate were asked to rank their perceptions according to the survey questions. They were asked to answer each of the eight statements by answering never, rarely, sometimes or always. The survey took approximately ten minutes to administer (see Appendix A).

Data Analysis

A cross-tabulation was run to calculate and compare the means, frequencies and percentages across grade and gender. A cross-tabulation was calculated for each grade and gender that compared frequency counts and percentages. The values of each variable in each statement were ranked from smallest to largest with the most influential answer being given a ranking of "4."

Analysis of Variance (ANOVA) will describe and compare the mean results of each survey statement according to the grade and gender of the respondents. ANOVA is a parametric test of significance, which is used when examining the ratio between group variances and within group variances. ANOVA is also statistical technique used for testing for differences in the means of several groups and is used for determining the level of statistical significance of differences among the means of two or more variables. ANOVA was calculated to assess the means between fifth, seventh, ninth and twelfth grade students. The average rankings to each question were then compared to gender.

This study will determine the relationship between grade and gender to body image perceptions and eating habits using the Pearson product moment coefficient correlation. The Pearson r determines the relationships between the variables and if they affect each other to a significant degree. Significance means that a relationship exists and does not occur by chance. It deals with two or more variables and addresses the questions of whether a relationship exists and to what extent or strength there is a relationship. The correlation coefficient is always between -1 and +1. The closer the correlation is to -1 or +1, the closer to a perfect linear relationship. If the correlation coefficient is at or near zero, this indicates virtually no relationship between the variables. If there is a strong

positive number, this indicates a direct relationship between variables, which means as one increases, the other increases as well. Interpretations can be that -1.0 to -0.7 indicates a strong negative association, -0.7 to -0.3 indicates a weak negative association, -0.3 to +0.3 indicates little or no association, +0.2 to +0.7 indicates a weak positive correlation and +0.7 to +1.0 indicates a strong positive association. For the purpose of this study, a Pearson r was calculated to assess the relationship between males, females and total respondents to the eight-item survey regarding body image perceptions and eating attitudes.

Limitations

The following limitations apply to this study:

1) In the modified ChEAT survey which was used in this study, there were no scales for truthfulness. It was assumed that answers were were given honestly.
2) The sample size may not be representative of all fifth, seventh, ninth, and twelfth grade students in the United States. Results may be difficult to generalize.
3) Fourteen of the respondents failed to either identify their grade, gender or failed to answer all of the questions. Total sample size was 231 with 217 respondents being included in the study.

Even though this study has limitations, it can be used as the basis for additional research on body image perceptions and eating attitudes or habits in children and adolescents.

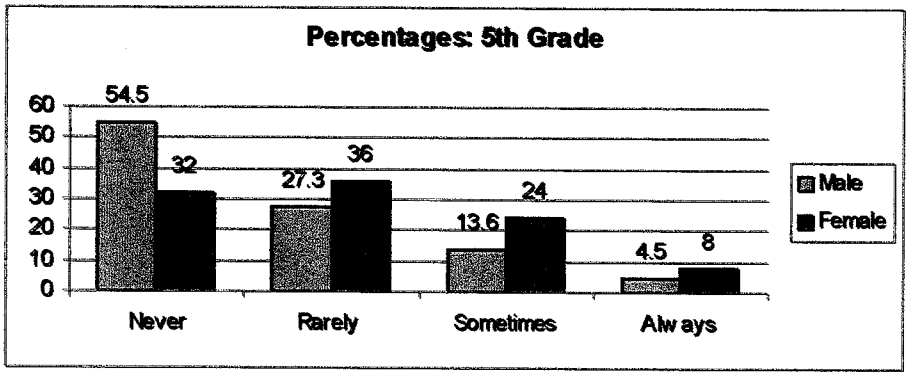
CHAPTER FOUR

RESULTS

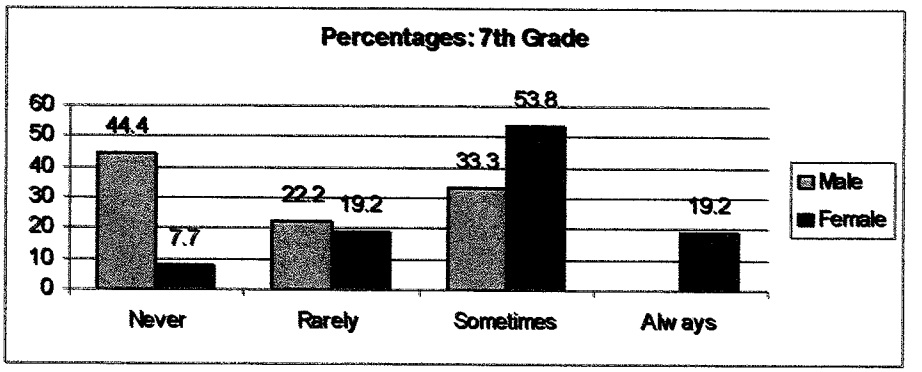
Results

Percentages were tabulated for each survey statement by grade and by gender for each possible answer of "never," "rarely," "sometimes," and 'always."

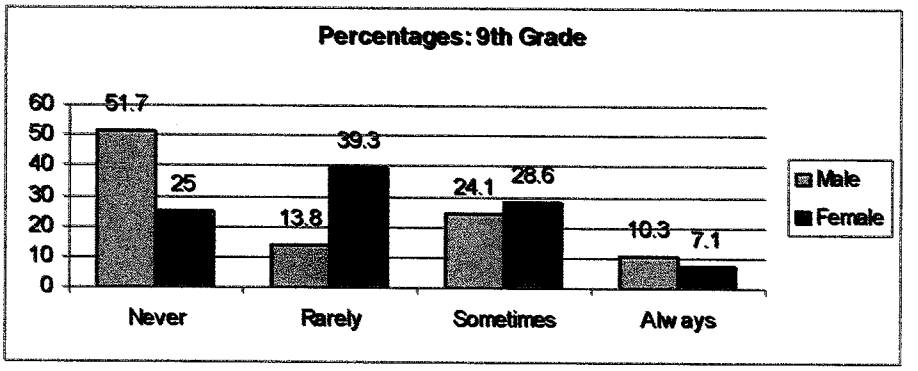
SURVEY STATEMENT 1: I am scared about being overweight.



5th grade male percentages were 54.5% (never), 27.3% (rarely), 13.6% (sometimes), and 4.5% (always). 5th grade female percentages were 32% (never), 36% (rarely), 24% (sometimes), and 8% (always). Nearly three-quarters of the fifth grade boys (78.5%) and over half fifth grade girls (68%) answered that they were never or rarely affected by the statement, "I am scared about being overweight." However, 32% of the fifth grade girls answered they were sometimes or always affected by this statement, as compared to 18.1% of the fifth grade boys.

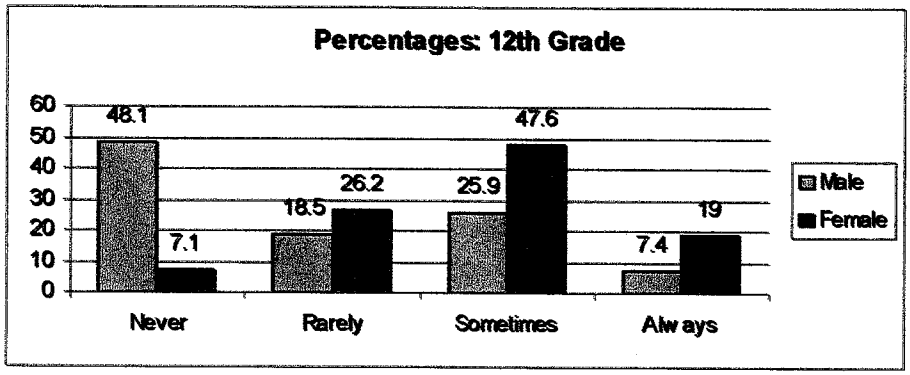


7th grade male percentages were 44.4% (never), 22.2% (rarely), 33.3% (sometimes), and 0% (always). 7th grade female percentages were 7.7% (never), 19.2% (rarely), 53.8% (sometimes), and 19.2 (always). Nearly three-quarters of the seventh grade girls surveyed indicated that they were sometimes or always affected by the statement, "I am scared about being overweight." 66.6% of the seventh grade boys indicated they were never or rarely affected by the same statement.



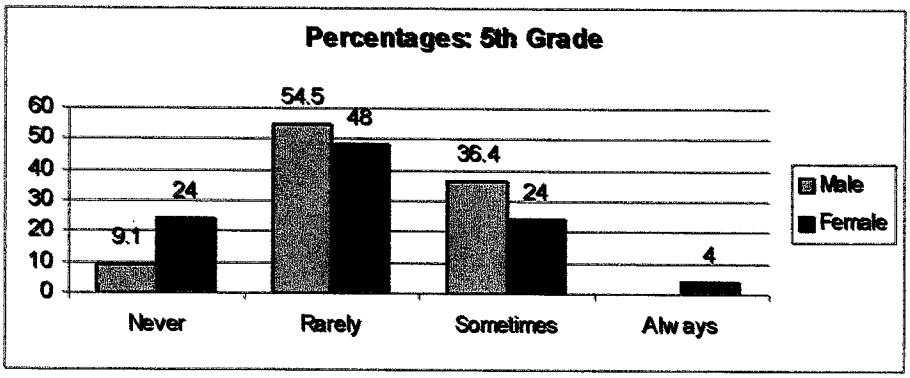
9th grade male percentages were 51.7% (never), 13.8% (rarely), 24.1% (sometimes), and 10.3% (always), 9th grade female percentages were 25% (never), 39.3% (rarely), 28.6% (sometimes), and 7.1% (always). Over half of the ninth grade boys (65.5%) and over half of the ninth grade girls (64.3%) indicated that they were never or rarely affected by the statement, "I am scared about being overweight." It was shown that

35.7% of the ninth grade girls answered that were sometimes or always affected by the same statement as compared to 34.4% of the ninth grade boys.

