A GROUNDED THEORY STUDY:
HISPANIC ADOLESCENTS’ EXPERIENCE OF BEING OVERWEIGHT

by

WILMA POWELL STUART

MARTI RICE, COMMITTEE CHAIR
MARION BROOME
SUSAN DAVIES
BARBARA GOWER
BARBARA HABERMANN

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WILMA POWELL STUART

UNIVERSITY OF ALABAMA AT BIRMINGHAM SCHOOL OF NURSING

ABSTRACT

The number of overweight adolescents worldwide has continued to increase over the past several decades. Intervention studies for weight management with overweight adolescents are challenged by high rates of attrition and have failed to achieve sustained outcomes. Hispanic adolescents have a higher risk of being overweight than their African American and White peers do. However, Hispanic overweight adolescents have been poorly represented in intervention studies with overweight adolescents. The factors that influence the Hispanic overweight adolescents’ perceptions of weight and weight loss management are not known.

This qualitative study used ground theory methodology to identify the factors that influence perceptions of weight and weight loss management of the Hispanic overweight adolescent and to develop a theory for weight loss interventions from the perceptions of the Hispanic overweight adolescent. Nineteen overweight Hispanic adolescents, 9 males and 10 females, between the ages of 16 and 17 years of age participated in the study.

Audio taped structured interviews were used for data collection. Data were analyzed through a comparison process to identify core categories. The core categories representing the cycle of being overweight were identification of difference, family influences, teasing and bullying, anger, depression, avoiding stigma, and failed change efforts. The core variable was the resolution of self, I’m not different, I’m just me. The important influence of teasing and bullying behaviors and family influences are the
drivers of the cycle of being overweight. Future research with overweight Hispanic adolescents should address both the prevention of early teasing and bullying behaviors in the school setting and the inclusion of family in planned interventions.
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The seven focus group members who evaluated the plans for the study were part of the foundation of this study. The study would not have been of the quality that we have without their honesty and guidance.

I thank the 19 participants who enrolled in the study. They are the reason that we have information to guide our future work. I left many of our interviews haunted by their words. They trusted me; there was a tremendous risk in speaking so openly to an adult, and they took that leap of faith that I could be trusted. I saw the pain they expressed to me. The quality of my work is directly related to their willingness to speak openly and honestly about their life experiences.

Ramona Hasty, a school nurse who has worked to help overweight students at her school, is an inspiration. She had no reason to help this doctoral student except a sincere concern about the future health of the adolescents in her community. When I mailed
information about the study, she was the first to call and spent the next 2 years providing any support that she could.

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CHAPTER 1

INTRODUCTION

Over 19 million teens between the ages of 15 and 19 years of age reside in the United States (U.S., Census Bureau, 2005). Seven million of those teens are either overweight or at risk of being overweight (Ogden et al., 2006). The numbers of overweight children and adolescents have tripled since 1980 (U.S. Department of Health and Human Services [U.S. DHHS], 2002). Eighteen of every 100 adolescents between the ages of 12 and 19 are overweight, and an additional 18 in the same age group are at risk of being overweight (Ogden et al., 2006). The trend is evident in the findings that the number of states in which 15% to 19% of high school students were overweight increased from three states in 2003 to seven states in 2005 and that the number of states in which less than 10% of high school students were overweight dwindled from six in 2003 to only four in 2005 (Centers for Disease Control and Prevention [CDC], 2006).

Overweight for children and adolescents is defined as body mass index (BMI)-for-age at or above the 95th percentile of the CDC growth charts for age (U.S. DHHS, 2002). BMI is calculated by dividing the weight in kilograms by the square of the height in meters (CDC, n.d.). Teens identified as being at risk of becoming overweight have a BMI-for-age range from the 85th to the 95th percentile (U.S. DHHS, 2004).

BMI increases are associated with health risks (U.S. DHHS, 2002). The CDC reports that 60% of children and teens who are overweight have one risk factor for
cardiovascular disease and that 20% have two or more risk factors (U.S. DHHS, 2002). Additional physiological complications observed in overweight adolescents included elevated blood pressure, Type 2 diabetes mellitus, respiratory effects, and slipped femoral epiphysis (Styne, 2001). An American Heart Association scientific statement identified Type 2 diabetes mellitus to be increasing as a health threat for adolescents, with secondary cardiovascular disease developing at earlier ages than has previously been observed (Steinberger & Daniels, 2003). Results of a follow-up study of the Harvard Growth Study of 1922 to 1935 revealed that being overweight as an adolescent may have far reaching physiologic consequences later in life, including increased risk of morbidity from coronary heart disease and atherosclerosis (Must, Jacques, Dallal, Bajema, & Dietz, 1992).

The influences of cognitive development, social development, and physiological development make the overweight adolescent a unique client when weight loss interventions are being planned (Jacobson, Copperman, Haas, & Shenker, 1993). A study of 10-to 15-year-old overweight adolescents identified decreases in self-esteem scores for participants of a weight loss intervention program (Cameron, 1999). Overweight children and adolescents have lower scores on health-related quality-of-life measures of physical, emotional, social, and school functioning than their nonoverweight peers do (Schwimmer, Burwinkle, & Varni, 2003). Overweight children’s and adolescents’ scores on health-related quality of life were similar to scores of children and adolescents with cancer (Schwimmer et al.). Psychological and psychosocial problems secondary to social rejection of overweight children are associated with lower levels of
education and with poorer interpersonal relations, and these associations may extend through adulthood (Edmunds, Waters, & Elliott, 2001).

In response to growing concerns about the health of the nation, the U.S. Food and Drug Administration (FDA) and National Institute of Health (NIH) developed Healthy People 2010, a nationwide health promotion and disease prevention program in January 2000 (U.S. FDA & NIH, 2004). The two goals of Healthy People 2010 are to increase quality of years of healthy life and to eliminate health disparities. The programs consist of 28 focus areas, including reducing the number of overweight and obese children, adolescents, and adults. A Healthy People 2010 goal for the focus area of nutrition and overweight is to reduce by 5% by 2010 the proportion of adolescents 12 to 19 years old who have BMIs at or above the 95th percentile (Healthy People 2010, 2004). Although the overall number of overweight adolescents has continued to climb, the increases reported in 2002 were much greater for African American and Hispanic adolescents than for Caucasian and Asian adolescents (Ogden, Flegal, Carroll & Johnson, 2002). In fact, the highest rate (27.5%) of overweight adolescents is found in the Mexican American male population (Ogden et al., 2002). Subsequent findings indicate that gross numbers in the percentage of overweight Mexican American male and female teens decreased between 1999 and 2004; however, the changes were not statistically significant (Ogden et al., 2006). In fact, Mexican American male children and adolescents have an odds ratio of being overweight of 1.73, which is higher than the odds ratios for non-Hispanic White males (1.00) and non-Hispanic Black males (1.13; Ogden et al., 2006). Mexican-American female children have an odds ratio of 1.56 that is slightly lower than their male counterparts but is higher than those for non-Hispanic White females (1.00) and non-
Hispanic Black females (1.46). The number of Latino adolescents who are overweight increases by 2.2% between the ages of 12 and 16 years (Lacar, Soto, & Riley, 2000). Of even greater concern are continued trends of increasing BMI between the ages of 16 and 17 years for overweight Hispanic adolescents. The average BMI of overweight Latino adolescents increases in the year between the age of 16 and the age of 17 from 24.72 to 25.74, for a total average BMI increase of 3.2 from the age of 12 (Lacar et al.).

Interventions for weight loss in adults and children have been found to be more effective than interventions for weight loss in adolescents (Berkowitz, 2001). Findings published by the Maternal and Child Health Bureau as guidelines for health care providers for the treatment of overweight children and adolescents recommend early intervention because of the difficulty of facilitating treatment and sustaining outcomes in adolescents (Barlow & Dietz, 1998).

As rates of overweight teens continue to increase, research studies to investigate interventions for weight loss have used multiple structured interventions, including family therapy (Flodmark, OHLsson, Ryden, & Sveger, 1993), treatment with and without family members (Brownell, Kelman, & Stunkard, 1983; Coates, Killen, & Slinkard, 1982; Wadden et al., 1990), interventions with and without exercise (Becque, Katch, Rocchini, Marks, & Moorehead, 1988; Emes, Velde, Moreau, Murdoch, & Trussell, 1990; Sasaki, Shindo, Tanaka, Ando, & Arakawa, 1987), interventions with and without dietary reductions (Ikeda, Fujii, Fong, & Hanson, 1982), the use of monetary reward structures (Coates, Jeffrey, Slinkard, Killen, & Danaher, 1982), the use of a computer program (Saelens et al., 2002), the use of medications (Berkowitz et al., 2006; Berkowitz, Wadden, Tershakovec, & Cronquist 2003; Chanoine, Hampl, Jensen, Boldrin,
& Hauptman, 2005; Freemark & Bursey, 2001), the use of residential treatment (Barton, Walker, Lambert, Gately, & Hill, 2004; Braet, Tanghe, De Bode, Franckx, & Van Winckel, 2003; Braet, Tanghe, & Rosseell, 2004; Wabitsch et al., 1992; Walker, Gately, Bewick & Hill, 2003), and the use of peer influence (Jelalian, Mehlenbeck, Lloyd-Richardson, Birmaher, & Wing, 2006). A review of weight loss structured interventions for adolescents revealed a lack of replicated study findings and no well established treatment approach (Jelalian & Saelens, 1999). A subsequent review of interventions for adolescent weight loss identified a lack of replication, inadequate representation of African American and Hispanic participants, inconsistent family participation, a lack of conceptual frameworks, and high attrition rates (Stuart, Broome, Smith, & Weaver, 2005).

Investigations working with overweight adolescents have used different research settings and different structured interventions for over a 20-year period, but the number of adolescents who are overweight continues to increase. Reports of adolescent weight loss interventions with comparison groups in the United States from 1980 to 2007 have revealed attrition rates ranging from as low as 10% (Brownell et al., 1983) to as high as 44-45% (Ikeda et al., 1982; Resnicow et al., 2000). High attrition rates place studies at risk of a loss of statistical power, may compromise validity, and contribute to concerns relating to utilization of research time and funds (Carroll, 1997; Hunt & White, 1998). In the case of intervention studies associated with overweight adolescents, the number of randomized controlled intervention studies over a 20-year period was less than 10 (Jelalian & Saelens, 1999), and attrition rates were as high as 43% (Resnicow et al.). The impact of attrition creates an extended time for identifying effective outcomes (Davis,
Broome, & Cox, 2002). The low number of intervention studies and the risk to the power of the studies that result from high rates of attrition have compromised the development of effective programs to address escalating numbers of overweight adolescents. Unfortunately, little is known about the meaning that overweight adolescents attach to weight and weight loss or about their expectations of weight loss interventions. Although recent publications have provided an excellent foundation for working with overweight adolescents (Fletcher, 2006; Neumark-Sztainer, 2005; Rimm, 2004), none of the resources take the information to the next level to provide a model for interventions with adolescents. Consequently, there is little information available to address either the attrition rates for interventions with overweight adolescents in future studies or the problems with current intervention programs from the perspective of the adolescent.

The Latino Consortium of the American Academy of Pediatrics Center for Child Health Research identified obesity as a health priority and research need for Latino children (Flores et al., 2002). Latino children represent the largest minority ethnic group of children in the United States (Flores et al.). Acculturation by the Latino population has demonstrated trends toward increased health risks as subsequent generations reside in the United States (Flores et al.). Latino adolescent girls are more likely to perceive themselves as overweight and to express lower satisfaction with their body than their White, Asian American, and African American counterparts (Neumark-Sztainer, Croll et al., 2002). Latino children are frequently not included in research studies because of language barriers and assumptions that studies are racially diverse with the representation of White and Black subjects (Flores et al.). Additionally, studies fail to evaluate the unique needs of Latino clients because these clients tend to be placed in the classification
grouping of "other" (Flores et al.). Although Hispanic males have the highest risk of being overweight as adolescents in the United States, a review of controlled intervention studies with overweight adolescents between 1980 and 2001 confirmed the disparity of Hispanic representation (Stuart et al., 2005). Seven of 12 studies reported ethnic origin; 7 of 390 participants were reported as Hispanic or Latino (Brownell et al., 1983; Freemark & Bursey, 2001; Ikeda et al., 1982; Mellin, Slinkard, & Irwin, 1987; Resnicow et al., 2000; Sasaki et al., 1987; Wadden et al., 1990). Planning effective interventions to address the needs of the overweight Hispanic adolescent is limited as a result of the inability to generalize prior findings because of the small sample size of Hispanic adolescents in past studies.

The purpose of this study was to use a grounded theory approach to identify the factors that influence Hispanic overweight adolescents' perceptions of weight management (Glaser, 1992; Glaser & Strauss, 1967). The data collected were used to identify common concepts, processes, and hypotheses relating to weight management by overweight adolescents. Such processes and hypotheses can be tested subsequently with nursing interventions to facilitate adolescent weight loss.

Aims

Specific aims of the study were twofold. These aims were as follows:

- Identify the factors that influence perceptions of weight and weight loss management of the Hispanic overweight adolescent, and
- Develop a theory for weight loss interventions from the perceptions of the Hispanic overweight adolescent.
Research Question

One central research question guided this study. This question follows: What are the factors that influence the Hispanic overweight adolescent’s perceptions of weight and weight loss management?

Assumptions

In the study, three assumptions were involved. They are given here:

- A BMI for age at or above the 95th percentile is detrimental to health.
- Information provided by the Hispanic overweight adolescent population will be accurately stated.
- Perceived meaning influences behavior.

Research Paradigm

Grounded theory is a qualitative inductive theory. Although a qualitative approach is most often used when there is an absence of information about a particular phenomenon (Sandelowski, Davis, & Harris, 1989), such an approach was selected for this study because of the unknown influence that is contributing to the recurrent failure of intervention studies with overweight adolescents and particularly Hispanic adolescents. The study was based on a grounded theory framework created by Glaser and Strauss (1967). The data in this qualitative study were obtained through interviews and observations, and the data were analyzed through the constant comparison of the interviews and observations (Sandelowski et al.). The techniques of grounded theory which are particularly helpful in clarifying social and psychological processes include an
ongoing line-by-line review of the interviews as each is completed to identify similarities and contrasts among the statements in the interviews (Sandelowski et al.). On the basis of the similarities, categories of data are identified. Theoretical explanations continue to develop throughout the process as hypotheses begin to emerge from similarities found during the data review. Sampling and data collection are targeted to support or reject the emerging hypotheses. The literature review is reactivated during the study to gain more information about the emerging concepts.

Several schools of thought exist regarding the use of grounded theory and the Glaserian method (Murray & Chamberlain, 1999). The original grounded theory was based on the position that reality is present and can be partially known by an unbiased observer (Murray & Chamberlain). Other variations of the theory maintain more of a constructivist approach than the traditional postpositivist view held by Glaser (Murray & Chamberlain).