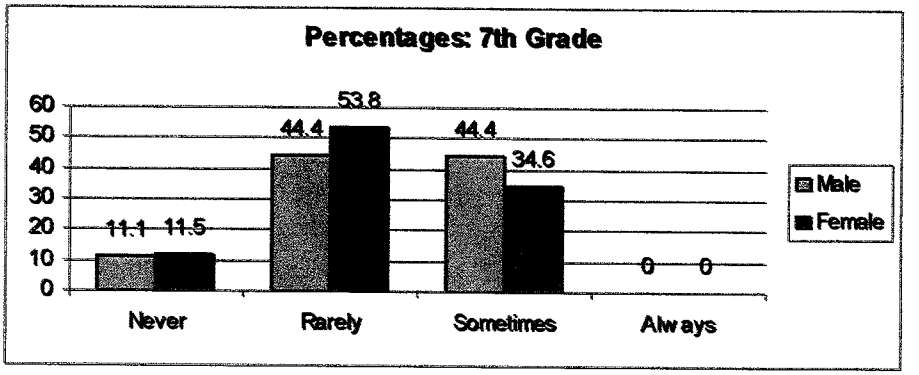


12th grade male percentages were 48.1% (never), 18.5% (rarely), 25.9% (sometimes), and 7.4% (always). 12th grade female percentages were 7.1% (never), 26.2% (rarely), 47.6% (sometimes), and 19% (always). Over half (66.6%) of the twelfth grade females surveyed indicated that they were sometimes or always affected by the statement, "I am scared about being overweight. This compares to 33.3% of the twelfth grade males. Over half of the twelfth grade boys answered they were never or rarely affected by the same statement.

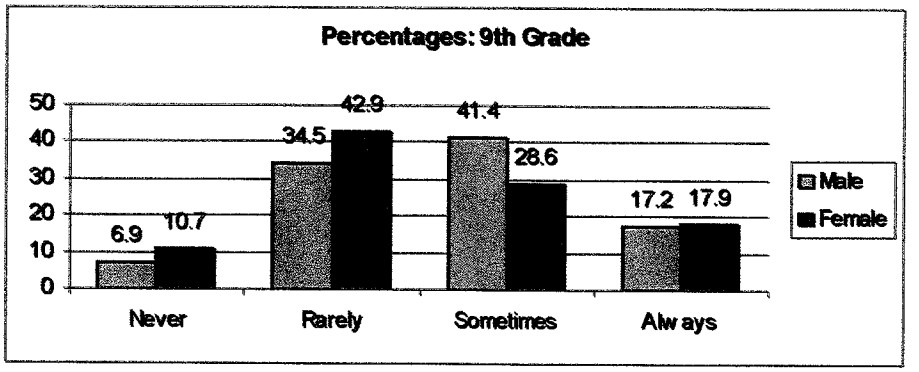
SURVEY STATEMENT 2: I think about food a lot of the time.



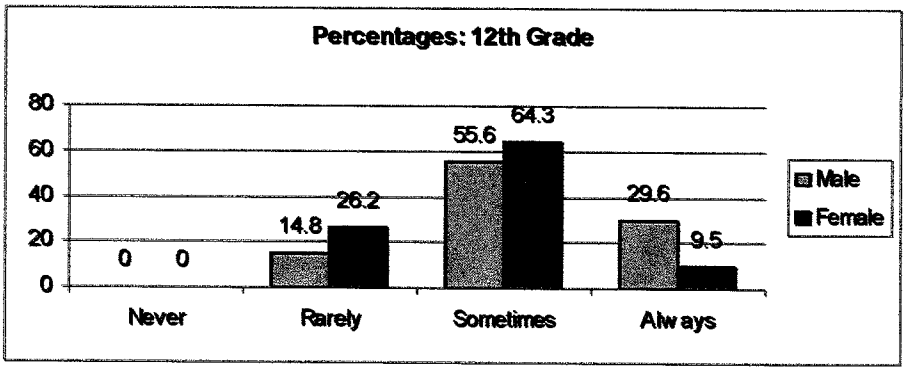
5th grade male percentages were 9.1% (never), 54.5% (rarely), 36.4% (sometimes) and 0% (always). 5th grade female percentages were 24% (never), 48% (rarely), 24% (sometimes), and 4% (always). Approximately half of the fifth grade boys (54.5%) and fifth grade girls (48%) indicated they were rarely affected by the statement, "I think about food a lot of the time." More fifth grade males (36.4%) indicated that they were sometimes affected as compared to the fifth grade females (24%); however, 4% of the females answered they were always affected as compared to 0% of the males.



7th grade male percentages were 11.1% (never), 44.4% (rarely), 44.4% (sometimes), and 0% (always). 7th grade female percentages were 11.5% (never), 53.8% (rarely), 34.6% (sometimes), and 0% (always). Over half of the seventh grade boys (55.5%) and seventh grade girls (65.3%) indicated that they were never or rarely affected by the statement, "I think about food a lot of the time." More seventh grade males (44.4%) as compared to seventh grade females (34.6%) were sometimes affected by the same statement.



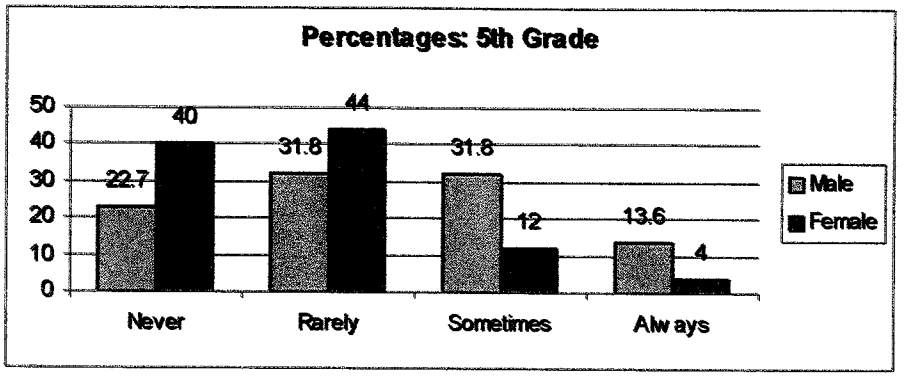
9th grade male percentages were 6.9% (never), 34.5% (rarely), 41.4% (sometimes), and 17.2% (always). 9th grade female percentages were 10.7% (never), 42.9% (rarely), 28.6% (sometimes), and 17.9% (always). 58.6% of the ninth grade males and 46.5% of the ninth grade females indicated that they were sometimes or always affected by the statement, "I think about food a lot of the time." A higher percentage of ninth grade girls (53.6%) than ninth grade boys (41.4%) were never or rarely affected by the same statement.



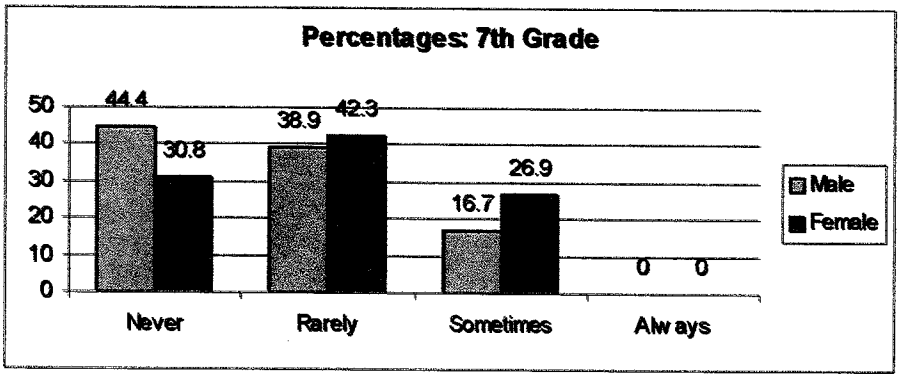
12th grade male percentages were 0% (never), 14.8% (rarely), 55.6% (sometimes), and 29.6% (always). 12th grade female percentages were 0% (never), 26.2% (rarely), 64.3% (sometimes), and 9.5% (always). Nearly three-quarters of the twelfth grade females (73.8%) and over three-quarters of the twelfth grade males (85.2%)

indicated that they were sometimes or always affected by the statement, "I think about food a lot of the time."

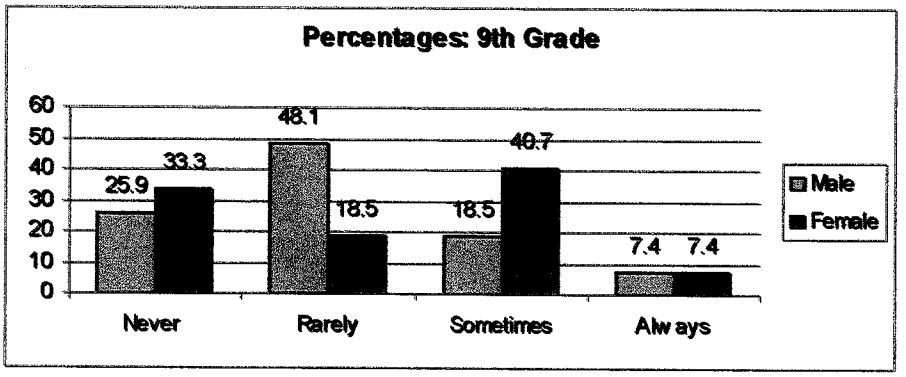
SURVEY STATEMENT 3: I feel at times I can't stop myself from eating.