Grounded theory evolved from the field of sociology (Glaser & Strauss, 1967). Strauss brought a strong background in qualitative research to the development of grounded theory (Glaser, 1992). The foundation of the theory is symbolic interaction. "For symbolic interactionists, meaning guides behavior and a stage of deliberation or definition of the situation precedes action" (Chenitz & Swanson, 1986, p. 4). P.N. Stern (1980) described one use of grounded theory as being "to gain a fresh perspective in a familiar situation" (p. 20). Although researchers understand how to accomplish weight stabilization and/or weight loss through energy intake reduction and output increases, factors that influence the overweight adolescents' response to weight loss management remain unknown. A grounded theory approach was selected because of the lack of a clear
understanding of the influences on the responses of the overweight Hispanic adolescents to weight and to weight loss interventions and because of the importance of gaining a better understanding of the uniqueness of the overweight Latino adolescent. The researcher expected that the information provided by the adolescents would reveal gaps between the perception or understanding of the overweight adolescent and the goals and aims of the intervention weight loss programs. Such information could be used to decrease weight loss program attrition or increase weight loss program attendance. The grounded theory approach allowed a theory related to adolescent perspectives of weight loss and weight loss programs to be generated from data, and this theory is timely and specific to the targeted population. The theory, developed from the unique expectations of the Hispanic overweight adolescent, can be tested in future intervention studies. Because interventions can be structured to meet the unique needs identified from the responses of this study’s participants, it is expected that outcomes will be more effective and that attrition rates will be reduced.

When compared with other research methods, grounded theory is unique because the research problem is not clearly defined before the study begins (Wuest, Ford-Gilboe, Merritt-Gray, & Berman, 2003). A broader research domain is identified, and data are collected, and compared to identify the emerging core of the problem (P. N. Stern, 2004; Wuest et al.).

Unbiased data collection is an important component of grounded theory (Glaser, 1992). Researchers using a grounded theory approach collect data through a consistent methodology to inductively develop a theory relating to the area of study (Glaser, 1992). Data collected for a grounded theory study should be continuous narrative data rather
than focus group data, which may provide only a limited perspective of the topic (Morse, 2001). However, data used for a grounded theory study are not limited to interview data and may include observation and documents as appropriate (P. N. Stern, 1980). The data collected represent individual parts referred to as units by Glaser (1978), such as comments or phrases; however, the focus of the analysis was on the process.
CHAPTER 2

REVIEW OF LITERATURE

In the early years of the development of grounded theory methodology, conducting a review of the literature before completing of the data collection was discouraged to reduce investigator bias during participant interviews (Glaser, 1992). As it evolved, the methodology of grounded theory expanded to include a level of literature review that will enable the investigator to "demonstrate an understanding of the 'state of the science' regarding the phenomenon of study" (Schreiber, 2001, p. 58). The initial review of the literature is approached as a review of data and is used to study the "scope, range, intent, and type of research that has been done" (Chenitz & Swanson, 1986). As the grounded theory research project evolves, and as concepts are identified, further selective literature review is conducted (Chenitz & Swanson, 1986; Schreiber; P. N. Stern, 1980).

Descriptive studies in the review of the literature are organized into the categories studied: physiological aspects, psychosocial aspects, weight loss management practices, the role of the family, and prevention. Intervention studies reviewed included studies with and without comparison or control groups, dietary interventions, medication interventions, weight management camps, institutional residency, and surgical intervention. Because of the smaller number of studies, qualitative studies and attrition studies were not categorized.
The literature review for this study was an ongoing process as concepts were identified from adolescent interviews. Topics selected for the initial review of the literature provided an understanding of previous studies with overweight adolescents. An additional review of the literature was undertaken to examine grounded theory studies with other populations in related fields of study. Studies of attrition rates were examined to identify influences on adolescent and overweight study participants.

It should be noted that, in the literature, overweight and obesity are frequently used interchangeably; and this review used the term stated by the primary author(s) of the studies. Author(s) also used different terms to identify culture or ethnicity of the participants, and the term used by the primary author(s) was reflected in the description of that study. One example would be descriptions of Hispanic participants, Latino participants, and/or Mexican American participants.

A review of the literature was conducted by a computer-assisted search using CINAHL (1982-2007), OVID (1966-2007), Health and Wellness Resource Center (1980-2007), CRISP, Science Direct, EBSCO, Alta Vista, and Google. Key words used in different combinations for the searches were grounded theory, overweight, adolescent, attrition, and eating disorder.

Descriptive Studies

Physiological Aspects

Between the 1960s and 1988-1994, the number of overweight adolescents 12 to 19 years of age increased from 5% to 11% (Ogden et al., 2002). Subsequent evaluation of the years from 1999 to 2004 identified a progressive increase of overweight teens for
the same age group to 18.3% (Ogden et al., 2006). The National Health and Nutrition Examination Survey (NHANES) is conducted nationwide by the National Center for Health Statistics of the CDC (Ogden et al., 2002). NHANES data were collected as a cross-sectional survey before 1999, when it became a continuous survey (Ogden et al., 2002). NHANES I was conducted from 1971 to 1974, NHANES II was conducted from 1976 to 1980, and NHANES III was conducted from 1988 to 1994 (Ogden et al., 2002). Examination of the continuous NHANES data for the 1999-2000 period found that the prevalence of overweight adolescents between the ages of 12 and 19 had increased from 10.5% at the time of the NHANES II data collection to 15.5% for the NHANES III group. A later review of the subsequent 3 years reveals that the rate had climbed to 17.4% (Ogden et al., 2006). Although the overall rate of overweight for adolescents has increased to 17.4%, the number fails to reflect the level of the risk of being overweight for minority adolescents. The 1999-2000 data showed that 27.5% of Mexican American males were overweight, with an additional 44.2% identified as at risk because of having a BMI $\geq$ the 85th percentile for age (Ogden et al., 2002). By 2003-2004, the percentage of overweight Mexican American males dropped to 18.3%; however, Ogden et al. (2006) clarified that the estimates from the smaller sample size are less precise than the overall numbers. Analysis of the data from 1999 through 2004 indicates that the risk of being overweight is higher for both male and female adolescents who are Mexican American (odds ratios Male, 1.73; Female, 1.56) than for White and non-Hispanic Black adolescents (Ogden et al., 2006).

Further examination of the NHANES III data revealed that nearly 30% of overweight adolescents met the criteria for a metabolic syndrome that includes elevated
triglyceride levels, high fasting-glucose levels, high blood pressure, abdominal obesity, and elevated high-density lipoprotein cholesterol levels (Cook, Weitzman, Auinger, Nguyen, & Dietz, 2003). Findings of cardiovascular risk factors were also identified for overweight children and adolescents who participated in the Bogalusa Heart Study, conducted between 1973 and 1994 (Freedman, Dietz, Srinivasan, & Berenson, 1999; Jiang, Srinivasan, Webber, Wattigney, & Berenson, 1995). Ninety percent of the participants found to have high levels of insulin and triglycerides were also found to be overweight (Freedman et al.). The Bogalusa Heart Study, a longitudinal descriptive study, provides a beginning validation of the concern. The study’s investigations identified quantified risk factors associated with body weight, and this association underpins the need to develop theories to support future interventions. Unfortunately, the Bogalusa Heart Study is limited to one area of the south and does not include risks that may be found in other geographic areas with different ethnicity. Sleep apnea secondary to being overweight did not surface in self-report surveys completed by overweight adolescents ($n = 82$) but was subsequently identified from parental descriptions of adolescent fatigue and after physiologic testing (Beebe et al., 2007).

Hispanic children have significant risks for the development of Type 2 diabetes secondary to obesity (Cruz, Bergman, & Goran, 2002; Delamater et al., 2000; Flores et al., 2002; Neufeld, Raffel, Landon, Chen, & Vadheim, 1998). Also associated with the increased risk of Type 2 diabetes in children and adolescents is the concern that secondary diseases associated with Type 2 diabetes may present earlier in the life cycle (Styne, 2001). In a study in California, 45% of newly diagnosed cases of Type 2 diabetes were identified in the Latino population (Neufeld et al., 1998). An evaluation of 992
Hispanic youths ages 4 to 19 identified the presence of nonalcoholic fatty liver disease in 24% of the overweight participants (Quiros-Tejeira et al., 2007). The Viva la Familia Study of 319 Hispanic families included 1,030 children and adolescents (Butte, Cai, Cole, & Comuzzie, 2006). Ninety-one percent of the parents in the Viva la Familia Study were either overweight or obese; 18% of the children were at risk of being overweight; and 51% of the children were overweight, with 47% of the 1,030 young people having a BMI greater than the 99th percentile for BMI on the CDC growth charts (Butte et al.). The Viva la Familia Study evaluated genetic relationships to obesity and identified evidence of genetic factors associated with body weight in the Latino families participating in the study.

In summary, the number of overweight adolescents during the past 4 decades has increased from 5% to 17.4%. The overweight Hispanic adolescent is at risk for heart disease, diabetes, and liver disease. There is evidence of genetic factors associated with the overweight Hispanic population.

Psycosocial Aspects

Children who are overweight are progressively more stigmatized by their peers as they mature (Latner & Stunkard, 2003). A study of friendship networks confirmed that overweight adolescents were socially marginalized by their peers (Strauss & Pollack, 2003). The friendship networks were tracked from data collected as part of the National Longitudinal Survey of Adolescent Health (ADD Health; Strauss & Pollack). ADD Health included data from in-school questionnaires completed by over 90,000 adolescents and from in-home interviews of over 20,000 adolescents (Strauss & Pollack).
Overweight adolescents were found to be less popular, less likely to receive five or more friendship nominations, less likely to receive two or more best-friend nominations, and more likely to receive no friendship nominations (Strauss & Pollack). The finding of fewer friendship nominations for overweight adolescents was consistent in 108 (87.8%) of 123 schools with available friendship network data (Strauss & Pollack). Interestingly, other chronic health conditions such as asthma, migraine headaches, and chronic abdominal pain were not associated with decreased friendships (Strauss & Pollack). The study was not structured to provide insight into what might have been different at the 15 schools that had an outcome different from those of the 108 schools. Whether the 15 schools are located in similar geographic areas was not reported; however, these schools might provide information that could be used at other schools to improve friendship networks. Strauss and Pollack noted that there could be other unmeasured variables that could also be associated with the correlation found between overweight and social marginalization. Later, the ADD Health data were examined further to determine whether a relationship existed between being overweight as an adolescent and emotional, school, and social functioning (Swallen, Reither, Haas, & Meier, 2005). A relationship between poor social and emotional functioning and being overweight was found for younger teens ages 12 to 14 but not for older teens (Swallen et al.).

In addition to being socially marginalized, overweight adolescents may also be teased about their body weight by their peers and their family members (Eisenberg, Neumark-Sztainer, & Story, 2003). Weight-based teasing was associated with body image dissatisfaction, low self-esteem, symptoms of depression, and suicidal risks but was not associated with actual BMI (Eisenberg et al.). No difference in gender or
ethnicity was found when the relationship between teasing and quality of life was evaluated (M. Stern et al., 2007). Self-esteem was found to mediate the relationship between teasing and quality of life (M. Stern et al.). Eisenberg et al. theorized that adolescents may be teased about their weight when they fail to conform to societal expectations of ideal body images. Overweight boys have reported more overt victimization from their average-weight peers, such as hitting, punching, teasing, and kicking. Overweight girls have reported that they are socially isolated by their peers (Falkner et al., 2001; Pearce, Boergers, & Prinstein, 2002). Pearce et al. noted that the measurement used in their study of aggressive behavior was a self-report measure with the inherent risk of an absence of accurate recall data; in addition, the authors suggested that a lack of social skills rather than body weight could be a factor in the victimization reported by the overweight adolescents. There was no reported use of a theoretical framework testing the relationship between the concepts of overweight and victimization. Findings of the study would have been better supported with triangulation of data collection that documented observed behavior in addition to the self-reported behavior.

Falkner et al. (2001) found that 19% of obese girls reported having attempted suicide in the past year and that 9% of obese boys reported having attempted suicide in the past year. Eisenberg (et. al. 2003) identified an association between weight-based teasing and suicidal ideation or suicidal attempts. More than half of the girls who reported weight-based teasing from peers and family also report thinking about suicide, whereas 24.7% of the girls who were not teased reported having such thoughts (Eisenberg et al.). Adolescent boys who experienced weight-based teasing by their family were an estimated 3 times more likely to have attempted suicide than their peers.
were who were not teased (Eisenberg et al.). Previous studies have not identified similar concerns relating to suicidal ideation in the overweight adolescent population (Neumark-Sztainer, Story, French, et al., 1997; Neumark-Sztainer, Story, Resnick, & Blum, 1997). Eisenberg et al. hypothesized that, instead of actual body weight, weight-based teasing is the common denominator.

Eisenberg et al. (2003) noted that the lack of a relationship between actual BMI and responses to weight-based teasing, such as low self-esteem, depressive symptoms, and suicidal ideation and attempts, may suggest other underlying causes. The instrument used to measure weight-based teasing and responses to the teasing was developed by the survey team, piloted, and then used in Eisenberg et al.’s study. The two questions related to teasing, the independent variables, may not be measuring what the authors intended to measure. Content validity was demonstrated by using a panel of experts; however, there was no report of convergent validity. A potential compromise to construct validity in that study exists because of the absence of a reported theoretical framework with which to identify the anticipated relationships between the variables.

Gordon-Larsen, Adair, and Popkin (2003) evaluated data from the ADD Health survey to identify ethnic and socioeconomic factors associated with overweight in adolescents. Overweight was highest for African American females, followed by Hispanics of both sexes (Gordon-Larsen et al.). As incomes increased over $40,000, there was a significantly lower prevalence of overweight for White females, but the same association was not found for African American and Hispanic females (Gordon-Larsen et al.). Models were developed from the data to simulate socioeconomic status (SES) levels; variations in overweight prevalence remained based on ethnicity (Gordon-Larsen
et al.). Goodman et al. (2003) evaluated the relationship between SES, two levels of subjective social status (SSS), and adolescent obesity for 1,491 overweight Black and White adolescents attending public school in Ohio. Although overall parent education, household income, and SSS were lower for overweight students than for students who were not overweight, SSS was not influenced by body weight for Black girls (Goodman et al.). A comparison of obese and nonobese African American adolescents identified differences in levels of physical activity only (Gordon-Larsen, 2001). In comparison with their average-weight peers, overweight African American adolescents had no significant differences in food intake, self-esteem, eating attitudes, or health behavior knowledge (Gordon-Larsen).

In summary, adolescents who are overweight may be stigmatized by their peers, have fewer friends, and be teased about their weight. Overweight boys are more likely to be victims of aggressive behaviors, whereas overweight girls are more likely to be socially isolated. Increases in family income and education do not reduce the rates of overweight adolescents in Hispanic and African American families.