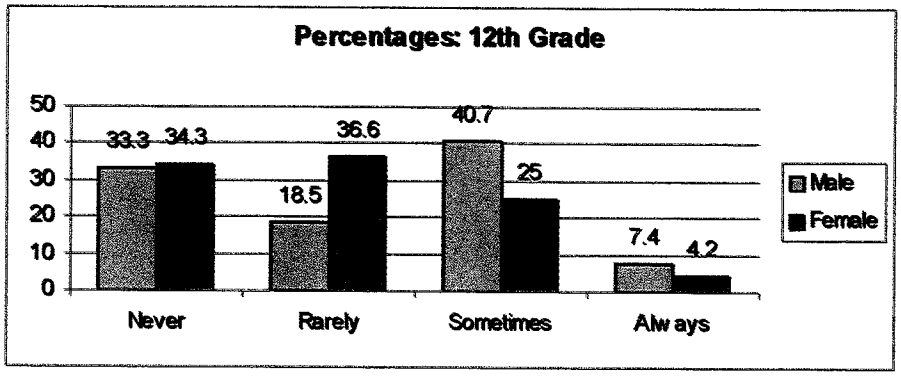
5th grade male percentages were 22.7% (never), 31.8% (rarely), 31.8% (sometimes), and 13.6 (always). 5th grade female percentages were 40% (never), 44% (rarely), 12% (sometimes) and 4% (always). Over three-quarters of the fifth grade females (84%) and over half of the fifth grade males (54.5%) indicated that they were never or rarely affected by the statement, "I feel at times I can't stop myself from eating." Nearly half of the fifth grade males (45.4) were sometimes or always affected by the same statement as compared to 16% of the fifth grade females.



7th grade male percentages were 44.4% (never), 38.9% (rarely), 16.7% (sometimes), and 0% (always). 7th grade female percentages were 30.8% (never), 38.9% (rarely), 16.7% (sometimes), and 0% (always). Nearly three-quarters of the seventh grade males (83.3) and seventh grade females (73.1%) were never or rarely affected by the statement, "I feel at times I can't stop myself from eating." More seventh grade females (26.9%) than seventh grade males (16.7%) were sometimes or always affected by the same statement.

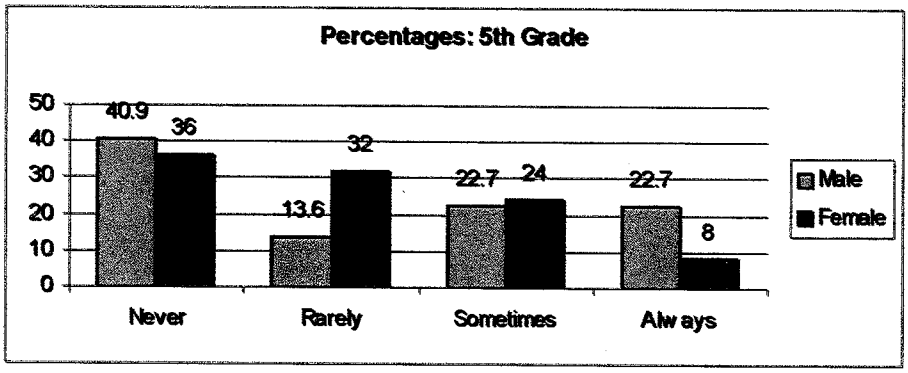


9th grade male percentages were 25.9% (never), 48.1% (rarely), 18.5% (sometimes), and 7.4% (always). 9th grade female percentages were 33.3% (never), 18.5% (rarely), 40.7% (sometimes), and 7.4% (always). Nearly half of the ninth grade females (48.1%) were sometimes or always affected by the statement, "I feel at times I can't stop myself from eating," as compared to 25.9% of the ninth grade males. More ninth grade males (74%) were never or rarely affected by the same statement as compared to the ninth grade females (51.8%).



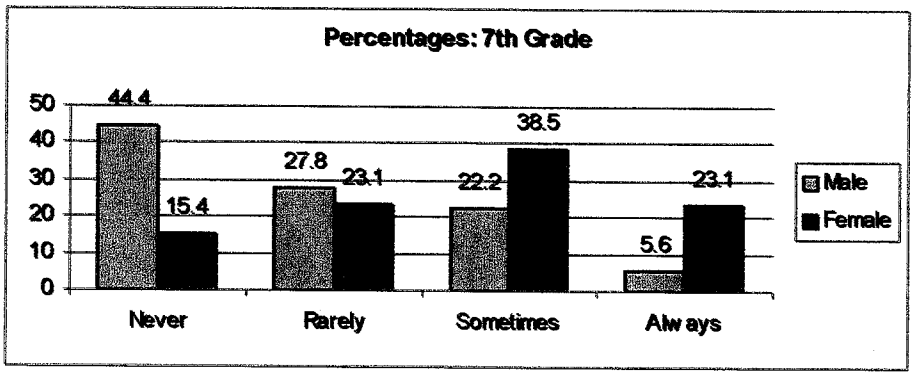
12th grade male percentages were 33.3% (never), 18.5% (rarely), 40.7% (sometimes), and 7.4% (always). 12th grade female percentages were 34.3% (never), 36.6% (rarely), 25% (sometimes), and 4.2% (always). Approximately half of the twelfth grade males (48.1%) indicated that they were sometimes or always affected by the statement, "I feel at times I can't stop myself from eating," as compared to 29.2% of the twelfth grade females.

SURVEY STATEMENT 4: I think a lot about wanting to be thinner.

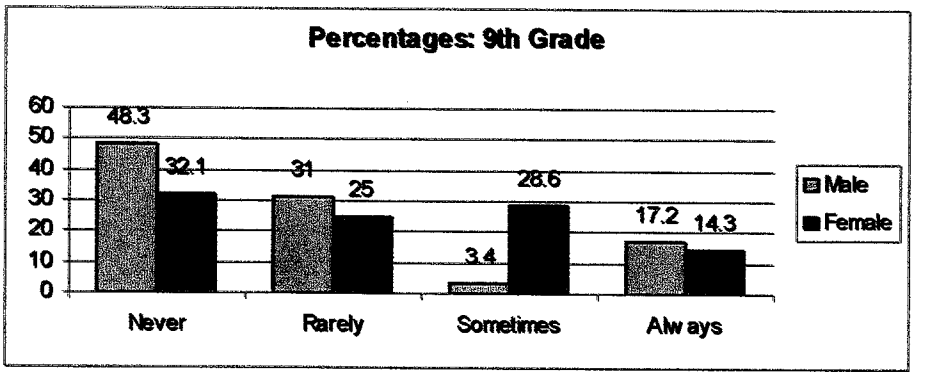


5th grade male percentages were 40.9% (never), 13.6% (rarely), 22.7% (sometimes), and 22.7% (always). 5th grade female percentages were 36% (never), 43% (rarely), 24% (sometimes), and 8% (always). Over half of the fifth grade males (54.5%) and fifth grade females (68%) were never or rarely affected by the statement, "I think a

lot about wanting to be thinner." However, nearly half of the fifth grade males (45.4%) were sometimes or always affected by the same statement.

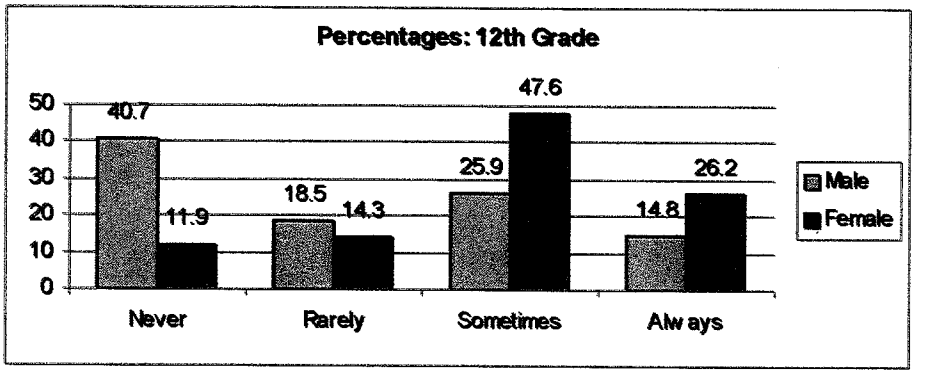


7th grade male percentages were 44.4% (never), 27.8% (rarely), 22.2% (sometimes), and 5.6% (always). 7th grade female percentages were 15.4% (never), 23.1% (rarely), 38.5% (sometimes), and 23.1% (always). Over half of the seventh grade females (61.6%) were sometimes or always affected by the statement, "I think a lot about wanting to be thinner," as compared to 72.2% of seventh grade males that were never or rarely affected by the same statement.



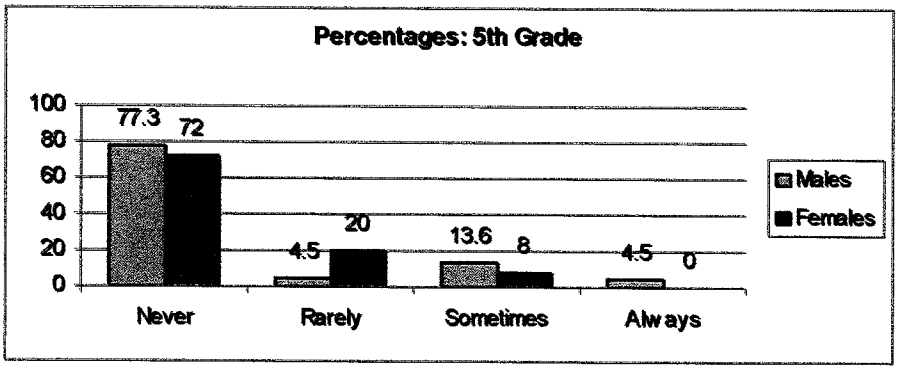
9th grade male percentages were 48.3% (never), 31% (rarely), 3.4% (sometimes), and 17.2% (always). 9th grade female percentages were 32.1% (never), 25% (rarely), 3.4% (sometimes), and 14.3% (always). Over three-quarters of the ninth grade males (79.3%) were never or rarely affected by the statement, "I think a lot about wanting to be

thinner," as compared to 57.1% of the ninth grade females. More ninth grade females (42.9%) than ninth grade males were sometimes or always affected by the same statement.