Weight Management Practices

Fifty-one percent of adolescents with a BMI greater than the 95th percentile reported being told by their physician that they are overweight, but only 17% of at-risk teens report being counseled for weight management by their physician (Kant & Minor, 2007). Of adolescents told by a physician that they need to better manage their weight, 60% reported efforts at weight loss during the subsequent year (Kant & Minor). Project EAT (Eating Among Teens) studied adolescent eating patterns and weight concerns in
4,746 adolescent participants in a public school setting (Neumark-Sztainer, Story, Hannan, Perry, & Irving, 2002). Many overweight participants perceived their weight status appropriately; however, one fifth of the very overweight females and one fourth of the very overweight males did not perceive a need for changing their body weight (Neumark-Sztainer, Story, et al., 2002). Forty-four percent of female participants and 20.5% of male participants reported current efforts to lose weight (Neumark-Stainer, Story, et al., 2002). Eighty-five percent of very overweight female adolescents and 77% of very overweight male adolescents reported efforts for weight loss during the prior year. All groups of adolescents more frequently reported engaging in healthy practices for weight loss, such as increasing physical activity, increasing fruits and vegetables, and changing food choices than they reported engaging in unhealthy behaviors (Neumark-Sztainer, Story, et al.). Unhealthy weight loss behaviors, although not unique to overweight adolescents, included fasting, eating little food, using a food substitute, skipping meals, and smoking cigarettes (Neumark-Stainer, Story, et al., 2002).

Moderately and very overweight females, like many of their average weight peers, reported taking diet pills (9.6-10.7%), using vomiting (7.7-7.6%), and using laxatives (2.9-3.1%) for weight loss (Neumark-Sztainer, Story, et al., 2002). Girls who use diet pills have previously been identified as more likely to also use vomiting and laxatives to control weight (Krowchuk, Kreiter, Woods, Sinal, & DuRant, 1998). Although average-weight adolescents and their overweight peers were not statistically significantly different for having been diagnosed as having an eating disorder or for vomiting or taking diuretics, overweight adolescents were found to be more at risk of developing eating disorders (Doyle, Grange, Goldschmidt, & Wilfley, 2007). Overweight adolescents were
more likely to be binge eating and attempting weight loss by using food restriction methods such as fasting, skipping meals, using food substitutes, smoking, and taking laxatives than their average-weight peers (Neumark-Sztainer, Story, et al., 2002).

In summary, overweight adolescents may be binge eating or attempting to reduce their body weight by restricting their food intake. Methods used to limit intake include skipping meals, smoking, or taking laxatives.

Family Role

Although a familial pattern of weight gain has been observed, quantitative measures have not identified families of overweight adolescents as functioning differently from other families (Bjornson, 1996; McVoy, 1986). McVoy used both quantitative and qualitative measures to study five families of overweight female adolescents for a 3-month period. When using FACES II, a measure of family functioning, McVoy found no difference in family functioning; however, qualitative observational data revealed complex, enmeshed family systems. McVoy reported that peer influence was suggested within the context of the study but had not been explored. Flerx (1993), in a retrospective study of 481 adolescent girls from six different high schools, used self-reported history of family health behaviors during childhood to evaluate an association with BMI. Family eating patterns during childhood, family recreational patterns during childhood, and child care arrangements were evaluated. No significant linear relationship between BMI and the family health behaviors was identified (Flerx).
Flodmark et al. (1993) compared preadolescents 10 to 11 years old who had a BMI greater than 23 to evaluate the effectiveness of family therapy. Three groups, one in family therapy, one with conventional treatment, and one control group, were compared at 14 to 18 months after starting treatment and at a one-year follow-up. Although the changes in BMI were significantly smaller for the family therapy group than for the control group, all three groups had increased their BMI at the end of the study.

Crossman, Sullivan, and Benin (2006) examined data collected from 90,000 adolescents to evaluate the relationship between weight status and the family environment. Some gender difference was identified as family influences on weight status were examined, with mother’s education influencing only female’s weight status. Predictors of being overweight in young adulthood were obesity of parents and parental age. Family relationships for which teens reported a higher level of minimum closeness with at least one parent were predictors of higher weight status for males but not for females. There was no indication of whether the weight of the parent was considered when closeness was found to be a predictor of future weight.

In summary, families of overweight adolescents have not been consistently identified as having different family roles or as having a demonstrated relationship between an adolescent’s being overweight and familial health behaviors. The reliability of measuring family health behaviors by retrospective self-report measures has not been demonstrated. Quantitative and qualitative measures of family functioning are not consistent in findings. Gender differences as they relate to responses to family influences have been identified but not explored in depth.
Prevention

In the presence of dramatic increases in the numbers of overweight adolescents, focus has been placed on studies of prevention and risk reduction, such as the Child and Adolescent Trial for Cardiovascular Health (CATCH), which was conducted across the United States at four sites and 96 schools (Luepker et al., 1996). Students participating in the 3-year CATCH follow-up study reported continued significantly greater reductions in daily fat intake and larger increases in vigorous physical activity than control groups did (Nader et al., 1999). Expert committee recommendations were developed for child and adolescent obesity evaluation and treatment in 1997 (Barlow & Dietz, 1998). The committee recommendations provided guidelines for actions based on the BMI, including assessing readiness for change, evaluating diet and physical activity, formulating goals of interventions, and providing appropriate referrals to weight loss programs (Barlow & Dietz).

A school-based overweight prevention program for adolescent females identified high levels of satisfaction with the alternative physical education intervention (Neumark-Sztainer, Story, Hannan, & Rex, 2003). In the alternative physical education intervention, social cognitive theory was used as the framework for the study, which addressed areas of physical activity, nutrition, and social support. However, at follow-up, no difference between the control group and the intervention group was identified for weight gains (Neumark-Sztainer et al., 2003).

Campbell, Waters, O'Meara, Kelly, and Summerbell (2002) completed a critical review of prevention studies with control groups for children and adolescents under the age of 18. As has been the case with intervention studies for weight loss, the researchers
were unable to complete a meta-analysis of prevention studies because of the diversity of the study designs and variables. Campbell et al. found no approach to prevention that could be accepted as the gold standard. Furthermore, Campbell et al. recommended that future researchers address power, follow-up, reliability of outcome measures, process, cost effectiveness, statistical analysis, sustainability, and generalizability when planning future studies.

In summary, efforts to prevent the increasing rates of overweight adolescents through the development of prevention programs and through the development of national guidelines for interventions have many of the shortcomings of weight loss intervention studies. These attempts have failed to slow the continued growth in the number of overweight adolescents.

**Intervention Studies**

*Studies With Comparison or Control Groups*

There have been a limited number of intervention studies with comparison groups for weight loss with overweight adolescents to evaluate different treatment conditions (Haddock, Shadish, Kleges, & Stein, 1994). Some programs have demonstrated significant short-term reductions in BMI (Berkowitz et al., 2003; Brownell et al., 1983; Coates, Jeffrey, et al., 1982; Coates, Killen, & Slinkard, et al., 1982; Emes et al., 1990; Lansky & Vance, 1983; Mellin et al., 1987; Sasaki et al., 1987; Sondike, Copperman, & Jacobson, 2003), but no well established treatment intervention programs have been found to achieve sustained weight loss for overweight adolescents. Brownell et al. found that adolescents achieved a greater weight loss with parental involvement in weight loss
instruction groups that are conducted separately from the adolescents’ groups than adolescents and parents did who participated in the same weight loss instruction group. However, the Brownell et al. study had only 42 participants in three comparison groups. Because of its small size, the study lacked the power to identify differences among the groups; in addition, the groups had different leaders, and this element of the study may have also have compromised the reliability of the intervention. There is no discussion of demonstration of reliability in the report. Later findings suggest that there may be a cultural difference in adolescent responses to parental involvement (Wadden et al., 1990). African American adolescents reported no constraints on communication in weight loss groups inclusive of mothers (Wadden et al.), whereas such constraints had been reported in earlier studies with Caucasian adolescents (Brownell et al.). The sample was also small, with a total of 47 participants divided into three groups (Wadden et al.). The attrition of 10 participants further reduced the sample to 36, resulting in further compromise to a study that was already underpowered. No difference was identified, perhaps because of a Type II error.

Incentives were evaluated in a study providing cash rewards at different intervals, and greater weight loss was found when cash incentives were provided more frequently (Coates, Jeffrey, et al., 1982); however, a later study by the same principle investigator found equal weight losses could be achieved without the financial incentive (Coates, Killen, & Slinkard, 1982). The study conducted by Coates, Killen, and Slinkard (1982) had a sample size of 31, with two comparison groups; although both groups lost weight, no difference in the two groups was identified. As a result of the small sample size, the power was too low in this study to identify a difference, perhaps because of a Type II
error. No theoretical framework was reported. The study conducted by Coates, Jeffrey, et al. (1982) had 42 participants in comparison groups, with a total of 36 participants completing the study. One group showed a significant decrease in the percentage of overweight from pretreatment to posttreatment but had stabilized and showed no significant difference by follow-up. The Coates, Jeffrey, et al. study, as with prior studies, was compromised by the small group size, which had resulted in a loss of statistical power to identify group differences and may have had a Type II error caused by the low power. No weight loss benefits were found from faster increases in level of exercise when compared with the weight loss benefits resulting from progressive increases to the same levels (Emes, 1990); as with the prior studies, the small group sizes of 11 each, for a total sample of 33, compromised statistical power and may have resulted in a Type II error. Groups compared after interventions using behavioral change with and without diet restrictions were found to have no significant difference in weight losses (Ikeda et al., 1982). Ikeda et al. had a sample size of 50, with an attrition of 54%; the study lacked the sample size needed to have the statistical power to identify a difference between the groups. School-based interventions have achieved effective weight loss with combined behavior and exercise interventions over extended periods but have not been replicated (Lansky & Vance, 1983; Sasaki et al., 1987). Lansky and Vance enrolled 55 participants in their school-based 12-week study; there was no follow-up after the 12-week period to identify whether the intervention had a sustained effect. Sasaki et al. conducted a 2-year, 7-day-a-week school-based exercise program in Japan. At the end of the 2-year period, there was a significant reduction in the percentages of overweight;
however, there was no follow-up to identify whether the changes were sustained outside the school setting.

In one behavioral intervention study with adolescent females, participants attended 43% of the sessions, and the attrition rate was 45% (Resnicow et al., 2000). Increased attendance at the group sessions was found to be related to increased nutrition knowledge, perceived diet changes, and social support but did not have a statistically significant relationship to physiological changes, including weight loss (Resnicow et al.). The high attrition rate and poor attendance in the Resnicow et al. study resulted in only 26 participants completing more than 50% of the sessions. The study compared low attenders to high attenders but had no baseline control group or comparison group. No difference in body weight was identified when the low-attenders group and the high attenders group were compared; however, the loss of statistical power from the effects of attrition reduced the likelihood of identifying a difference and may have contributed to a Type II error.

Saelens et al. (2002) developed a unique intervention employing a computerized program to enable 23 adolescents to enter assessment information and create individualized action plans. The assessment and plan were subsequently reviewed with a pediatrician and the participant. The adolescent and a parent met in person with the investigator to learn food self-monitoring. The intervention staff followed up on the action plan with weekly telephone calls to encourage behavioral changes, self-recording of weekly calories and physical activity, and entry into a prize lottery for successful participants. Weight loss trends were significant in the pre- and postintervention group ($p = .03$). The comparison group of 21 adolescents demonstrated weight gain trends;
however, a significant difference between the groups was not identified at follow-up. The sample size was estimated to require 21 per group on the basis of a large effect size and a power of .80 (Saelens et al.). The telephone intervention period lasted between 14 and 16 weeks. The difference between the two groups did not indicate that the intervention was effective; however, on the basis of the trends of the BMI changes in both groups, Saelens et al. theorized that a longer intervention might have had more favorable outcomes. In summary, the use of a computerized intervention with telephone contact did not result in a significant difference between the weight loss of the intervention group and that of the comparison group (Saelens et al.). The outcome of the study may have been underpowered if the effect size of the intervention was overestimated, or the dose period may not have been extensive enough for the investigators to effectively evaluate differences.

The potential of using peer influence to achieve weight reduction was explored in a pilot study ($N = 79$) of overweight adolescents 13 to 16 years of age (Jelalian et al., 2006). Two randomized groups received cognitive-behavioral interventions with exercise or peer-enhanced adventure therapy. For both treatment conditions, parents participated in the study and met in groups separate from the participants’ group. Both adolescent intervention groups reduced their BMI, but there was a not a significant difference between the two groups. Two interesting findings resulted from this unique study: The older adolescents enrolled in the peer-enhanced group accomplished 4 times greater weight loss than their peers did, and there was a significant difference in the percentage of participants in the peer-enhanced group who maintained a 4.5-kg weight loss 10 months after enrollment ($p = .042$). A third group, who received nutrition
counseling only, was initially established in this study but was discontinued because of attrition and participant concerns with the treatment approach. Although there are some interesting findings suggesting a value in the use of peer influence in weight management programs, this pilot study yielded no conclusive findings of clear benefit.

**Dietary Interventions**

Ikeda et al. (1982) compared the use of behavioral-change education in groups with and without diet restrictions. Less focus was placed on behavioral changes in the group with the dietary restriction, but those participants were weighed weekly. The group exposed to a behaviorally focused intervention was weighed three times during the 14-week program. Ikeda et al. enrolled 50 participants and completed the study with 27 participants, for an attrition rate of 46%. There was no difference in weight loss between the two treatment approaches; however, the effect of the loss of statistical power resulting from the attrition in the study compromised an effective comparison of the outcomes.

The use of low-carbohydrate diets and diets with a reduced glycemic load as alternatives to low-fat diets has shown promise with overweight adolescents (Ebbeling, Leidig, Sinclair, Hangen, & Ludwig, 2003; Sondike et al., 2003). Sondike et al. compared a low-carbohydrate diet with a low-fat diet and found that the low-carbohydrate group resulted in the greater weight loss at the end of 12 weeks \( p < .05 \). Informal follow-up at one year identified sustained weight loss in 8 participants in the low-carbohydrate group, and this finding led investigators to theorize that a low-carbohydrate diet may achieve better compliance with adolescents than low-fat diets would achieve (Sondike et al.); however,
the two groups were not compared at the end of one year. Long-term follow-up results of the comparison of the two diets have not been studied.

Ebbeling et al.’s (2003) pilot study of 16 overweight adolescents included educational and behavioral components based on social cognitive theory. The study included physical activity recommendations for two groups and compared a reduced-glycemic-load diet with a reduced-fat diet. At the end of 12 months, BMI and fat mass were significantly lower \((p = .02\) and \(p = .01\), respectively) in the experimental group using the reduced-glycemic-load diet (Ebbeling et al.). The pilot study showed promise; however, 81% of the small pilot group consisted of White participants, and the findings for this group cannot be generalized to the overweight adolescent population that is predominantly Hispanic and African American.