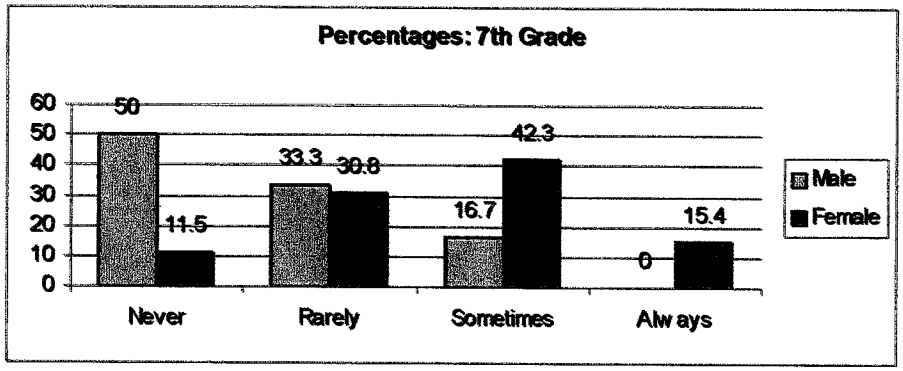


12th grade male percentages were 40.7% (never), 18.5% (rarely), 25.9% (sometimes), and 14.8% (always). 12th grade female percentages were 11.9% (never), 14.3% (rarely), 47.6% (sometimes), and 26.3% (always). Nearly three-quarters of the twelfth grade females were sometimes or always affected by the statement, "I think a lot about wanting to be thinner." Over half of the twelfth grade males (59.2%) were never or rarely affected by the same statement. However, 40.7% of the twelfth grade males were sometimes or always affected.

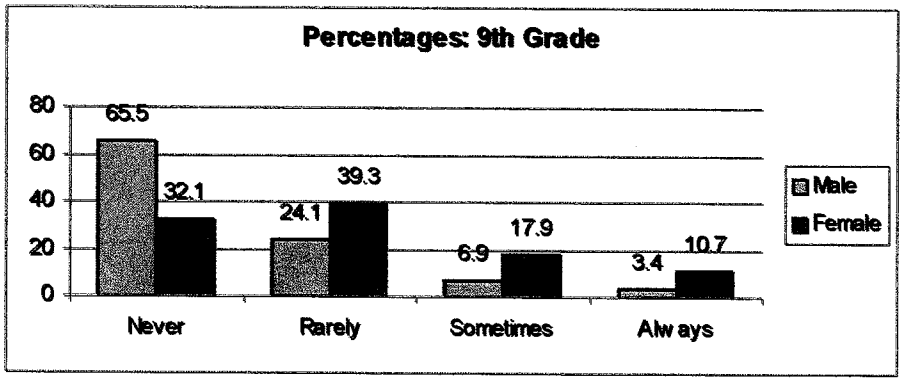
SURVEY STATEMENT 5: I think a lot about being fat.



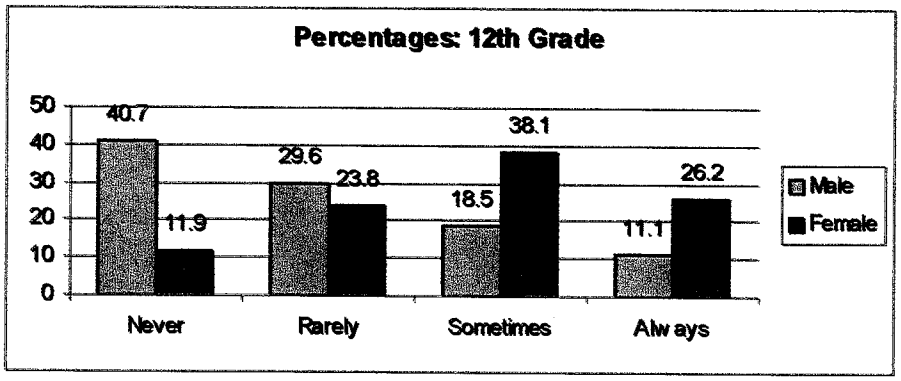
5th grade male percentages were 77.3% (never), 4.55 (rarely), 13.6% (sometimes), and 4.5% (always). 5th grade female percentages were 72% (never), 20% (rarely), 8% (sometimes), and 0% (always). Over three-quarters of the fifth grade males (81.8%) and fifth grade females (92%) were never or rarely affected by the statement, "I think a lot about being fat." More fifth grade males (18.1%) were sometimes or always affected by the same statement as compared to the fifth grade females (8%).



7th grade male percentages were 50% (never), 33.3% (rarely), 16.7% (sometimes), and 0% (always). 7th grade female percentages were 11.5% (never), 30% (rarely), 42.3% (sometimes), and 15.4% (always). Over half of the seventh grade females (57.7%) were sometimes or always affected by the statement, "I think a lot about being fat," where as more than three-quarters of the seventh grade males (83.3%) were never or rarely affected.

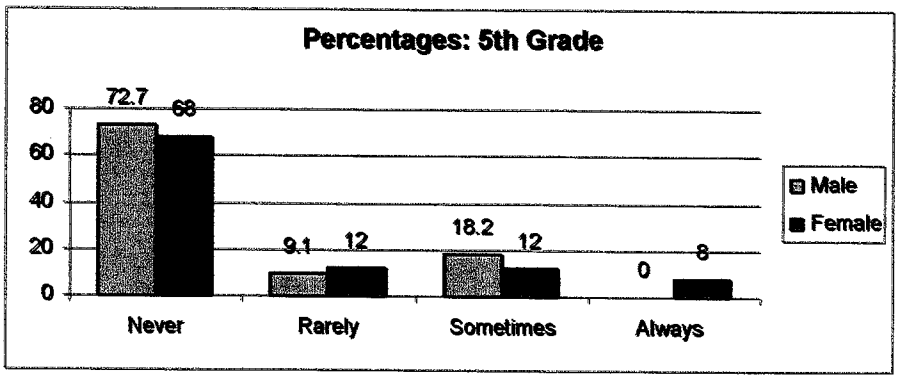


9th grade male percentages were 65.55 (never), 24.1% (rarely), 6.9% (sometimes), and 3.4% (always). 9th grade female percentages were 32.1% (never), 39.3% (rarely), 17.95 (sometimes), and 10.7% (always). Over three-quarters of the ninth grade males (89.6%) and over half of the ninth grade females (71.4%) were never or rarely affected by the statement, "I think a lot about being fat."

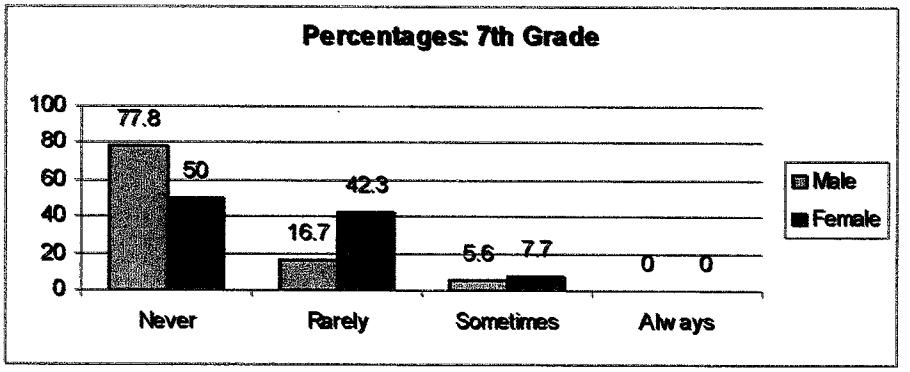


12th grade male percentages were 47% (never), 29.6% (rarely), 18.5% (sometimes), and 11.1% (always). 12th grade female percentages were 11.9% (never), 23.8% (rarely), 38.1% (sometimes), and 26.25 (always). Over half of the twelfth grade females (64.3%) were sometimes or always affected by the statement, "I think a lot about being fat," where as over half of the twelfth grade males (70.3%) were never or rarely affected.

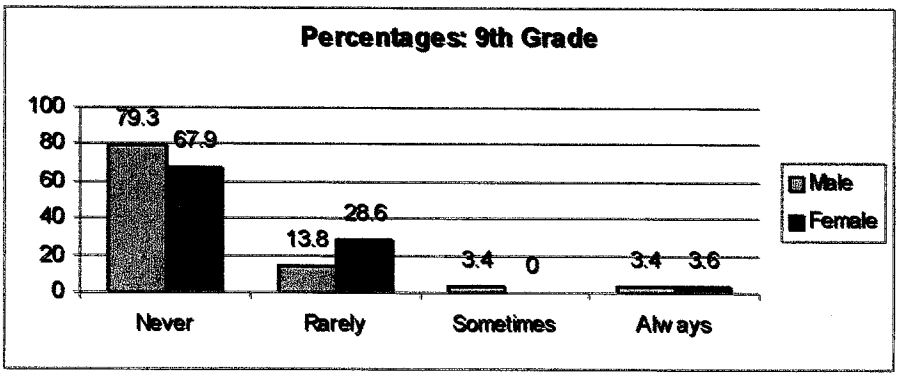
SURVEY STATEMENT 6: I think that food controls my life.