In summary, the use of carbohydrate-restricted diets with overweight adolescents shows initial promise, but no studies have been done to determine sustained effectiveness of the intervention. The use of low-carbohydrate diets has been sampled in small groups, with a total sample size, including comparison groups, of 46 participants for the combined studies (Ebbeling et al., 2003; Sondike et al., 2003). Daniels (2003) expressed concern that creating ketosis in overweight adolescents through dietary interventions is not without risk and stated that longer term studies are needed to establish safety.
Medication Interventions

Because behavioral and dietary interventions fail to curb the continued BMI increases in overweight adolescents, investigators have started to explore pharmacologic interventions. In a study by Freemark and Bursey (2001), BMI was reduced by 1.3% in an adolescent group taking metformin, whereas the control group BMI increased 2.3%. The study included only 29 participants, and did not report the inclusion of Latino participants. The study lasted only 6 months, and there was no follow-up after the metformin was discontinued. Long-term side effects of the use of metformin for weight loss have not been studied. Berkowitz et al. (2003) reported that adolescents who took sibutramine combined with a behavioral, diet, and exercise intervention had a 4.5% greater BMI loss than adolescents did who participated in the same treatment but received a placebo. Parents of participants in the control group and those participants in the intervention group in the sibutramine study participated in separate groups but received the same information for a period of 6 months (Berkowitz et al.). At the end of the 6-month period, both groups of adolescents received sibutramine. Interestingly, the participants who were in the treatment group for the first 6 months of the study gained 0.8 kg during months 7 to 12 of the study; however, initial reductions in BMI were sustained because of gains in height (Berkowitz et al.). Over the 12-month period of the sibutramine study, the medication dose of 40% of the participants was reduced ($n = 23$) or discontinued ($n = 10$) as a result of adverse reactions, including increased blood pressure and/or pulse rate ($n = 6$), ecchymoses ($n = 2$), rash ($n = 1$) and premature ventricular complexes ($n = 1$) (Berkowitz et al.). The attrition rate for this study was 10% for the first 6 months and increased to 24% by the end of the study.
Orlistat, a medication that inhibits lipase and subsequently reduces fat absorption, was used in a randomized controlled trial with adolescents ages 12 to 16 years (Chanoine et al., 2005). The 12-month trial was conducted at 32 different centers across the country and included diet, exercise, and behavioral modification, in addition to the use of orlistat or the placebo. Each center was allowed to use its own strategy for the behavioral modification components, although guidelines were provided. Enrollment in the study was limited to participants with a BMI greater than 2 units over the 95th percentile of the CDC growth charts. A total of 539 adolescents enrolled in the study and received the placebo ($n = 181$) or orlistat ($n = 352$). One hundred ninety adolescents withdrew from the study, resulting in attrition rates of 35% for the orlistat group and 36% for the placebo group. The study did not explore changes in lifestyle, but Chanoine et al. reported adverse events for the orlistat group including, 21.9% with abdominal pain (placebo group = 11%), 20.7% with fecal urgency (placebo group = 11%), 29% with oily spotting (placebo group = 3.9%), and 8.8% with fecal incontinence (placebo group = 0.6%). At the conclusion of the 12-month study, participants in the placebo group had increased their BMI by 0.31, and those in the orlistat group had decreased their BMI by 0.55 ($p = .001$). The significant weight loss in the orlistat group occurred in the initial 12-week period; then, both groups regained weight, although the difference in the BMI between the two groups was sustained to the end of the study. There were no provisions for follow-up at the end of one year.

Berkowitz et al. (2006) reported more favorable outcomes with a similar but larger study. The expanded study included 498 participants between the ages of 12 and 19 years who had a body weight at least 2 units greater than the 95th percentile of the
CDC growth charts for BMI. Using a 3:1 ratio of intervention to placebo, the Berkowitz et al. (2006) placed the adolescents in randomized groups in this 12-month double-blind trial of sibutramine for weight loss. Thirty-three different weight loss clinics in the United States participated in the study. All participants received lifestyle modification instruction designed to meet the individual participant’s need. The intervention group that received sibutramine and behavior therapy had an 8.2% ($p < 0.001$) lower BMI than the group that received a placebo and behavior therapy. Body weight decreased 8.6% ($p < .001$) more for the sibutramine intervention group than for the group receiving the placebo. The rate of adverse reactions dropped significantly with the larger study group, with only 5 of 368 participants experiencing hypertension that resulted in discontinuing the medication. A total of 10 participants reported serious adverse events. Attrition rate for the study was 28%. Lifestyle interventions were not standardized for this study, and a later evaluation of the findings revealed a variance in BMI changes among centers that suggested that a component of the behavior intervention may influence outcome (Dietz, 2006).

Until 2006, studies in which medications were used for weight loss with overweight adolescents have demonstrated small reductions in BMI and have shown attrition rates similar to rates found with other interventions; in addition, those studies have revealed the existence of adverse reactions to the medications. Results from the recent study by Berkowitz et al. (2006) suggest that medications may have an important role in future interventions; however, evaluation is in its early stages. There have been no sustained follow-up studies to document the effectiveness of medication use for weight loss with overweight adolescents.
Residential Treatment

Thirty-eight overweight adolescents were accepted for a 10-month residential treatment program in a boarding school setting and compared with 38 overweight adolescents who were placed on a waiting list as the control group (Braet et al., 2003). The groups were matched for gender and age, with a median age of 13 years and an age range of 10 to 17 years. Seven children left the program during the 10-month period: 5 because of achievement of weight-management-targeted BMI, one because of admission to a psychiatric unit, and one because of refusal to continue treatment. Three children did not participate in the 6-month follow-up; one of the 3 had relocated, one was admitted to a psychiatric unit, and one was hospitalized because of serious illness. At a follow-up at 14 months after treatment, 34% of the participants were available for follow-up; of these 27, 13 either continued to have a weight loss or had an increase of less than 10% of their posttreatment weight. At the same evaluation point, 14 of the 27 children had an average increase of more than 10% overweight, with weight regained ranging from 1% to 37%.

A subsequent report (Braet et al., 2004) described the results of 4 years of research by the same group. A total of 150 overweight participants 7 to 17 years old and in groups of 36 to 38 were enrolled in the study for each of the 4 years that the study took place (Braet et al., 2004). The participants were enrolled in a 10-month inpatient treatment program for weight management as described in the prior study (Braet et al., 2003). In the 2004 study, Braet et al. evaluated change by using a within-subject design instead of by comparing the participants with a wait-listed group; the latter method had been used in the earlier study. Study results were similar for the 4-year period and included a mean age of
participants of 12.7 years and a mean BMI at enrollment of 32.2, with a reduction to 23.6 at the end of the 12-month period and an increase to 27.3 at the 14-month follow-up (Braet et al., 2004).

In summary, the residential-boarding-school treatment program yielded a higher percentage of weight loss than many traditional outpatient treatment programs did; however, no data were available for the long-term effectiveness when the participants returned to their home setting. In addition, the report of 2 participants’ requiring inpatient psychiatric care warrants further understanding of the risks associated with the selection of participants for treatment in residential settings, as well as further investigation of the potential risks associated with removing participants from their home setting when they are as young as the median age, 13 years, in this study. Although 82% of the participants had maintained a weight reduction of 10% at the 14-month follow-up, 44.1% were still overweight. The costs, both emotional and financial, for such a treatment program support the need for the evaluation of alternative approaches to adolescent weight management.

In summary, intervention studies with control or comparison groups have tested multiple different interventions with overweight adolescents over the past 2 decades; however, many of the studies have lost statistical power because of attrition, none have reported sustained effectiveness upon long-term follow-up, and none have been replicated. Although the number of overweight adolescents has tripled in the past 2 decades, there has been no effective intervention identified for sustained weight loss for these adolescents. The perceptions of overweight adolescents may influence attrition from weight loss interventions but have not been examined.
Studies Without Comparison or Control Groups

Control and comparison groups can be difficult to establish for adolescent weight management programs, both because of the limited number of overweight adolescent participants willing to participate in studies and because of the common availability of across-the-counter and media-advertised weight management resources to the control or comparison groups. As a result, many studies of overweight adolescents have proceeded without unique control or comparison groups and have used a pretest-posttest design to measure effectiveness of the intervention. Studies that have used unique approaches to working with overweight adolescents are discussed in this section and include an interdisciplinary program, weight management camps, institutional residency, and surgical intervention.

Interdisciplinary Intervention

Sothern, Schumacher, von Almen, Carlisle, and Udall (2002) developed a four-level interdisciplinary approach for adolescent weight management that combines medical, psychosocial, nutritional, and exercise interventions. The program began with setting a 12-week goal and progressed through a one-year program consisting of 2-hour weekly sessions for adolescents and their families. The attrition rate for the 93 adolescents enrolled in the program was 39.3%. BMI for the participants who completed the one-year program was reduced from 32.3 ± 1.3 at baseline to 28.2 ± at one year (Sothern et al.). No evaluation data were provided beyond the one-year period. Although Southern et al. reported a 12.5% reduction in BMI at the end of one year, the high
attrition rate and the absence of follow-up data compromise evaluation of the long-term effectiveness of the intervention. Expectations of the 36 adolescents who left the program are not known and therefore cannot be considered when future programs are being planned.

*Weight Management Camps*

Weight management camps have had short-term effectiveness for weight management; however, no data on the long-term results of this intervention are available (Barton et al., 2004; Wabitsch et al., 1992; Walker et al., 2003). A 6-week residential camp provided a calorie-restricted diet and physical activity for 110 overweight female adolescents (Wabitsch et al.). Participants had a significant reduction of 8.9% in BMI over the 6-week period. Weight losses were compared according to waist:hip ratio, and losses were significantly greater for participants with abdominal obesity than for those with gluteal-femoral obesity (Wabitsch et al.).

In a second study of the effectiveness of camp interventions, overweight adolescents participated in camp activities for 2 to 6 weeks, with a mean stay of 26 days (Barton et al., 2004). Programs at the camp included a controlled diet, educational sessions for changing behaviors and responding to bullying, and fun-based physical activity (Barton et al.). A focus of the camp program was changing negative cognitive thought processes to positive cognitive thought processes as they relate to body image, physical activity, and body weight (Barton et al.). A relationship was found between weight loss and increased positive thoughts; however, the long-term sustainability of the cognitive changes accomplished by the program was not measured (Barton et al.).
In summary, weight management camps have achieved reductions in BMI; however, there are no data available to suggest that the behavioral changes that resulted in weight reduction will translate from the controlled environment to the home environment. In addition, whether behavioral changes associated with weight loss are sustained after the camp residency period remains unknown.

Institutional Residency

Institutional residency interventions that incorporate comparison or control groups and target severely obese children and adolescents have resulted in reductions in BMI (Deforche et al., 2003; Lazzer et al., 2004). The programs provided residential treatment for 10 months for adolescents ranging in age from 11 to 18.3 years. The two studies included a total of 46 participants. Both treatment groups experienced reductions in BMIs ranging from 18% to 25% (Deforche et al.; Lazzer et al.). The interventions in both residential programs were similar and included caloric reduction and increases in physical activity. Follow-up data for effectiveness of the intervention after participants leave the controlled setting are not available.

One unique result of the intensive treatment approach was a decrease in base metabolic rate by the end of the study period (Lazzer et al., 2004). Lazzer and coworkers (2004) has suggested that changes in metabolism after periods of caloric reduction for weight management may influence increases in weight in the postintervention period. In summary, residential treatment programs show promise for accomplishing lifestyle change because significant reductions in BMI were found in two small sample groups; however, the long-term effectiveness of residential programs is not known.
As health risks continue to mount for severely overweight adolescents, surgical interventions are gaining increasing popularity, as evidenced by a prime time news special of surgical interventions for overweight adolescents (Sloan, 2003). Sugerman et al. (2003) retrospectively examined outcomes from surgery for weight loss for severely obese adolescents between the ages of 12 and 18. A total of 33 adolescents were included in the study. Weight loss for available postoperative adolescents was evaluated at one year, 5 years, 10 years, and 14 years, with significant reductions demonstrated for BMI and weight in kilograms (Sugerman et al.). Five patients (15%) regained all or most of their weight within 10 years of surgery (Sugerman et al.). Two patients died suddenly 2 years and 6 years after surgery from complications that did not appear to be related to surgery, and no autopsy was done in either case (Sugerman et al.). There are no long term follow-up studies of the physiologic effects of the surgical intervention for the adolescent. Although many surgical outcomes appear to be very promising for reduction of comorbidity in some severely obese adolescents, a panel of medical experts recommended that a safe selection process include a 6-month trial of behavioral modification and interdisciplinary counseling (Inge et al., 2004). Debate continues about the feasibility and availability of effective behavioral modification programs, and this debate complicates evaluation of who may or may not be a good surgical candidate (Barlow, 2004; Rodgers, 2004; Wittgrove, 2004). Tsai, Inge, and Burd (2007) used a national database, the Nationwide Inpatient Sample, to evaluate adolescents who had had bariatric surgery between 1996 and 2003. Based on the number of cases reported in the
Nationwide Inpatient Sample, an estimated 2,744 bariatric surgery procedures were done in adolescent patients during the 8-year period from 1996 to 2003. Of these patients, 78.6% were female; ages ranged from 12 to 19, with 96.4% between the ages of 15 and 19. Respiratory complications were more common with adolescents (84.4%) than with adults (67.5%), although adolescents had a shorter length of stay in the hospital than adults did. No adolescent deaths secondary to surgery were reported. Of particular note is the increase from 188 in 1996 to 771 in 2003 in the number of adolescent surgeries for weight reduction. No information was available for postdischarge outcomes (Tsai et al.). The number of adolescents electing to have surgical intervention for weight management continues to increase. Such interventions are not without significant risk, and long-term effects are not known.

In summary, studies without comparison or control groups have evaluated diverse approaches to weight management, including interdisciplinary programs, weight management camps, institutional residency programs, and surgical intervention. The commonality of the diverse interventions for weight management is the absence of evaluation of long-term effectiveness of the programs.

Qualitative Studies

The use of qualitative methodology in the study of overweight adolescents is in the early stages of development. Phenomenology was used to identify themes related to the lived experience of overweight female adolescents (Mustain, 1999). Four themes evolved from the interviews with the adolescents: (a) knowledge and social issues of excess weight, (b) desperation to be thin, (c) loss of self-respect, and (d) getting my life
together (Mustain). In summary, the study explored life experiences of the overweight adolescent but did not evaluate expectations about weight management or weight management programs.

Ethnography was used as part of a mixed methodology study of overweight adolescents and their family members (McVoy, 1986). Three developmental stages of obesity were identified within the family structures: (a) predisposition, (b) initiation, and (c) maintenance (McVoy). Interestingly, quantitative measures of family functioning, FACES II, administered to the participants did not support the findings of family-functioning differences that were identified from the qualitative interviews (McVoy). In summary, the study contributed to further understanding of the family developmental stages of the overweight adolescent but did not explore expectations about weight management.