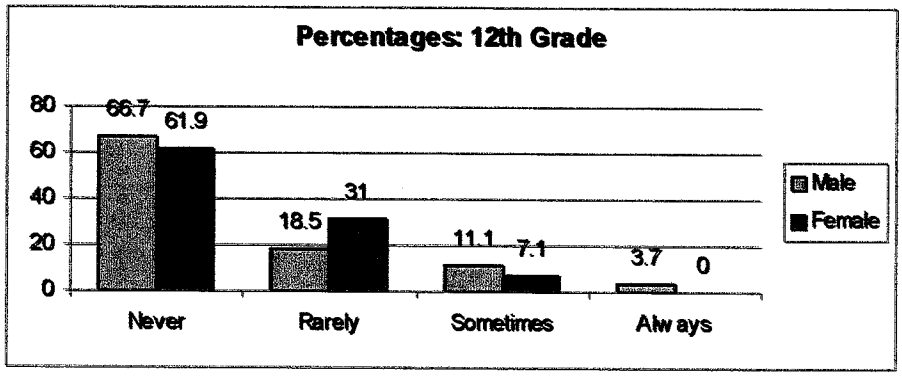
5th grade male percentages were 72.7% (never), 9.1% (rarely), 18.2% (sometimes), and 0% (always). 5th grade female percentages were 60% (never), 12% (rarely), 12% (sometimes), and 8% (always). Over three quarters of the fifth grade males (81.8%) and fifth grade females (80%) were never or rarely affected by the statement, "I think that food controls my life." 20% of fifth grade females and 18.2% of fifth grade males were sometimes or always affected by the same statement.



7th grade male percentages were 77.8% (never), 16.7% (rarely), 5.6% (sometimes), and 0% (always). 7th grade female percentages were 50% (never), 42.3% (rarely), 7.7% (sometimes), and 0% (always). The majority of the seventh grade males (94.5%) and seventh grade females (92.3%) were never or rarely affected by the statement, "I think that food controls my life."

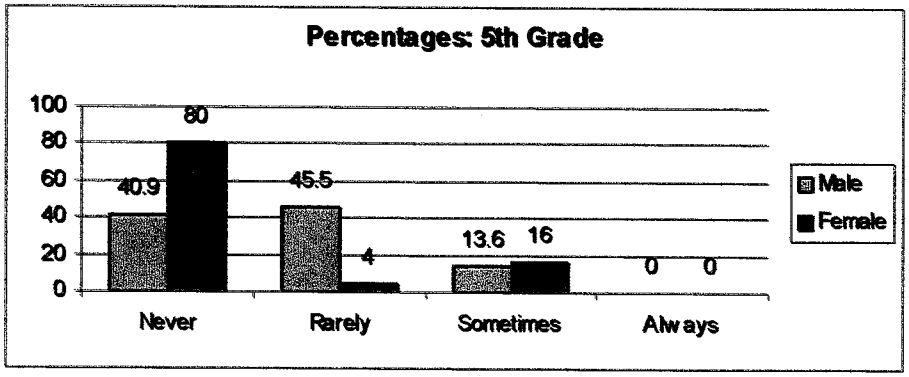


9th grade male percentages were 79.3% (never), 13.8% (rarely), 3.4% (sometimes), and 3.45 (always). 9th grade female percentages were 67.9% (never), 28.6% (rarely), 0% (sometimes), and 3.8% (always). The majority of ninth grade males (93.1%) and ninth grade females (96.5%) were never or rarely affected by the statement, "I think that food controls my life."

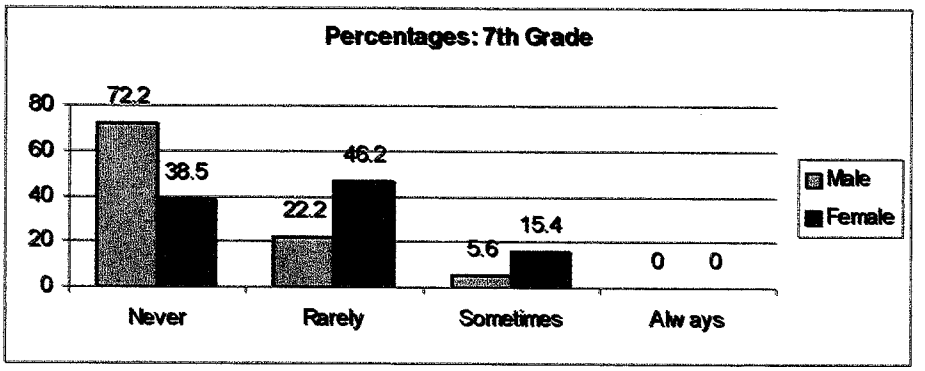


12th grade male percentages were 68.7% (never), 18.55 (rarely), 11.1% (sometimes), and 3.7% (always). 12th grade female percentages were 61.9% (never), 31% (rarely), 7.1% (sometimes), and 0% (always). Over three-quarters of the twelfth grade females (85.2%) and twelfth grade females (92.9%) were never or rarely affected by the statement, "I think that food controls my life."

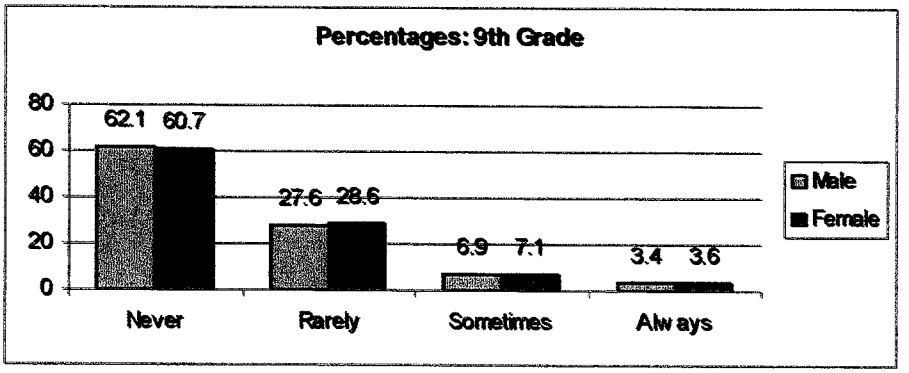
SURVEY STATEMENT 7: I give too much time and thought to food.



5th grade male percentages were 40.9% (never), 45.5% (rarely), 13.6% (sometimes), and 0% (always). 5th grade female percentages were 80% (never), 4% (rarely), 16% (sometimes), and 0% (always). Approximately three-quarters of fifth grade males (86.4%) and fifth grade females (84%) were never or rarely affected by the statement, "I give too much time and thought to food."

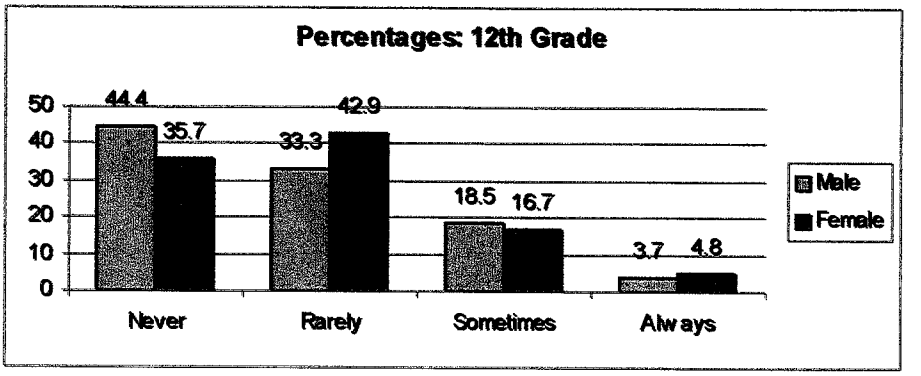


7th grade male percentages were 72.2% (never), 22.2% (rarely), 5.6% (sometimes), and 0% (always). 7th grade female percentages were 38.5% (never), 48.2% (rarely), 15.4% (sometimes), and 0% (always). 94.4% of seventh grade males and 84.7% of seventh grade females were never or rarely affected by the statement, "I give too much time and thought to food."



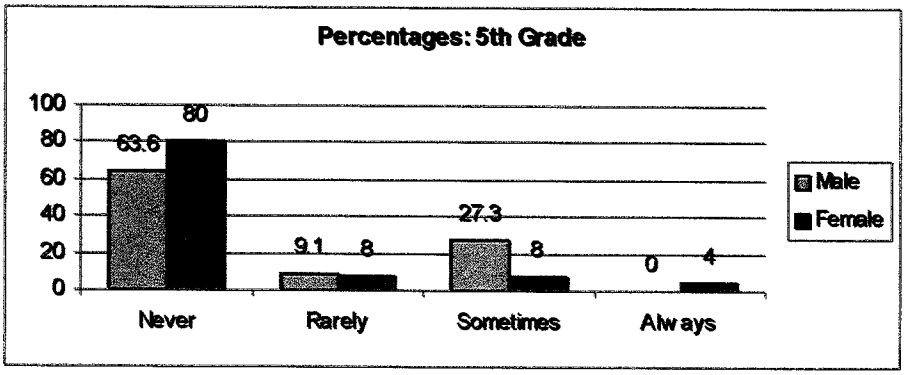
9th grade male percentages were 62.1% (never), 27.6% (rarely), 6.9% (sometimes), and 3.4% (always). 9th grade female percentages were 60.7% (never),

20.6% (rarely), 7.1% (sometimes), and 3.6% (always). The majority of ninth grade males (89.7%) and ninth grade females (81.3%) were never or rarely affected by the statement, "I give too much time and thought to food."