A collaborative, qualitative study was conducted with 12 focus groups of eighth- and ninth-grade students to gain a better understanding of beliefs and issues relating to healthy and unhealthy eating; healthy and unhealthy weight, underweight, overweight, and obesity; physical activity/sport behaviors; barriers to engaging in healthy eating and physical activity; and potential campaign messages (CDC, 2000b). Differences in perceptions relating to healthy weight were identified among African American, Latino, and White participants (CDC, 2000b). African American and Latino participants were more accepting of increased body weights (CDC, 2000b). Overweight African American girls identified high self-esteem as more important than the weight on the scale (CDC, 2000b). The participants stated that television shows influenced their perceptions of obesity; the girls also described healthy weight as relating to self-esteem and levels of
confidence rather than to physical attributes (CDC, 2000b). In summary, the study added to an understanding of cultural differences of perceptions of being overweight but did not explore expectations of weight management programs.

Only recently has grounded theory been used to identify themes relating specifically to adolescent needs. Thirteen overweight adolescents ranging in age from 11 to 18 years participated in a videotaped grounded theory study at an outpatient setting associated with a children's hospital (Rich, Patashnick, Huecker, & Ludwig, 2002). The focus of the interviews was on the experience of being overweight. The participants identified themes relating to self-comforting with food; voracious eating behaviors; above-average levels of physical activity; fidgeting/hyperactive behavior; and heavy television, video game, and music use (Rich et al.). Emotional distress about dietary restrictions and family conflict over food/weight issues were also identified as common themes of overweight adolescent concerns (Rich et al.). Although the report indicated the use of grounded theory methodology and included the first stage of substantive coding into categories, there was no overall theory from theoretical sampling that can be tested in future interventions. In summary, the study adds to the understanding of the life experiences of overweight adolescents but does not provide a theory that can be tested in future weight management interventions.

This investigation further developed the study of overweight adolescents through the exploration of influences related specifically to weight loss and weight loss interventions. Grounded theory has been used to explore health behaviors and health risk with adolescents in several closely related fields. Adolescents were interviewed to identify themes relating to choices of healthy behaviors such as decisions not to smoke
(Dunn & Johnson, 2001) and food choices (Neumark-Sztainer, Story, Perry, & Casey, 1999). Although there may be close links between significant weight gains and eating disorders, eating disorder studies have limited the focus to individuals with significant weight loss. Dieting behaviors have been identified as a precursor of eating disorders in discussions with older adolescents and young adults with anorexia nervosa, bulimia nervosa, and other eating disorders with similar extreme weight losses (Nevonen & Broberg, 2000). A closely related theme, control, evolved in two other eating disorder studies (Eivors, Button, Warner, & Turner, 2003; Serpell, Treasure, Teasdale, & Sullivan, 1999). Loss of control was found to be a common theme linking the reasons for attrition from anorexia treatment groups (Eivors et al.). Although the studies identified early risk behaviors associated with dieting and subsequent eating disorders, the samples did not include overweight adolescents. Whether the findings can be generalized or would have an influence on attrition in intervention studies is unknown.

In summary, qualitative research studies have been conducted with overweight adolescents to gain a better understanding of their individual lived experience and stages of their family development. The studies have not identified factors that influence the overweight adolescents’ perceptions of weight and weight loss management.

Attrition

Attrition rates from obesity intervention programs have received limited study in the overweight adolescent population. A 1980 interdisciplinary study of 36 adolescents ranging in age from 12 to 23 years involved attempting to reduce attrition by using personal contact with the adolescents (Harris, Sutton, Kaufman, & Carmichael, 1980).
The intervention was planned by a psychologist who had previous experience in working with obese persons, a pediatrician specializing in adolescent female endocrinology, a nutritionist, and a graduate student in education (Harris et al.). The attrition rate for the study sample was 53%, and only 2 participants were within 10% of their ideal weight at the end of the intervention (Harris et al.).

Two Cochrane reviews led to the release of a bulletin (National Health Service, 2002) from the British Center for Reviews and Disseminations. The bulletin raised a concern that randomized controlled studies with children and adolescents may have potential bias from high attrition rates and small sample sizes.

A 5-year retrospective review of attrition from a hospital-based weight management program for children identified differences by ethnicity and by sources of treatment payment (Tershakovec & Kuppler, 2003). The mean age range for the dropout group, 10.5 years and that for the follow-up group, 10.4 years were not significantly different. Fifty-one percent of the dropout group was White, and 47% of the dropout group was African American. There was a statistically significant difference in the follow-up group, with 63% of White and 35% of African American participants returning to the program. Potential causes for differences in African American participants’ return for follow-up were theorized to reflect different perceptions in the need for weight management interventions; daytime clinic hours that may compromise parental attendance because of work schedules; and the absence of African American physicians, dietitians, and psychologists on the intervention team (Tershakovec & Kuppler). The number of clinic visits was higher for participants covered by indemnity payors than for those covered by managed care payors or Medicaid payors (Tershakovec & Kuppler).
On the basis of the type of treatment, attrition rates have been found to vary in adult obesity intervention programs (Holmes, Zysow, & Delbanco, 1989). Attrition rates range from 15% for behavior modification weight loss programs to as high as 50% in very low calorie restricted-diet programs and up to 70% in self-help and lay weight loss groups (Holmes et al.). Variables identified with early attrition of adults from a weight loss program included the number of previous diets, history of emotional problems, number of persons who annoy the dieter by undermining or opposing efforts at weight loss, expected stress, expected insurance coverage, number of close friends, and history of physical and/or emotional symptoms on diet (Yass-Reed, Barry, & Dacey, 1993); variables found in another study (Clark, Niaura, King & Pera, 1996) were depression, smoking, sedentary lifestyle, and untreated hypertension. In another area of intervention study, the cause of attrition from group interventions for drug use has historically been attributed to individuals but is now being recognized as having influences from program characteristics (Carroll, 1997; Hunt & White, 1998).

In summary, the number of overweight adolescents has continued to increase over the past 3 decades. Although some programs are considered promising interventions, no well established treatment intervention programs have been found to achieve sustained weight loss for overweight adolescents (Jelalian & Saelens, 1999). Ethnic and gender differences have been identified in the overweight adolescent population. Participant attrition from existing intervention programs further delays finding effective solutions to address increasing numbers of overweight adolescents. Qualitative studies have explored the lived experience of the overweight adolescent. Multiple diverse intervention approaches have failed to identify programs that achieve sustained weight management
for overweight adolescents. There is a need to better understand what factors influence the overweight adolescents’ responses to weight management interventions. A grounded theory approach will be used to address that need in this study.
CHAPTER 3
METHODOLOGY

As the preceding literature review revealed, researchers have used many different approaches to weight management and lifestyle change for adolescents; however, no single approach has achieved a sustained successful outcome. Although many of the studies were well designed, the reasons that the desired outcomes were not achieved or were not sustained remain unclear. Additionally, study results showed high rates of participant attrition. Of particular concern is the high number of overweight and at-risk Hispanic adolescents; however, previous intervention studies to date have not included a representative sample of these Hispanic youths. Before future interventions targeting this group of adolescents can be effectively designed, the factors that influence Hispanic overweight adolescents’ perceptions of weight and weight loss management must be identified. This chapter presents a discussion of the research design, sample, data collection process, and analytical procedures used to address the identified need. In this chapter, specific characteristics of the sample are also discussed.

Research Design

The methodology for the study design consisted of grounded theory, an inductive qualitative research method. Grounded theory is rooted in social interactionism and contains components that will guide the designation of participants and the systematic,
progressive collection and comparison of data to facilitate the emergence of a theory from the data (Glaser, 1978; Glaser & Strauss, 1967; Sandelowski et al., 1989; P. N. Stern, 1980). In grounded theory, examination of the data gleaned from initial interviews leads to theoretical sampling (Glaser & Strauss, 1967; Glaser, 1978; Stern, 1980), during which interviews resume and specifically target additional data collection to further clarify or disprove the evolving theory (Glaser, 1978). This stage of sampling tests the concepts that are identified through a progressive review of data collected (Glaser, 1978; P. N. Stern, 1980) and is used to facilitate comparisons of identified concepts to find support for the conceptual framework that has evolved from the data (Glaser, 1978; P. N. Stern, 1980). Figure 1 provides a diagram of the study process.

Setting

Participants for the study were recruited from within a 90-mile radius of a city in a rural area of the southwest part of the United States. The total population of the largest county is 103,528, with 19.2% between the ages of 5 and 18 years (U.S. Census Bureau, 2003). Hispanic or Latino individuals comprise 30.7% of the county population (U.S. Census Bureau, 2003). The surrounding counties are rural areas, with the primary sources of income being either ranching or oil-field-related industries. A university affiliated with a state system provides undergraduate and graduate programs for the residents of the area. A local military base adds to the economy. Residents of the counties travel to the largest city in the county for their personal needs, including health care, shopping, and education programs. Table 1 presents demographic information for the setting.
Table 1

2003 U.S. Census Bureau Counties In Sample Area

<table>
<thead>
<tr>
<th>County</th>
<th>Population</th>
<th>Age under 18</th>
<th>Hispanic Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>103,528</td>
<td>26.1%</td>
<td>30.7%</td>
</tr>
<tr>
<td>2</td>
<td>4,110</td>
<td>28.8%</td>
<td>51.7%</td>
</tr>
<tr>
<td>3</td>
<td>2,816</td>
<td>27.9%</td>
<td>43.5%</td>
</tr>
<tr>
<td>4</td>
<td>3,774</td>
<td>16.1%</td>
<td>41.3%</td>
</tr>
<tr>
<td>5</td>
<td>3,725</td>
<td>24.4%</td>
<td>16.9%</td>
</tr>
<tr>
<td>6</td>
<td>10,911</td>
<td>26.9%</td>
<td>29.3%</td>
</tr>
<tr>
<td>7</td>
<td>2,354</td>
<td>24.2%</td>
<td>31.7%</td>
</tr>
</tbody>
</table>

Thirty percent of high school students in the state are overweight or at risk of becoming overweight (CDC, 2004). Because of the continued increases in the number of Hispanic overweight adolescents, and because of the lack of information about and from this group, the study was focused on overweight Hispanic adolescents. Interviews took place at offices located at a hospital, at a school and at a library. Support for the study was verbalized by community physicians, a state-funded community adolescent at-risk education program, the hospital system, and the school system. Letters of support from these agencies were provided with the Institutional Review Board for Human Use (IRB) application.

Sample

Qualitative samples often range between 5 and 20 participants (Kuzel, 1999). The initial targeted sample size was 30 overweight Latino participants, with 15 males and 15 females. The final sample size and gender variation was determined when data comparisons were completed, saturation of data had occurred, and no new themes had
been identified (Sandelowski et al., 1989). The final sample size was 19, with 10 females and 9 males.

The study consisted of two phases; participants were English-speaking, Hispanic adolescents who identified themselves as Hispanic (Grieco & Cassidy, 2001) and possessed a BMI at or above the 95th percentile of the CDC growth chart for age. Because studies indicate trends of increased BMI for overweight adolescents between the ages of 16 and 17 (Lacar et al., 2000), participants who were a minimum of 16 or 17 years old. Exclusion criteria were chosen to increase the homogeneity of the sample. Exclusion criteria eliminated from participation adolescents who were married, were pregnant, or had given birth; were in the military; had siblings in the study; were less than age 16 or greater than or equal to age 18; or had been told by a physician that they had a medical reason for being overweight, such as Prader-Willi syndrome.

Protection of Rights of Human Subjects

An application for an expedited review was submitted and approved by the IRB of a large university located in the southeastern area of the United States. Informed consent and assent forms were developed based on IRB guidelines. The informed consent was signed by the study participant. A waiver of parental consent was submitted to the IRB based on the recommendations of the Institute of Medicine (Field & Berman, 2004). The study was noninvasive, minimal risk, and participant confidentiality was protected. The study was explained to potential adolescent participants including the inclusion and exclusion criteria when contact was made with the investigator. A copy of the consent form was mailed to the participants in advance when an address was provided.
and a meeting was scheduled for questions to be answered. After questions were addressed, if the adolescent elected to participate, the consent was completed. The same process was used for Phase I focus groups and Phase II participants; however, a different consent was used for each phase. Participants’ names were substituted with randomly selected pseudonyms in charts and text to further protect the identity of each individual, and to facilitate reader flow and discussion of the findings.

Focus Group

Phase I of the study incorporated two focus groups to evaluate the interview questions for age and cultural appropriateness and to provide suggestions for communication with the overweight adolescent during the second phase of the study. The two focus groups, one male group and one female group, met inclusion and exclusion criteria for the study. Four adolescents were targeted for each focus group; however, only three females participated in the female focus group (Table 2). In addition, two Hispanic adults, one male and one female, were recruited to facilitate communication in the focus group discussion. Participants in the focus groups received the same compensation for travel and inconvenience ($25) and completed the same process for consenting to participate. However, the consent form used for the consent process for the focus group participants differed from the one presented to the study participants. Each focus group was also asked to assess whether the questions would yield the needed information. The interview questions in Appendix D. were presented to the focus group for their responses and modified on the basis of their suggestions.
### Table 2

*Focus Group Participants (Phase I)*

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Grade</th>
<th>Gender</th>
<th>BMI</th>
<th>Parents Living in home</th>
<th>Siblings in the home</th>
<th>Grand-Parents in the home</th>
<th><em>Language in the home</em></th>
<th>Years in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorge</td>
<td>17</td>
<td>11</td>
<td>Male</td>
<td>29.7</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>M</td>
<td>17</td>
</tr>
<tr>
<td>Ricky</td>
<td>17</td>
<td>12</td>
<td>Male</td>
<td>40.0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>M</td>
<td>17</td>
</tr>
<tr>
<td>Diane</td>
<td>16</td>
<td>11</td>
<td>Female</td>
<td>32.0</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>E</td>
<td>16</td>
</tr>
<tr>
<td>Carlos</td>
<td>16</td>
<td>11</td>
<td>Male</td>
<td>37.7</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>E</td>
<td>16</td>
</tr>
<tr>
<td>Eric</td>
<td>17</td>
<td>11</td>
<td>Male</td>
<td>30.4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>E</td>
<td>17</td>
</tr>
<tr>
<td>Cristina</td>
<td>17</td>
<td>11</td>
<td>Female</td>
<td>32.3</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>E</td>
<td>17</td>
</tr>
<tr>
<td>Veronica</td>
<td>16</td>
<td>10</td>
<td>Female</td>
<td>42.2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>E</td>
<td>16</td>
</tr>
<tr>
<td>Jeremiah</td>
<td>17</td>
<td>12</td>
<td>Male</td>
<td>31.2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>E</td>
<td>17</td>
</tr>
</tbody>
</table>

*Note. BMI = body mass index; M = mix of Spanish and English; E = English.*

### Sample Recruitment Process

Sample recruitment for both phases was accomplished through the use of flyers placed in physicians’ offices, community clinics and schools. Ads were placed in a large local newspaper and also in newspapers in smaller communities. A newspaper published in Spanish was also used several times. Participants mentioned seeing the ad although they did not respond to it until they later received a flyer from an adult. The printed flyers and ads are considered an extension of the consent process and as such, were submitted for approval to the IRB. Participant compensation for travel and inconvenience was $25 for each completed interview. Participants who completed the entire study could receive a maximum total compensation of $75. Payments were made at the end of each interview.