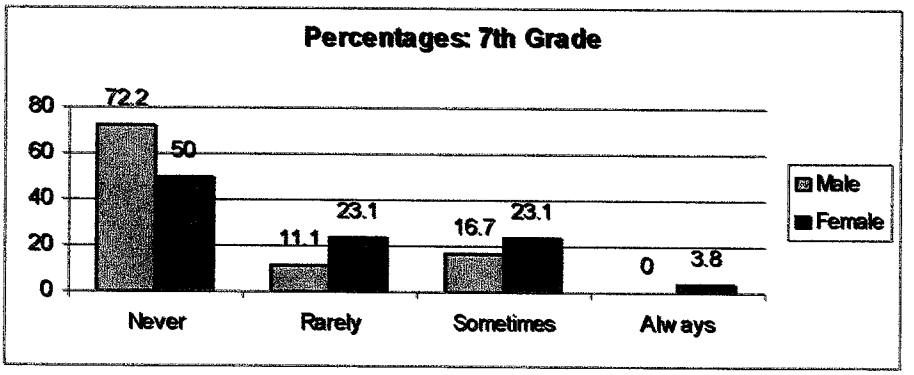


12th grade male percentages were 44.4% (never), 33.3% (rarely), 18.5% (sometimes), and 3.7% (always). 12th grade female percentages were 35.7% (never), 42.9% (rarely), 16.7% (sometimes), and 4.8% (always). Over three-quarters of the twelfth grade males (77.7%) and twelfth grade females (78.6%) were never or rarely affected by the statement, "I give to much time and thought to food." 22.2% of twelfth grade males and 21.5% of twelfth grade females were sometimes or always affected by the same statement.

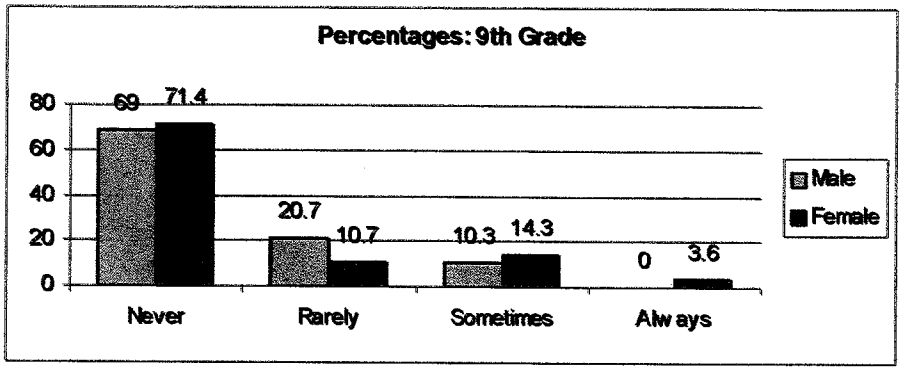
SURVEY STATEMENT 8: I have been dieting.



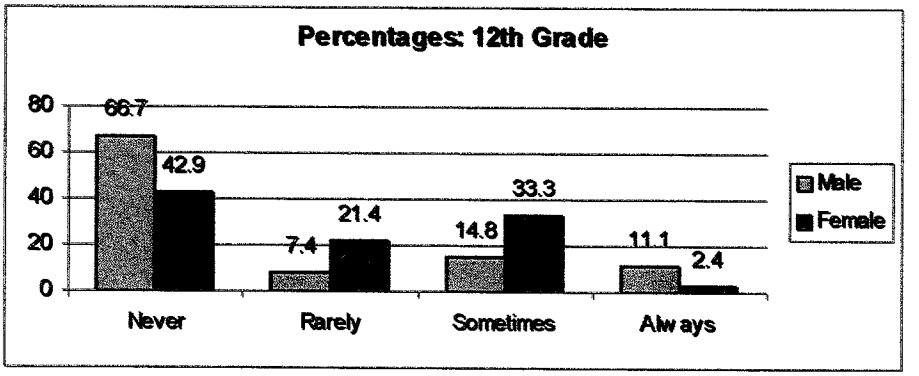
5th grade male percentages were 63.6% (never), 9.1% (rarely), 27.3% (sometimes), and 0% (always). 5th grade female percentages were 80% (never), 8% (rarely), 8% (sometimes), and 4% (always). Over three-quarters of fifth grade males (90.9%) and fifth grade females (88%) were never or rarely affected by the statement, "I have been dieting." More fifth grade males (27.3%) than fifth grade females (12%) were sometimes or always affected by the same statement.



7th grade male percentages were 72.2% (never), 11.1% (rarely), 16.7% (sometimes), and 0% (always). 7th grade female percentages were 50% (never), 23.1 (rarely), 23.1 (sometimes), and 3.8% (always). Over three-quarters of seventh grade males (83.3%) and nearly three-quarters of seventh grade females (73.1%) were never or rarely affected by the statement, "I have been dieting." More seventh grade females (26.9%) than seventh grade males (16.7%) were sometimes or always affected by the same statement.



9th grade male percentages were 69% (never), 20.7% (rarely), 10.3% (sometimes), and 0% (always). 9th grade female percentages were 71.4% (never), 10.7% (rarely), 14.3% (sometimes), and 3.6% (always). The majority of ninth grade males (89.7%) and ninth grade females (82.1%) were never or rarely affected by the statement, "I have been dieting." More ninth grade females (17.9%) than ninth grade males (10.3%) were sometimes or always affected by the same statement.



12th grade male percentages were 68.7% (never), 7.45 (rarely), 14.8% (sometimes), and 11.1% (always). 12th grade female percentages were 42.9% (never), 21.4% (rarely), 33.3% (sometimes), and 2.4% (always). Over half of twelfth grade males (74.1%) and twelfth grade females (64.3%) were never or rarely affected by the statement, "I have been dieting." More twelfth grade females (35.7%) than twelfth grade males (25.9%) were sometimes or always affected by the same statement.

The following section will describe the results of the study in relation to the research hypotheses:

#1: There is a relationship body image and eating attitudes between and within the grades of fifth, seventh, ninth and twelfth.

#2: There is a relationship between and within body image and eating attitudes of boys and girls in the study.

#3: There is a correlation between body image and eating attitudes of boys and girls in fifth, seventh, ninth and twelfth grade students.

An Analysis of Variance (ANOVA) was calculated to assess the relationship between grade levels and genders and the body image and eating attitudes survey. An ANOVA is a parametric test of significance, which is used when examining the ratio between group variances and within group variances. ANOVA is also statistical technique used for testing for differences in the means of several groups and is used for determining the level of statistical significance of differences among the means of two or more variables. Statistical significance is a concept where the result of the study is unlikely due to chance and, therefore, likely represents a true relationship between variables. The mean is simply the average of all the measures. To have a higher means to have a higher average score on the survey. To have a higher score on the survey may result in more concern for body image and eating attitudes.

A Pearson r was calculated to assess the correlation between grade, gender, body image perceptions and eating attitudes. A Pearson r determines the relationships between the variables and if they affect each other to a significant degree. It deals with two or

more variables and addresses the questions of whether a relationship exists and to what extent or strength there is a relationship.

The means for grade and gender were tabulated on a scale of one to four, with four being the highest score. The higher the score, the more the concern for body image and eating attitudes (see Appendix C). The mean is simply the average of all the measures. To have a higher means to have a higher average score on the survey. To have a higher score on the survey results in more concern for body image and eating attitudes.

Table 1: I am scared about being overweight.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	1.89	(.938)	3,209	3.825	0.01
7th grade	2.45	(.975)			
9th grade	2.05	(1.007)			
12th grade	2.45	(1.008)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was statistical significance between and within group variance for grade at the .01 level: $p > .01$. There is a 99% confidence that the results did not occur by chance. 7th grade students and 12th grade students had the highest overall mean score (2.45) and 5th grade students had the lowest (1.89). 7th grade females had the highest mean of 2.45 where as 5th grade males had the lowest mean of 1.68. When combining genders, females had a mean of 2.51 where the males had a mean of 1.86 (see Appendix C).

Table 2: I think about food a lot of the time.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	2.17	(.732)	3,209	4.067	0.05
7th grade	2.27	(.660)			
9th grade	2.61	(.881)			
12th grade	2.96	(.629)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was statistical significance between and within group variance for gender at the .05 level: $p > .05$. There is 95% confidence that the results did not occur by chance. 12th grade students had the highest mean (2.96) and 5th grade students had the lowest mean (2.17). 12th grade males had the highest mean of 3.15 where as 5th grade males had the lowest mean of 2.08. When combining genders, females had a mean of 2.48 and males had a mean of 2.66 (see Appendix C).

Table 3: I feel at times I can't stop myself from eating a lot.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	2.06	(.942)	3,208	0.534	0.659
7th grade	1.86	(.765)			
9th grade	1.96	(.873)			
12th grade	2.04	(.898)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was no statistical significance between and within group variance for grade and for gender. 5th grade students had the highest mean (2.06) and 7th grade students had the lowest mean (1.86). 5th grade males had the highest mean

of 2.36 where as 5th grade females had the lowest mean of 1.8. When combining genders, females had a mean of 1.94 and males had a mean of 2.05 (see Appendix C).

Table 4: I think a lot about wanting to be thinner.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	2.15	(1.103)			
7th grade	2.36	(1.059)	3,209	8.896	0.01
9th grade	2.07	(1.100)			
12th grade	2.59	(1.075)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was statistical significance between and within group variance for gender at the .01 level: $p > .01$. There is 99% confidence that the results did not occur by chance. 12th grade students had the highest mean (2.59) and 9th grade students had the lowest mean (2.07). 12th grade females had the highest mean of 2.88 where as 9th grade males had the lowest mean of 1.9. When combining genders, females had a mean of 2.52 and males had a mean of 2.05 (see Appendix C).