Recruitment for the two phases of the study proved to be very difficult. The findings from the study provide a possible explanation for this difficulty. Most of the participants approached the study only when their doing so was suggested by a parent,
teacher, physician, or school nurse. No snowballing effect occurred in recruitment of participants, and recruitment lasted 24 months. Although many in the study described close friends who were overweight, only 2 participants came together to enroll; one did not meet the minimum BMI for inclusion in the study and was later enrolled as a contrast case.

Data Collection Process

Phase II

The initial data collection included standard demographic information and additional information regarding the number of family members residing in the home, number of parents in the home, number of grandparents in the home, and length of time the family has resided in the state and in the United States (Appendix A.). Prior to collection of demographic information, one screening question was asked: “Do you consider yourself to be overweight?” One adolescent responded that he did not consider himself to be overweight and was not enrolled in the study. Each participant was privately weighed and measured to ascertain a BMI greater than or equal to the 95th percentile for age. (see Appendix B. for complete details for collection of body weight and measurement of height). The BMI for age was measured on a CDC growth chart for male or females adolescents (Appendix C.) (CDC, 2000a). The investigator has demonstrated proficiency with measurement of BMI for age using the CDC growth charts as part of doctoral course work and in a professional setting as a pediatric nurse. A mobile scale with a capacity to 500 lb and a mobile stadiometer were used for measuring
height and weight. BMI was calculated by using the following equation: 
\[ \text{BMI} = \left[ \frac{\text{weight (in lb)}}{\text{height (in.)}^2} \right] \times 703 \] (CDC, n.d.)

The initial demographic and BMI data collection took place after the signing of the consent and before the first interview. All participants were assigned a participant number for the protection of their confidentiality. Three participants did not meet the minimum BMI to enroll in the study; one was later enrolled as a contrast case.

Data were collected initially during two audio-tape-recorded interviews lasting approximately 60 minutes each. All interviews were conducted by the principal investigator. The principal investigator was instructed in conducting interviews by completing a doctoral-level qualitative research course and by prior tape-recorded interviewing training that was critiqued by nursing faculty as part of the nursing education process. The audio-taped interviews were transcribed by a professional transcriptionist experienced in transcribing verbatim interviews. All interviews had a script with open-ended questions to focus the interview (Sandelowski et al., 1989). On the basis of the data collection, questions for the interviews evolved as part of the theoretical sampling process to validate, clarify, and identify variation in concepts (P. N. Stern, 1980). The theme of the first interview consisted of exploring the adolescent’s feelings about weight, and weight loss, and his or her perception of the need for weight loss. The script for the first interview is presented in Appendix D. In the second interview, the theme involved validating, clarifying, and determining differences in concepts identified in the first interview. Interview techniques to facilitate the collection of data included being silent, probing, and seeking clarification (Sandelowski et al.). The
data collected included the audio-taped interviews with the participants and field notes made immediately after the interviews.

The study did not require any activity different from those that the adolescent might encounter in routine daily life and, as such, was identified to have a Children's Risk Level of 1. No parental consent was required.

Data Analysis

Techniques Used in Data Analysis

Data were analyzed by using the process developed by Glaser and Strauss (1967) and further clarified by Glaser (1978). The process of data analysis was not strictly linear, but instead involved returning to the earlier data throughout the process (Glaser, 1978); see Figure 1 for diagram of the process). Various stages of the process included the initial collection of data, theoretical sampling, theoretical coding, theoretical memos, the identification of basic social processes, and theoretical sorting. The end result was the generation of a formal theory (Glaser, 1978). Each part of the process is explained in more detail in this section.

Glaser (1978) suggested developing a common sense suggestion of a theory as the interviews from the initial collection of data are read. This theory is later supported or rejected as it develops into a formal theory. After the interviews are initially read, data were subsequently evaluated to identify major categories (Glaser, 1978). Following completion of the initial interviews and coding of data, the interviews were reviewed by two committee members. It was noted that the initial questions used were not eliciting the depth of needed information. After carefully assessing the interviews, reviewing the
scant literature available for interviewing adolescents, and amending the interview guide, it was agreed a third interview would be used, if needed, to develop richer data. The questions used to guide the interviews were revised and submitted to the IRB for approval (Appendix D.). Subsequent interviews produced rich data and third interviews were not required. A detailed, constant comparison was done as the data were placed in categories until the data were integrated (Glaser, 1978). Theoretical sampling during the second interviews was used to validate emerging concepts (Glaser, 1978). The emerging theory from the data may be found to support evolving hypotheses or may fail to do so; other hypotheses may emerge from the data instead (Glaser, 1978). It is in the process of theoretical sampling that saturation of the categories occurs (P. N. Stern, 1980). P. N. Stern (1980) describes the process of saturation of the categories as the collection of data until no new information is emerging that would further explain the evolving theory. One example of theoretical sampling was the enrollment of the participant who perceived herself to be overweight, but who did not meet the minimum weight for the study inclusion criteria. Her participation allowed data to be collected to compare her experiences with those concepts that were evolving from other interview data. Theoretical sampling included data collected from the second interviews and further targeted review of the literature.

**Coding the Data**

The interviews were carefully reviewed and the data were placed in codes which help define the relationship between the data and the theory (Glaser, 1978). There are two types of codes. Substantive codes were identified to conceptualize the empirical
substance of the influences on the overweight adolescent. Theoretical codes were identified to clarify the relationship between substantive codes, are more abstract, and provide the link for the relationship of substantive codes in the theory (Glaser, 1978).

Substantive Codes

Substantive coding was accomplished using open coding, a process of placing the data in as many categories as may possibly fit (Glaser, 1978). Open coding provided direction for theoretical sampling and was guided by Glaser's (1978) rules for open coding. The initial open coding produced 248 codes. Sandelowski et al. (1989) described substantive coding as a process of reducing the data to summarize the substance of the interviews without attempting to build the theory. Glaser (1978) suggests that the first rule guides the analyst to ask three questions during open coding:

1. What are this data a study of?
2. What category does this incident indicate?
3. What is actually happening in the data? (p. 57)

The purpose of the three questions was to force the investigator to focus on patterns and to begin thinking conceptually about the data (Glaser, 1978). The research question was used as a focus in reducing the codes and codes were collapsed as commonality between the codes was identified. Glaser's (1978) second rule is that the data must be analyzed line by line and that was the approach used for coding the data. This type of coding facilitates verification, saturation and relevance of codes and reduces the risk of missing important details (Glaser, 1978). Glaser's (1978) third rule for coding is that the investigator must do his/her own coding. Glaser suggests that allowing others to code the data or relying on electronic coding reduces the contact of the investigator with the data,
and the activity of coding makes the investigator more open to the evolving theory
(Glaser, 1978). By coding the data the investigator begins to trust his/her own ability to
use the grounded theory methodology. The trust develops from working with the process
and experiencing the development of ideas/hypotheses about what is going on.

The fourth rule for open coding is to always stop coding to record a memo, which
is an idea that the investigator has about the data (Glaser, 1978). Recording ideas as they
occur provides additional data that will be worked into categories at a later point in the
process. Glaser's (1978) next rule is to maintain the focus on the substantive area and
the field of study. The purpose of this focus is to reduce the risk of getting away from
relevance, fit and workability before there is an initial definition of the conceptual
framework (Glaser, 1978). After the conceptual framework develops, comparison to
other areas is less risky and can be used to strengthen the theoretical content (Glaser,
1978).

Glaser's (1978) last rule is that no assumptions should be made regarding the
relevance of demographic variables such as age, gender, race, social class, until such time
as the variable emerges from the data as relevant. Glaser (1978) reports such variables
should earn their way into the study rather than being assumed and that most have been
found to be of little relevance in the study of processes.

The data are placed in substantive codes, compared with data in other substantive
codes and then assigned to categories, or clusters, to group the codes into areas that have
an obvious fit with one another (P.N. Stern, 1980). Categories are groups of coded data.
Substantive coding transitions from open coding to reduction when all the data have been
analyzed line by line and no new codes are emerging and categories have been
developed. Reduction is the process of comparing categories to begin grouping them together or identifying links between them. As links between the categories are identified, the numbers of categories are reduced and the core variables begin to emerge (P. N. Stern, 1980). The core variables explain what is happening with the phenomena that is being studied (P.N. Stern, 1980). P. N. Stern (1980) cautions that the comparative process is not a linear process but rather is a matrix operation and may have several stages proceeding at the same time. It is during the stage of reduction that additional sampling of the literature occurs to provide additional data related to the concepts that are emerging as core variables. Theoretical sampling was also taking place as part of this stage to collect additional data to support or reject the emerging core variables. The theoretical sampling process is done to strengthen the theory (P. N. Stern, 1980). Theoretical sampling occurs until no new data are surfacing; saturation, and previously identified codes are supported or rejected.

**Theoretical Codes**

Theoretical codes are developed by the investigator to provide hypotheses for how the substantive codes may relate to one another in the theory (Glaser, 1978). Substantive codes can be theoretically coded into a hypothesis as a cause based on the levels of response (Glaser, 1978). Theoretical codes are more abstract while substantive codes are more descriptive (P. N. Stern, 1980). Substantive and theoretical coding is taking place at the same time (Glaser, 1978). As part of the process of theoretical coding, Glaser's (1978) 18 coding families were reviewed and compared for relevance. The 18 coding families identified by Glaser (1978) are abstract concepts that may have similarity
such as process family, dimension family, degree family, cultural family and so on. Each grouping similar concepts around the topic area that is called a coding family. Glaser (1978) provides the coding families to spur consideration as part of the evaluation process but other concepts may be used that are not listed in the 18 families. In addition, theoretical codes may consist of more than one family (Glaser, 1978). For example the first family codes described is the six C's, causes, contexts, contingencies, consequences, covariances and conditions. However, most of the six C's will also involve variation in degree which is described in the third family of codes, degree.

It was through the process of constant comparison of the categories that the core variable emerges (Sandelowski et al., 1989). The core variable will explain the greatest amount of variance in the data (Sandelowski et al.).

Initial line by line coding of the interviews identified 248 substantive codes. Returning to the research question and recoding each interview over a 9-month period as data collection continued led to a reduction in substantive codes to 162, with a total of 32 categories. All interviews were read by the dissertation chair and by a second committee member assisting with methodology for the study. With their assistance, it was found that many of the categories did not contain information related to the research question. The core variable was identified through continuing to read the interviews and memos, evaluation of the core categories and information from targeted review of the literature relating to the core categories.

Glaser (2003) encourages using reading the data line by line as a method of data analysis rather than using qualitative software package. The analysis of data for this study, as recommended by Glaser, was done by reading the transcripts line by line,
sentence by sentence, to code the data and identify emerging concepts. Atlas.ti, a qualitative software package was added later in the study to assist in organizing and sorting of the data.

**Theoretical Memos**

Theoretical memos are individual notes that record ideas that begin during the coding process (Glaser, 1978; P. N. Stern, 1980). The ideas that are recorded will reflect relationships and theoretical ideas that occur to the investigator while coding the data. Theoretical memos were both handwritten or typed, but must be in a form that can be sorted easily (Glaser, 1978). Documenting the idea immediately prevents it from being lost. Glaser (1978) describes the basic goal of creating memos is to develop ideas which are free of constraints and that can be pooled and sorted. Effective sorting of memos requires that each be recorded with a title or caption relating to the data category and references to data categories noted within the body of the memo (Glaser, 1978). Memos may be whatever length is necessary to document the idea (Glaser, 1978).

**Documentation Plan**

A documentation plan (a record of activity during the study) was maintained. The types of documentation recorded included contextual, methodological, analytic, and personal-response documentation (Rodgers & Cowles, 1993). Memos included notes made relating to observations in the field during interviews, and all memos were descriptive rather than in outline or summary format. Contextual-documentation field notes were documented for each interview and included any observations by the
researcher related to nonverbal communication, setting, interruptions, or any type of communication which may not have been captured by the audio-taped interview. Contextual notes were dictated or handwritten as soon as possible following the conclusion of the interview. Contextual notes serve as a form of data during analysis of the data which means that the notes are coded and included in data categories (Rodgers & Cowles). Methodological documentation which was used to record all decisions about methods used for the study (Rodgers & Cowles, 1993), began in the planning stages of the study. An example of a methodological decision was the decision to add a third interview on the basis of findings from the first interviews and because of the recommendations of two committee members assisting with reviews of the interviews.

Analytic documentation includes theoretical insights and any analytic processes involving written notes (Rodgers & Cowles). Analytic documentation is part of grounded theory methodology and is normally referred to as theoretical memos. Personal response documentation will record the investigator's self awareness components throughout the study (Rodgers & Cowles, 1993). Personal response documentation will be done at any point in the study when the investigator identifies, either on her own or with assistance from committee members, that she may become aware of a personal response to data from the study.

One method of contextual documentation was the audio-taped interviews and transcriptions of the interviews. A transcriptionist experienced in transcribing grounded theory interviews was hired to transcribe all audio-taped interviews. The audio-taped interviews were recorded using two tape recorders at the same time. The second set of tapes was sent to the transcriptionist weekly as the interviews were completed. The first
set of audio-tapes were secured in a locked location. The second set of audio-tapes were returned with the typed transcripts of the interviews and were destroyed after confirming the transcription is accurate. Transcripts of the interviews (with only the participant identification number) were maintained in a location separate from the audio-taped interviews. Audio-tapes will be destroyed 12 months after the completion of the research study.

Credibility, Fittingness, and Auditability of the Data

Traditional methods used in quantitative research to demonstrate validity cannot be used in qualitative research (Beck, 1993). Beck (1993) relates internal validity in quantitative research methods to demonstrating credibility in qualitative methodology. Chenitz and Swanson (1986) describe validity in grounded theory data analysis based on the early work of Glaser and Strauss in 1967 as requiring that the theory must have fit, grab and work. "Grab" means that the theory that evolves from the data has meaning or relevance to the users of the theory (Chenitz & Swanson). Beck describes credibility as having characteristics similar to the definitions of "grab" such as having readers of the theory agree that the findings have meaning from the data. Credibility of the data will be demonstrated by maintaining field notes relating to researcher-participant relationships, by providing the committee with excerpts from the interviews, and by validating the findings with the participants (Beck). The credibility of the findings were reviewed and validated by 15% of the participants at the conclusion of the study. This was accomplished by reading the theory that has been developed to the participants and
asking them if they agreed. The participants were contacted in person or by phone for verification of the credibility of the theory.