Table 5: I think a lot about being fat.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	1.40	(.771)			
7th grade	2.23	(.961)	3,209	3.103	0.05
9th grade	1.77	(.926)			
12th grade	2.48	(1.066)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was no statistical significance between and within group variance for grade and for gender. 12th grade students had the highest mean (2.48) and 5th grade students had the lowest mean (1.40). 12th grade females had the highest mean of 2.79 where as 5th grade females had the lowest mean of 1.36. When combining genders females had a mean of 2.29 and males had a mean of 1.66 (see Appendix C).

Table 6: I think that food controls my life.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	1.53	(.905)			
7th grade	1.45	(.627)	3,209	0.544	0.653
9th grade	1.35	(.694)			
12th grade	1.48	(.720)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was no statistical significance between and within group variance for grade and for gender. 5th grade students had the highest mean (1.53) and 9th grade students had the lowest mean (1.35). 7th grade females had the highest mean of 1.58 where as 7th grade males had the lowest mean of 1.28. When combining genders, females had a mean of 1.5 and males had a mean of 1.4 (see Appendix C).

Table 7: I give too much time and thought to food.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	1.53	(.747)			
7th grade	1.59	(.693)	3,209	2.682	0.05
9th grade	1.53	(.782)			
12th grade	1.87	(.856)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances

significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was statistical significance between and within group variance for grade at the .05 level: $p > .05$. There is 95% confidence that the results did not occur by chance. 12th grade students had the highest mean (1.87) and 5th grade students and 9th grade students had the lowest mean (1.53). 12th grade females had the highest mean of 1.9 where as 7th grade males had the lowest mean of 1.33. When combining genders, females had a mean of 1.68 and males had a mean of 1.61 (see Appendix C).

Table 8: I have been dieting.

Group	Mean	(St. Dev.)	df	f-value	significance
5th grade	1.49	(.856)	3,209	1.149	0.33
7th grade	1.66	(.888)			
9th grade	1.46	(.781)			
12th grade	1.86	(1.004)			

Mean = statistical average of the scores (sum of scores divided by the number of scores)
St. Dev. (Standard Deviation) = a statistical measure of variance, the spread of scores around the mean of the sample.
df = Degrees of Freedom (total number of observations minus the number of samples)
f-value = ratio between and within group variances
significance = statistically significant results (highly unlikely chance produced the result)

ANOVA found that there was no statistical significance between and within group variance for grade and for gender. 12th grade students had the highest mean (1.86) and 9th grade students had the lowest mean (1.46). 12th grade females had the highest mean of 1.95 where as 5th grade females had the lowest mean of 1.36. When combining genders, females had a mean of 1.69 and males had a mean of 1.55 (see Appendix C).

Table 9: Statement 4: I think a lot about wanting to be thinner. Statement 2: I think about food a lot of the time.

subjects	Correlation	Significance
N	r	p
231	0.168	0.01

N = number of subjects
r = correlation coefficient
p = statistical significance (highly unlikely chance produced the result)

A Pearson r was calculated to assess the relationship between grade and gender and the body image and eating attitudes survey statements. There was a statistically significant correlation between survey statement four: "I think a lot about wanting to be thinner," and survey statement two: "I think about food a lot of the time," $r = .168$, $p < .01$. There is 99% confidence that the results did not occur by chance. Thinking about wanting to be thinner has a positive correlation or relationship with thinking about food a lot of the time. Thinking about wanting to be thinner may increase when thinking about food a lot of the time increases, or, thinking about food a lot of the time may increase when thinking about wanting to be thinner. A relationship exists between these two statements, yet it is a weak relationship.

Table 10: Statement 8: I have been dieting. Statement 2: I think about food a lot of the time.

subjects	correlation	significance
N	r	P
231	0.153	0.05

N = number of subjects
r = correlation coefficient
p = statistical significance (highly unlikely chance produced the result)

A Pearson r was calculated to assess the relationship between grade and gender and the body image and eating attitudes survey statements. There was a statistically significant correlation between survey statement eight: "I have been dieting:" and survey statement two: "I think about food a lot of the time, $r = .135$, $p < .05$. There is 95% confidence that the results did not occur by chance. Thinking about food a lot of the time has a positive correlation or relationship with the statement, I have been dieting. Thinking

about food a lot of the time may increase as dieting occurs, or, increased dieting may increase thinking about food a lot of the time. There is a relationship between these two statements, yet it is a weak relationship.

Summary of Findings

Percentages were cross tabulated for each survey statement by grade and by gender for each possible answer (never, rarely, sometimes, and always) for 217 total respondents. Each answer was awarded a numerical value from one to four respectively. The results found that there is a percentage of each grade and gender that has a score in the upper half on the scale of one to four. Scoring higher may indicate a concern for body image or for eating attitudes. Differences in scoring could possibly be due to the cognitive developmental levels and stages that students experience in each grade level.

The first survey statement was *I am scared about being overweight*. Fifth grade males and females predominantly answered never or rarely. Seventh grade males and females scored differently. Over half of the males answered never or rarely while over three-quarters of the females answered sometimes or always. Over half of the ninth grade males and females answered never or rarely. Twelfth grade males and females also scored differently in that over half of the males answered never or rarely while over half of the females answered sometimes or always.

The second survey statement was *I think about food a lot of the time*. The fifth grade males and females answered never or rarely more that half of the time. The seventh grade males and females answered similar to the fifth grade males and females in that they answered never or rarely over half of the time. The ninth grade males and females were evenly spread between answering either never or rarely and sometimes and always.

The twelfth grade males and females both answered sometimes or always over three-quarters of the time.

The third survey statement was *I feel at times I can't stop myself from eating.* Fifth and seventh grade males and females answered never or rarely over half of the time. Ninth and twelfth grade males and females answered approximately half of the time to either never and rarely or approximately half of the time to sometimes and always.

The fourth survey statement was *I think a lot about wanting to be thinner.* Fifth grade males and females answered consistently for each category while the seventh grade males answered never or rarely over half of the time and seventh grade females answered sometimes or always over half of the time. Both ninth grade males and females answered never or rarely over half of the time. Twelfth grade males and females answered differently in that the males answered never or rarely over half of the time and the females answered sometimes or always over half of the time.

The fifth survey statement was *I think a lot about being fat.* Over three-quarters of the fifth grade males and females answered never or rarely. The seventh grade males answered never or rarely over three-quarters of the time while the females answered sometimes or always over half of the time. Both ninth grade males and females answered never or rarely over half of the time as did the twelfth grade males. The twelfth grade females answered sometimes or always over half of the time.

The sixth survey statement was *I think that food controls my life.* The fifth, seventh, ninth and twelfth grade males and females answered never or rarely approximately three-quarters of the time.

The seventh survey statement was *I give too much time and thought to food.* The fifth, seventh, ninth and twelfth grade males and females answered never or rarely approximately three-quarters of the time.

The eighth survey statement was *I have been dieting*. The fifth, seventh and ninth grade males and females answered never or rarely approximately three-quarters of the time. The twelfth grade males and females answered never or rarely over half of the time.

Analysis of Variance (ANOVA) found that there was no overall statistical significance found between grade and/or gender and the body image and eating attitudes survey. However, there was statistical significance for grade and/or gender with several of the survey statements. The mean was significant as it showed the highest and lowest means for each grade as well as for gender. This showed the differences between and within the grades and genders.

Survey statement one was *I am scared about being overweight*. There was statistical significance for grade and this statement. Seventh grade females had the highest mean answer score while fifth grade males had the lowest. Seventh grade students and twelfth grade students had the highest mean overall.

There was also statistical significance for gender and survey statement two; *I think about food a lot of the time*. Twelfth grade males had the highest mean answer score while fifth grade males had the lowest mean. When combining all grades, males had a higher mean score than the females.

A statistically significant relationship existed for gender and survey statement four; *I think a lot about wanting to be thinner*. Twelfth grade females had the highest

mean answer score while ninth grade males had the lowest. Overall, females had a higher mean score than did males.

Survey statement seven was *I give too much time and thought to food.* There was a statistically significant relationship between grade and this statement. Twelfth grade students had the highest mean. Fifth grade students and ninth grade students had the lowest mean.

A Pearson r found that there was no overall statistically significant correlation between grade and gender and the body image and eating attitudes survey. However, there was a correlation found between survey question four; *I think a lot about wanting to be thinner* and survey question two; *I think about food a lot of the time*. There was a weak positive relationship that means that there is a low indication for a causal-comparative situation (meaning when one occurs the other will occur).

There was also a correlation found between survey question two; *I think about food a lot of the time* and survey question eight; *I have been dieting*. This was also a weak positive relationship with a low indication for a causal-comparative situation (meaning when one occurs the other will occur).

CHAPTER FIVE

DISCUSSION

Summary

This study examined the relationship between the variables of grade and gender to body image and eating attitudes. The researcher hypothesized that there is a relationship between body image and eating attitudes in males and females in the fifth, seventh, ninth, and twelfth grade. The researcher also hypothesized that there is a difference between the males and females at each grade level. For the purposes of this study, males and females from fifth, seventh, ninth and twelfth grade were chosen as the subject groups to complete the body image and eating attitudes survey. There were students that were influenced by body image and/or eating attitudes as shown in the results of the survey.

Males and females in the study ranged not only in age (ten to eighteen) and grade (fifth, seventh, ninth and twelfth) but also in cognitive development. Children and adolescents learn at different paces due to the varied degree of cognitive ability as aging occurs. Van Den Heuvel (n.d.) illustrated children that are age five to ten and are in grade kindergarten to six have different learning and development patterns as compared to children ranging from age eleven to fourteen and are in grade seven to nine as well as compared to those that are ages fifteen to nineteen and in grades ten to twelve. When comparing answers to the survey, males and females answered differently. Students in different grades also had fluctuating answers.

According to Schell & Hall (1983), students in fifth grade have an active memory, have effective language usage and have emerging gender identification and relationships.

Also pertinent is that these students have an emerging awareness of the self in a social context and have an acclimation to social and gender stereotyping. These emerging cognitive abilities may affect how fifth grade students perceive and react to the survey statements. Students in fifth grade have emerging cognitive abilities that may just touch upon how they view themselves in social settings. The fifth grade students in the study answered approximately half of the time that they were never or rarely affected by survey statements such as: *I am scared about being overweight* (males and females) *I think about food a lot of the time* (males and females), *I feel at times I can't stop myself from eating* (males and females), *I think a lot about wanting to be thinner* (males and females), *I think a lot about being fat* (males and females), *I think that food controls my life* (males and females), *I give too much time and thought to food* (males and females), and *I have been dieting* (males and females).

Students in grade seven to nine have different emerging physical and psychological capabilities as compared to fifth as well as twelfth grade students. Van Den Heuvel (n.d.) stated that these students have a self-concept of intellectual and social identity, an identification of self-concept and self-esteem in family, school and peer contexts, and affiliation with reference groups and a sex-role orientation. Seventh and ninth grade students may look to their peer groups for self-identification as they experience more each day. When looking at the survey statements, the seventh and ninth grade students answered sometimes and/or always approximately half of the time to survey statements such as: *I am scared about being overweight* (seventh grade females, ninth grade males and females), *I think about food a lot of the time* (ninth grade males and females), *I feel at times I can't stop myself from eating* (ninth grade males and

females), *I think a lot about wanting to be thinner* (seventh grade females, ninth grade males and females), and *I think a lot about being fat* (seventh grade females, ninth grade males and females). Depending upon the developmental level of the student, the influence of the media, parents and peers, some of these seventh and ninth grade students may be susceptible or at risk of developing a low body image and/or negative eating attitudes. Some seventh grade students not only differ from some fifth grade students in physical attributes but also in cognitive abilities, thus the different outcome to the survey.

Students in grade ten to twelve also have different characteristics that could affect their answers to the survey. Van Den Heuvel (n.d.) noted that these students have complex mental associations and relationships, self-concept in various social contexts, an internalization of values, and a sense of self-evaluation. Twelfth grade males and females also answered sometimes and/or always approximately half of the time to survey statements such as: *I am scared about being overweight* (females), *I think about food a lot of the time* (males and females), *I feel at times I can't stop myself from eating* (males and females), *I think a lot about wanting to be thinner* (females), and *I think a lot about being fat* (females). Some of these students may also be susceptible or at risk of developing a low body image and/or negative eating attitudes due to the developmental level of the student, the influence of the media, parents and peers.

Conclusions

The researcher hypothesized that there is a relationship between body image and eating attitudes in the fifth, seventh, ninth, and twelfth grade. Next, the researcher also hypothesized that there is a relationship between the genders as they are surveyed. Thirdly, the researcher hypothesized that there is a difference between males and females

at each grade level. These hypotheses were supported in that there was a difference between the genders. There was also a difference in the grade levels possibly due to the emerging and developing cognitive abilities. Finally, there was a difference between the males and females at each grade level.

Students in fifth, seventh, ninth and twelfth grade have different cognitive abilities that correlate with the different answers given to the body image and eating attitudes survey. Fifth grade students, on the average, did not give reactions to the survey statements that would put them at risk of having a negative body image or having negative eating attitudes. Seventh and ninth grade students, especially seventh grade females, on the average, had an increased risk of having a negative body image or having negative eating attitudes due to their cognitive abilities. Students in twelfth grade, especially females, had even more of an increased risk of having a negative body image or having negative eating attitudes which may correlate with their cognitive maturation level.

Implications

These findings have implications for parents, teachers, and counselors. Even though the overall results of the study were not significant, there is the fact that there were children and adolescents that have negative body image and negative eating attitudes. It is this population that needs to be addressed and educated.

Parents can educate not only their children but also themselves about body image facts and myths that occur in the media. Parents can also address concerns at home such as proper nutrition and eating habits. Teachers need to be aware that there are students who may struggle with body image problems every day and that it could be addressed in

the classroom with a unit on body perceptions. Counselors need to realize that there needs to be an emphasis on accepting the self and others as they are. This means according to gender as well as to grade. Sensitivity needs to occur when talking with various cognitive developmental ages. Counselors could address classroom in conjunction with teachers. Other strategies that may be used are school-wide awareness with bulletin boards, seminars for teachers, group discussions and continuing education. Counselors could also work with parents, teachers and peers in educating them about harmful effects of a negative body image and/or eating attitudes on individuals.

Recommendations

There are recommendations that could be taken from this research. They are as follows:

(1) It is recommended that further research continue to examine the role of body image and eating attitudes on children and adolescents in a broader study in other areas. Research could be done not only at a collegiate level or for journals, but also at the elementary, middle and high school levels.

(2) Teachers and counselors need to examine their role in the education of children other than in the core subjects. Students are under pressure to succeed at an early age and along with success for some people are how one looks. This extra pressure could be a risk factor in lowered self-esteem that in turn could lead to negative body image for some students.

(3) It is suggested to continue research at the elementary, middle and high school levels. It is important that future research address body image and eating attitudes in children and adolescents so that those students who are at risk can

be educated and treated for negative body image and/or negative eating attitudes.

Conclusion

Negative body image and unhealthy eating attitudes occur in individuals to different degrees which may be due to age, cognitive development, peer influence, parental influence and/or media influence. It is the researcher's objective to inform parents, teachers, counselors, and others that come in to contact with children that negative body image and negative eating attitudes are real and affect a number of students each day.

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APPENDIX A

Body Image and Eating Habits/Attitudes Survey

** *Please **circle** the answer that describes you the best.* **
** *You have the option of stopping this survey at any time, if you wish to do so.* **

Gender:	Male		Female	
Grade:	5th	7th	9th	12th

1. **I am scared about being overweight.**

   Never Rarely Sometimes Always

2. **I think about food a lot of the time.**

   Never Rarely Sometimes Always

3. **I feel at times I can't stop myself from eating a lot.**

   Never Rarely Sometimes Always

4. **I think a lot about wanting to be thinner.**

   Never Rarely Sometimes Always

5. **I think a lot about being fat.**

   Never Rarely Sometimes Always

6. **I think that food controls my life.**

   Never Rarely Sometimes Always

7. **I give too much time and thought to food.**

   Never Rarely Sometimes Always

8. **I have been dieting.**

   Never Rarely Sometimes Always

** *Thank you for your time in completing this survey.* **

APPENDIX B

PARENT PERMISSION/CONSENT FORM

Dear Parent or Guardian

Your child's Physical Education class has an opportunity to take part in a study about body image and eating habits and/or attitudes. The Eau Claire Area School District along with Memorial High School has fully approved this project. I am asking your permission for your child to be included in this study.

An eight question survey will be conducted followed by an allotted time period for any questions concerning the survey. For any child who is not permitted to participate or for any child who wishes to leave the discussion, an alternative activity will be available.

I will discuss any issues concerning the survey as long as the students have questions. You may wish to further discuss this topic if it is still on your child's mind when he/she returns home. If you have any questions about the survey, I can be reached at (715)839-1500, ext. 1609.

Please sign below indicating whether or not you have agreed to have your child participate and return it by _____.

A report of the classes' responses will be available upon request after January 1, 2004. Each child's individual responses will be kept **anonymous**. Thank you very much for your time and support.

Sincerely,

Kristin Terhark
Physical Education Teacher
Memorial High School
Guidance and Counseling Masters Program
(715)839-1500
email: kterhark@ecasd.k12.wi.us **OR** terharkk@uwstout.edu

NOTE: Questions or concerns about participation in the research or subsequent complaints should be addressed first to the researcher named above or to Susan Foxwell, Human Protections Administrator (715)232-2477 or email; foxwellsl@uwstout.edu or Dr. Amy Schlieve, project advisor at (715)232-1332 or email; schlievea@uwstout.edu

I,_____, do_____ do not_____(check one) agree to allow my child, _____ to participate in this study about body image and eating habits/attitudes.

APPENDIX C

BODY IMAGE SURVEY MEANS

Scoring: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Always
Total Respondents = 217; 96 males and 121 females

	Question 1	**Question 2**	**Question 3**	**Question 4**	**Question 5**	**Question 6**	**Question 7**	**Question 8**
5th Male	1.68	2.27	2.36	2.27	1.45	1.45	1.73	1.64
5th Female	2.08	2.08	1.8	2.04	1.36	1.6	1.36	1.36
5th Grade	1.89	2.17	2.06	2.15	1.4	1.53	1.53	1.49
7th Male	1.89	2.33	1.72	1.89	1.67	1.28	1.33	1.44
7th Female	2.85	2.23	1.96	2.69	2.62	1.58	1.77	1.81
7th Grade	2.45	2.27	1.86	2.36	2.23	1.45	1.59	1.66
9th Male	1.96	2.69	1.86	1.9	1.48	1.31	1.52	1.41
9th Female	2.18	2.54	2.07	2.25	2.07	1.39	1.54	1.5
9th Grade	2.05	2.61	1.96	2.07	1.77	1.35	1.53	1.46
12th Male	1.93	3.15	2.22	2.15	2	1.52	1.81	1.7
12th Female	2.79	2.83	1.93	2.88	2.79	1.45	1.9	1.95
12th Grade	2.45	2.96	2.04	2.59	2.48	1.48	1.87	1.86
Total Male	1.86	2.66	2.05	2.05	1.66	1.4	1.61	1.55
Total Female	2.51	2.48	1.94	2.52	2.29	1.5	1.68	1.69
Overall Total	2.25	2.58	2	2.33	2.03	1.48	1.66	1.66