*Fit* is described as categories that come from the data and can easily be applied to the data (Chenitz & Swanson, 1986). Beck (1993) describes a category similar to *fit* as *fittingness*. Beck relates fittingness in qualitative methodology as similar to external validity in quantitative research methodology. Beck describes the assessment of fittingness as including two parts. The first part of the assessment of fittingness is an evaluation of the use of theoretical sampling to assure sampling included adequate a range of participants experiencing the phenomenon of the study. The second part of the assessment of fittingness is an assessment of the findings to assure the results fit the data presented. The fit/fittingness was assessed on an ongoing basis with the chair of the doctoral committee and the member of the doctoral committee assisting with methodology to assure agreement of the fit between the data and the findings. For the theory to work, it must be relevant or useful (Chenitz & Swanson).

Although an investigator can never be completely free of biases, assumptions, or beliefs, an awareness and an attempt to identify differences between the researcher and the participants are an important part of ensuring that comparative analysis is as objective as possible (Mallory, 2001). To this end, the investigator worked closely with two members of the dissertation committee to assist in the identification of any biases, assumptions or beliefs which may intrude on the analysis of data. Beck (1993) identifies the use of others, such as a panel of experts, to prevent bias as another way of demonstrating credibility.
Beck (1993) describes *auditability* as the ability of others to understand decisions that were made at all stages of the study by reviewing documentation. Beck (1993) suggests that auditability in qualitative research methodology provides a similar function to reliability in quantitative research methodology. The auditability will be assured through the development of a plan for documentation.

*Trustworthiness* of the data is described as a set of criteria that assess the quality of the qualitative study (Schwandt, 1997). Demonstration of trustworthiness was accomplished by maintaining the documentation plan. An audit trail consists of a list of decisions relating to the study, including those associated with the analysis of the data and methods, and of the actual data; this trail allows another researcher to examine the study decisions (Cutcliffe & McKenna, 1999). The audit trail will be maintained in a locked file cabinet as a part of the documentation plan for 5 years after the completion of the study. Additional strategies to ensure credibility of the data were organized to include assessment of threats to three areas of understanding: description, interpretation, and theory (Maxwell, 1996).

Description threats include the accuracy of the data collected (Maxwell, 1996). Transcription was validated for accuracy by listening to each audio-taped interview and concurrently reading the transcribed interview.

Interpretation threats include the risk of the investigator’s projecting personal values or views into the data interpretation and/or failing to listen to the participants. Two members of the dissertation committee read 100% of the interviews until saturation had occurred to ensure consistency of the coding process. When there was an absence of consistency in the coding, the two experts either met with the investigator in person or
participated in a conference call to discuss the findings and the potential causes for and solutions to the differences. Coding decisions were documented in the memo process.

Theory threats include a failure to adequately explore alternative explanations for the phenomena (Maxwell). Discrepant data and negative cases were explored through a review with the two doctoral prepared qualitative nurse experts to identify any underlying meaning or threat to the study validity (Maxwell). The study proposal was amended to include a contrast case for comparison of the findings to an overweight Hispanic adolescent who did not meet the BMI inclusion criteria. As a contrasting case emerged in the data analysis, sampling continued to assure other contrasting cases were adequately assessed. Contrasting cases are discussed in the findings and were reviewed with members of the dissertation committee.

Two specific areas of validity threat, researcher bias and researcher reactivity, were monitored in this study. Researcher bias (Maxwell, 1996), when an investigator projects his or her personal beliefs into the data analysis, was monitored through discussion with an experienced qualitative researcher on the dissertation committee. Reactivity is the influence of the investigator on the participants through the use of interview techniques that may influence the data collected. Transcripts were carefully monitored by two members of the dissertation committee for evidence of reactivity. Neither area presented as a significant problem in the interview process.

Protection of Confidentiality

When participants were enrolled in the study, a code number was created for each participant. All data collected were maintained by participant number only. The
participants verbalized understanding the process of protecting the confidentiality of their interview. The master file, with the participant name and identification number, was maintained in a locked file cabinet separately from the taped and transcribed interviews. Signed consent forms for participation were maintained with the participant identifier information in a locked cabinet. Only the principal investigator had access to the participant identification.

Potential Difficulties, Limitations, and Alternatives

A potential difficulty of the study involved establishing effective communication with the overweight adolescent population. The age gap between the investigator and the adolescent was significant and couldn’t be ignored as a potential threat to establishing trust and effective communication. However, the investigator had over twenty years of hospital experience working in acute care pediatrics with adolescents, and in the management of emergency situations involving adolescents. The investigator also had experience working with overweight teens. Her experience included group and individual work with overweight adolescents teaching lifestyle change. Trust was established by carefully maintaining a professional setting where interviews were conducted and allowing the adolescent time to get comfortable with the investigator. Most of the adolescents talked more openly in the second interview after finding nothing they had disclosed in the first interview was shared with other adults.

The investigator attended an undergraduate nursing program in a community with a majority of Hispanic residents and participated in extensive education in cultural differences. In addition, the investigator had lived in a predominantly Spanish-speaking
community on the Texas-Mexico border and worked with Hispanic families in a health care setting.

To facilitate establishing trust with the Hispanic adolescent, the investigator asked the focus group in the pilot study for ideas for how to best approach the participants. Identifying a safe environment for interviewing the adolescent participants was part of establishing a trust relationship. The focus group participants provided suggestions for both the location of the interviews and the dress of the investigator. They suggested that no interviews be done in the participant’s home because the participants might be asked by neighbors who was visiting their home and they could be uncomfortable sharing information about participating in a study for overweight adolescents. A house used for staff education located behind a large medical center was used with the approval of the focus group participants. The focus groups commented that the term Latino was funny and not something they used in this region. They suggested using the term Hispanic instead and that was used on flyers and in newspaper ads for recruitment and will be utilized throughout the presentation of findings and discussion.

Description of the Sample

Nineteen Hispanic adolescents ages 16 and 17 years met the inclusion criteria and were enrolled in the study. The sample included 10 females with an average BMI of 39.32 and an average age of 16.4 years. The 9 males enrolled in the study had an average BMI of 41.16 and an average age of 16.33. After more than half of the interviews were completed, IRB approval was requested for an amendment to permit the enrollment of one female participant in Phase II who did not meet the minimum weight for
participation, but who had responded to recruitment flyers to join the study. The participant met all other study criteria, including affirming that she believed herself to be overweight. She was included in the study because her data would serve as contrast to the findings of the study participants; as a result, the total number of adolescents enrolled increased to 20.

Participants were enrolled from five high schools within a 90-mile radius. The majority of the participants and their parents were born in a southwestern state of the United States, with the exception of one participant who was born in Mexico. Sixteen of the adolescents reported that English was the primary language spoken in their home, and the remainder identified Spanish as the primary language spoken in their home. Demographic information for each participant is provided in Table 3.

Six of the teens lived in single-parent households, and two had parents who were disabled. Several of the teens had responsibility for the care of other children while parents worked. The adolescents were active; forty-five percent worked after school and on weekends in addition to attending school full time. Nearly half (40%) of the teens described sleeping during the day either in class or napping, many times due to limited hours of sleep at night due to school, family, and work responsibility. Teachers were described as understanding that the teen worked and as allowing them to sleep if their schoolwork was finished. Four of the teens marched in the high school band, one marched with the Reserve Officers’ Training Corps, one was a member of the high school dance team, and 3 participated in school athletic programs such as football or track.
Table 3

**Study Participants (Phase II)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Grade</th>
<th>Gender</th>
<th>BMI</th>
<th>Parents in the home</th>
<th>Siblings in the home</th>
<th>Grandparents in home</th>
<th>Language in the home</th>
<th>Years in the U.S.</th>
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<td>1</td>
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**Note:**  
BMI = body mass index;  
E = English;  
S = Spanish;  
*b* Contrast data  
*a* Pseudonyms were used to protect the confidentiality of the participants.

The interviews extended over 2 years, a period longer than anticipated when the study was planned. The time required for data collection was extended because of difficulty in recruiting participants, reevaluation of questions to improve data collection, difficulty in reaching participants for second interviews, and a family illness of the principal investigator. Of the 19 participants, 15 completed a second interview. One participant agreed to a second interview, which was scheduled on three separate occasions, however, the scheduled appointments were not kept. One male participant, the largest participant in the study, was hesitant to do the first interview and declined to do a
second interview. One participant could not be reached who was planning to attend college out of town.

Contrast Case

There was one contrast case. The participant did not meet the minimum weight to participate in the study but identified herself as overweight. Her BMI was at the 88th percentile of the CDC BMI-for-age chart and this index would place her at risk of being overweight.

Summary

A discussion was presented in this chapter of the grounded theory methodology used in this study. Grounded theory was selected to provide information needed to explain why well designed quantitative intervention studies with overweight Hispanic adolescents failed to achieve sustained results and had high attrition rates. The study design was presented in detail, including methods used for the evaluation of the data. In addition, specific recommendations of the focus groups and specific characteristics of the sample were discussed. Chapters 4 and 5 present the study findings. The analysis of the findings is given in chapter 6 and includes the implications of the findings for future research.
Aims of the study

Literature is reviewed

Targeted sampling (theoretical sampling) based on the emerging concepts. Question: is this the same for adolescents at risk of being overweight (between 85th - 95th percentile of CDC growth chart). Contrast case enrolled. Coding continues

Interviews begin

Comparison of the interviews begins as interviews continue
Substantive codes were identified

Interviews do not achieve rich data, reviewed and revised

Interviews resume with revised script

Comparison of data continues. Literature review resumes for example as it relates to the emerging concept of teasing. Theoretical sampling & comparison of interviews continues until there is no new information emerging. Statements (data) are placed in categories as constant comparison is taking place between the interviews in a line by line analysis of the data.

Links between the categories begin to emerge from the constant comparison of the data revealing processes. Hypotheses are forming. For example: failure at school and overeating, when both occur there is anger; the anger provides a link between overeating and failure and is a theoretical code. One central code emerges as the core variable; the one that several concepts come together to form.

Validity of the data: investigator answers questions to the committee: is there a fit from the data to the emerging theory? Does the theory have meaning or relevance, is it useful? Peer review: do overweight adolescents agree with the fit?

The theory emerges from the core variable and the categories. The theory is supported by the data.

Figure 1. The research process
CHAPTER 4

FINDINGS I

Being Overweight: Peer and Family Influences

The 19 participants discussed the trajectory of being overweight from their earliest memory through their high school years. Experiences the overweight adolescents have in common are presented and contrasted in the next two chapters. These chapters are divided in a manner that provides the beginning experiences of being overweight in chapter 4 and the responses to the experiences of being overweight in chapter 5. In this chapter, I begin with participants’ earliest memory of being overweight, the response of their peers to the overweight child and adolescent, and the influence of their family. The core categories and related themes that emerged from the analysis of the findings provide the foundation upon which I built my understanding of the adolescents’ perceptions of weight and weight loss management. The specific aims of the study were to identify the factors that influence perceptions of weight and weight loss management of the Hispanic overweight adolescent and to develop a theory for weight loss interventions from the perceptions of the Hispanic overweight adolescent. The research question guiding the analysis of the findings was as follows: What are the factors that influence the Hispanic overweight adolescent’s perceptions of weight and weight loss management?

In this chapter, I first describe the beginning stages of the trajectory of the overweight adolescent, the core category of “I’m different” (see Table 4). For several of the participants, this trajectory began as early as preschool or early elementary school years.
The recognition of physical difference from others was described by the adolescents as their first memory of realizing that they were overweight. The difference was not described as having significant meaning until it was interpreted by their peers through teasing and bullying behaviors, the second core category discussed in this chapter (see Table 4). Bullying and teasing by their peers established not only that the overweight child was different but that being different was not acceptable. The influence of the family, the third core category discussed in this chapter, mediates the influence of the peers because of the family’s acceptance of its overweight members. In chapter 5, the discussion of the findings continues with a description of the later stages of the trajectory of the overweight adolescent as they respond to teasing and bullying with anger, depression, avoiding the stigma of being overweight, failed attempts at weight management, and the cumulative response resulting in a day-to-day burden of being overweight, the weight of being overweight.

Influences of Peers: “You Are Different”

Half of the study participants described being overweight in preschool or elementary school years. When asked how they determined they were overweight, they described comparing themselves with other children and realizing that they were “different.”

Noah: I remember my first memory of it, being somewhere around the age of 4, and like it was the first time I was actually just like noticing or whatever….My shirt was getting pretty small and it wasn’t getting small here, but it was getting small here (points to stomach) and I was just kinda looking down, I was like, why do I have that?

Sam: Just, I was just self conscious myself. …I’d look at me and I’d look at other kids and I noticed that I was bigger, taller too, but still I saw that
my stomach and my arms were larger. It is kind of depressing… I’d go to a swimming pool in the summer, go run around with your shirts off, little things, that I just noticed… that I was bigger, my chest was bigger, my stomach was bigger, my arms.

The term different surfaced as many of the adolescents described the communication and focus of the other children. One teen clarified that anything perceived by other children to be different would be considered unacceptable and that such a difference might be having a language barrier, living in a mobile home, not having the favored style of clothes, or being overweight. As they began to realize their difference in body size from other children, that difference was reinforced by their peers.

Elisa: I remember one time in day care …one of the little girls …started making fun of the size of my underwear because they were bigger than hers… and they would call me a lion. And they would just make fun of me because I was different, I was bigger than them…so I was pretty much there for awhile like by myself, with like no one to talk to.

Sam: Whenever you’d walk out, at a recess or after school, they would just yell at me, call me fat…. I knew myself that I was big, I was different from these other kids…That was about kindergarten, first grade.

Kristina: Well, when kids started calling me “fatty” and I had this yellow vest, it was bright yellow, with me they started calling me “twinkie” and I didn’t like that. I knew that I was overweight, but I just didn’t want to admit it.

Teasing and Bullying

As the young children realized they were different in size from other children, their peers continued to focus on the difference throughout their school years. Teasing behaviors such as name calling were described by 13 (68.4%) of the 19 participants with 12 reporting the teasing was not playful.
Angela: I’d say back around fourth, or fifth grade. I’d always play on the jungle gym, they’d always call me jelly rolls, bully me. They’d be like you need to get off ‘cause you’re going to break it.

Mark: They would tease me ‘cause like I have the fat, basically, on me. And so they would tease me about it. I don’t see, I don’t even remember what they would tease me about, but I knew that I would get teased about it. ‘Cause like I was bigger than them and I had fat on me.

One of the teens described her attempts to stop teasing from older children by participating in the teasing behavior toward younger children:

Bethany: I picked on other little kids. It was bad. Like every time I got home, I was like I’m being somebody who I’m not, just to please them, and to quit being picked on too. And it made me feel really bad because I knew that I was hurting other kids’ feelings like mine was when I got picked on…And then, I thought that if I picked on them, you know, they wouldn’t pick on me.

Several teens described an escalating intensity of teasing by their peers in junior high school. It was during this time that teens began to describe bullying that included behaviors such as pushing, shoving, and hitting.

Sam: They would push me or make fun of me. Just walking through the halls going from class to class. Some of them were, they were big, but I guess, not as big as I was. …I mean that’s what they would tell me. They would tell me about my size. They would make fun of me because of that.

Noah: Junior high, yeah they actually made fun of me even more…it just got pretty bad in junior high. People would openly say you’re pretty fat, or something like that and yeah…I think it’s a general trend…you can be the nicest person in junior high but if you’re overweight, people are going to pick on you regardless of how nice you are to them.

Gender differences between teasing and bullying emerged during junior high school, with females describing more incidents of being teased and/or socially ostracized. Males began to describe being physically bullied:

Noah: I remember in eighth there was a guy that knocked me down and rubbed his crotch in my face …another time …one of the richest kids and the snobbiest kids happened to be in my PE class and one day he pushed me down the bleachers and my coach didn’t see it…I decided to go to the principal and tell them the
entire story and then he got a week of OCS [on-campus suspension] and he started bullying me more.

Both genders described becoming a bully, using their size to intimidate, or observing that other overweight adolescents were bullies:

Angela: But like, there’s some people out there that feel so like, self-conscious I guess, of trying to go talk to other kids. It’s like, they feel they should give revenge back to them by being mean, or like by getting them in trouble, you know being a bad guy.... So, it’s like they try to, try to be mean to other people to get kind of like a feeling out of it. Trying to feel good about themselves that way. But really they’re just bringing themselves down. .. Once they’ve been bullied, they feel like, well you know, I don’t feel good about that, I guess. I should make them feel bad, and I’ll do it back to them.

The “cool kids” and “skinny girls” started to be described as the ones with many friends who were accepted by the age group. Overweight adolescents who were different found themselves socially isolated from the “in” group and sought friends who would accept them. Their friends were all sizes, but many had different issues that might have contributed to being socially marginalized. Some of the friends were described as having been in abusive or neglected family situations; others were overweight, and one group consisted of skateboarders with piercings and tattoos. The common ground for all friends from junior high was that they did not tease the overweight child. Being able to trust each other and going through difficult times together were described as important parts of establishing their friendships. Seven described their friendships in high school as having been established in junior high, one had maintained a friendship from kindergarten, and one had been close friends with another adolescent since the elementary school years. One described his only friends as being online gamers. The teens mentioned developing few new friendships during the years in high school.
Kristina: Well, junior high was basically the same. I got teased a lot; I didn’t have very many friends. The friends I have now are the ones I had in junior high.

Angela: At that point, I didn’t really have that many friends. I really didn’t until I met another person B., she was actually a little bit more overweight than me and she experienced what I was experiencing, so we started talking…After we started talking, I didn’t really hear anymore teasing ‘cause I wasn’t really with those people that were teasing me anymore. So it was just me and her really.

Several teens withdrew from others to avoid teasing and experienced social exclusion because they were overweight. Their negative difference was reinforced in many interactions with their peers, including selection for teams, friendships, and sports participation. Most stated that teasing decreased in high school but that the social exclusion continued.

Sarah: You see a bunch of pretty girls, like I have a class with a bunch of [members of the drill team] and they have like millions of friends. And I’m all like wow, I have like what five?

Noah: I’ve been in there all semester, yet I barely know anyone in there, I barely know their names, even though there’s only 19 of us. It’s actually kinda sad.

There were subtle differences in between trajectory of the adolescents who became overweight in preschool and elementary and that of adolescents who became overweight near the end of junior high or in high school. Robert became overweight at the age of 12. He had played softball through junior high; after his family moved, he gained weight because he could no longer qualify for a team in a larger community. Except for playful teasing with one brother, whom he described as having a similar weight problem, he had not experienced teasing in the new community while becoming overweight as a young teen. Katia, who became overweight in the 10th grade, described a similar trajectory. She quit playing soccer after she finished junior high and started to
gain weight when she was no longer participating in athletics. Because she had become overweight in high school, she had not experienced teasing through elementary or junior high. Katia had experienced teasing in high school from males who had been her friends in earlier years.

Katia: The football players but that’s really weird because I’ve known them since like the sixth grade and they’ve changed so much and so have I, but I’m not frickin’ mean about it.
Interviewer: Mean?
Katia: Well, when they say fat jokes.

Elisabeth became overweight in high school after a serious illness of a parent disrupted the balance of the family. She described what she called stress eating. Although she did not believe she was treated differently by her classmates since becoming overweight, she did notice changes in the way other peers treated her when she was outside the small high school that she attended. Although not teased, she was socially ignored when in other settings after she became overweight. She also related that a younger sibling had gained a significant amount of weight after the family crisis and was experiencing the pain of teasing in junior high.

Only 5 of the 19 participants did not describe personal experience with teasing or bullying behaviors. Of these 5, 3 did not complete second interviews; therefore, whether the experience of teasing would have been discussed in the second interview is unknown. Three of the 5 reported becoming overweight in the eighth or ninth grade. The 5 who did not describe bullying or teasing behaviors include these respondents:

1. Chris completed only one interview, became overweight in the eighth grade and had the lowest BMI (31.2) of any participant enrolled in the study.
2. Amos completed only one interview and had the highest BMI (54.9) in the study. He was very withdrawn in his initial interview, and I later learned he had told others he had decided not to participate in the study.

3. Faith completed only one interview, became overweight in the ninth grade, had graduated from high school at the time of the second interview, and was employed.

4. Hannah completed two interviews and had attended preschool and elementary school in Mexico.

5. Elisabeth completed two interviews, became overweight in the ninth grade, and had not experienced teasing or bullying but described social exclusion that she perceived to be based on body size.

Amos and Faith completed interviews early in the study, prior to modifications made in the questions to improve data collection and declined attempts for second interviews. The second interviews with other participants were more relaxed than the first interviews as trust was established between the investigator and the teen. After the first interviews, 3 of the teens expressed concerns related to trust. One mentioned he felt cautious because he was not easily accepted in the community because his agnostic beliefs. Another expressed a concern that I might contact her parents and share sensitive information she had provided. The third feared the written content of her interview might be misplaced and others would read what she had said before her name was removed. I reassured the teens that I was careful to protect their confidentiality and reviewed the process we had previously discussed for assigning participant numbers.
Several teens also expressed concerns that the school administration or other adults could stop the teasing and bullying behaviors of students:

Angela: Now that I think about, teachers don’t really know about it unless they bring it up in class. Like some kids, get pushed down the stairs, cause they don’t like them cause they’re fat, or they’re ugly. They’ll just push them down the stairs. I don’t know, they’re just bullying, they’re always picking on them, you know hitting them in the head, throwing food at them, stuff like that. I know I stop it when I see it, it gets me mad. And I stop it. Or if they’re doing it to me, I automatically tell the principal. I don’t go tell my teacher ‘cause the teacher won’t do anything. I go tell our assistant principal...The principal will call them to the office, they’ll get a written referral. Sometimes, on one occasion one got sent to SAC [suspension off campus], one got sent to C. [another location off campus], one got sent to ISS [in school suspension]. Just different consequences, they do get punished. That’s a good thing actually. I’m glad they get punished, maybe they’ll actually learn from it. But they do get punished.
Interviewer: Do you think they’ll learn from it?
Angela: Actually, no. No matter how many times they actually get in trouble, I’m like they’re still going to go on with their lives, you know. After awhile, after not being in their punishment, after awhile you’ll forget about it and it’s like your daily routine all over again. They’ll go back to it.

Interviewer: So you think there is a retaliation thing when the adults get involved to stop it?
Noah: Yeah, … ‘cause at that time no one is mature enough to say “ahh I was wrong and I deserve what punishment I got,” back then it was like “you tattled on me” and they didn’t really see what they did as being wrong. They can see someone else do it and say it's wrong, but as long as they do it it’s fine and I’d say it’s just pure immaturity.

In summary, 74% of overweight teens described teasing and/or bullying behaviors that may extend from preschool through high school years. Most teens described some relief from teasing by their junior year of high school even those who had experienced a very difficult time in earlier years.
Table 4

**Core Categories: Different, Teasing and Anger**

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<tr>
<th>Participant</th>
<th>BMI</th>
<th>Age first realized overweight</th>
<th>Teasing victim</th>
<th>Bullying Victim</th>
<th>Bullying observed</th>
<th>Size to Intimidate others</th>
<th>Anger</th>
<th>Number of interviews</th>
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*Note.  BMI = body mass index*

*Pseudonyms were used to protect the confidentiality of the participants.*

**Influences of Family: Acceptance of Teen Not Being Different**

The majority of the adolescents participating in the study described positive family involvement in social activities, efforts toward weight management, and
influences in day-to-day meal choices. The Hispanic overweight adolescents described a childhood of two distinctively different messages. While the young child is discovering a difference from others by comparing body sizes and shapes, they are receiving a message from their peers that difference is not acceptable. During their time with their family, they are receiving a different message. The family provides a safe environment that conveys a message that they are not different, that they are fine, and that they are like other members of their family. Both male and female adolescents described confiding in a parent about conflicts with their peers and their teachers. The adolescents’ discussions of the role of their family included descriptions of the adolescents’ sacrifices for the good of the family but did not indicate that the teens considered such sacrifices unfair. One participant described his parents’ decision to move the entire family from their rural community to the larger city to shorten the drive time for an older sibling who was attending a vocational training program. The family move provided the support needed for the older sibling, but for the participant it involved a personal sacrifice in giving up his childhood friends, attending a new school and giving up his participation on a sports team. Another described her plans to attend a college in a community that would allow her to schedule her classes at times that she could take her grandfather for dialysis. Another described assuming responsibility for an older, special-needs sibling, as well as for a younger sibling, when her mother worked. The commitment of the adolescents to the family revealed an interwoven set of influences in all aspects of their lives.

Descriptions of the participant’s families presented a diverse picture of divorced and remarried, single-parent, and traditional two-parent households. Several of the participants lived in homes of shared cultures. Their descriptions of their family often
included having grandmothers who prepared special meals, attending extended-family gatherings on weekends, assisting with the household chores and care of younger family members and respecting their parents. As the teens talked about their families, food emerged as part of many discussions of family.

Family influences on eating habits were described by over half of the adolescents. While many of the families helped the participants with exercise choices and participated with them, food choices proved to be more of a challenge. Influences included things such as portion sizes:

Elisa: When we ate lunch we had like the taco shells and then my mom made some flat so they were like chalupas, she made beans and she had the carni, the meat…and like when she served us she was like “Are you human or not human?” And we’re like “Oh, we’re not human.” So she gave us a big serving, she gave us a big serving that means that we really don’t eat nothing later on, throughout the evening. If anything, maybe just a little snack, but nothing bigger than….
Interviewer: So she said “Are you human or not human?”
Elisa: Yeah, it’s our little thing, she’s like “Are you human?” If you’re human then you get like you know, the little portions and like that. If you’re not human, then you get a little bit more.
Interviewer: What does that mean?
Elisa: You don’t get whenever you serve yourself, the proper exact amount, you know like you can have like this tablespoons of this and this, you know a little bit of that. And so she calls that human. And if you’re not human than you just get mom’s serving, she’s going to serve you however she feels like serving[laughing]. That’s what we call it.
Interviewer: So you were not human?
Elisa: I was not human because I had only had a donut and I was hungry. It’s not like too much. It’s just like where she knows you’ll be OK with it.

Amos: My mom, would say, “Whoa, how many like steaks?” Hello, I don't know how many I'd like! So she can cook a certain amount, so that way I wouldn't, if she makes more than that, I would keep getting more and more.

Timothy: They tried getting these healthy foods that you like put in the freezer and stuff. Those didn’t work at all. Like you’d eat it and you’d still be hungry, so you’d eat another one. It was just pointless. I just didn't, it didn't work for me…My parents, they picked those out.
Families sometimes had difficulty achieving success with changes in food choices:

Sarah: So we’ll go out for fast food. So, it’s really hard to diet. I think the only way I'll be able to diet is to cook my own food. But, I pretty much won’t be able to do it if she’s cooking. ‘Cause the way my brother eats and my mom’s boyfriend eats, so it’s real hard. …we try and diet, and then all you hear is them complain. “Why would you do this, why can’t you cook something we like?” And finally we’ll change and we’ll let them eat whatever they want. And then it sticks… My brother and my mom’s boyfriend, they get tired of eating baked chicken, baked pork chops, salads. We’re like just eat it, it’s food. But they like to go out and eat every now and then and stuff. It’s real hard.

Noah: We tried to get my mom on diets, but no one in my family is good at keeping diets… uhh really we haven’t actually tried anything… closest thing I can say I’ve tried is exercising and that still didn’t help…the first diet that we actually tried was the diabetes diet because my dad is diabetic so he had to start that and after he started it he lost 30 pounds. Of course he hasn’t lost any weight since then and we never lost any. So just that didn’t work. We tried messing around with Atkins for a little while had no effect. In fact, we actually gained weight but don’t ask me how we gained weight off of Atkins, but somehow we managed to.

Higher calorie foods were a significant temptation in most families. One participant described her father’s picking her up from the high school for lunch and taking her to purchase fast food from one location and sweetened tea from another location. The same teen described the special donuts her grandmother would purchase on Sunday mornings and share with her after church. One grandmother stopped by several evenings a week and took the teen out to dinner at Mexican restaurants; another grandmother cooked dinner at her house several nights a week for the family. Many of the families had evening meals together. Food choices ranged from fast foods purchased on the way home from work to more traditional foods of the culture, such as quesadillas, tortillas, and menudo. Families gathered and cooked together for celebrations:

Chris: Like my brother just came down, just my brother coming down, it was my mom, dad, me, and my brother. We had like big barbeque and so we just you know sometimes we just celebrate when they come down and like when we go visit my grandma, we always just go out to eat you know and then like when there’s a big get together or celebration for something, there’s always a bunch of
food. Like on Easter, we have like a reunion and stuff and when it’s comes to over 35 to 40 people at the reunion there’s going to be a lot of food …we make it all there, we give everybody one day to get there and then the next and then that night we cook all the food and stuff. .. my grandma or my grandma's sister, they’re always in the kitchen just cooking for their sons and daughters. Oh my grandma does some good cooking.

Interviewer: Like Memorial Day is coming. What do you think you will do? Bethany: We’ll probably invite the family, go over to one of our relatives’ house have barbeque and pie maybe.

Enjoyment of good food was part of family life, and being overweight was not limited to the adolescent in most families. Sixteen of the teens had at least one overweight parent, more than half had an overweight sibling (Table 5). Families played a large role in the adolescents’ life away from school; in contrast to their school environment, the environment provided by the family was one in which being overweight was likely to be accepted. Some parents commented on the adolescent’s being overweight, but the influence was gentle, and was described by the teen not as judging, but more as coaching:

Angela: My mom noticed a long time ago, she’s like “Mija, [my daughter, or sweetheart] you’re gaining weight. I was like “Okay.” She said “Just don’t, just try not to gain so much weight, I don’t want you know being really, really big”… worried about if I’m going to be getting around, stuff like that. I’m like okay. So she, she noticed me when I started gaining a whole lot of weight. She told me, “You know hey, you know you’re gaining a little bit more weight.” I’m like “Okay.” So she started helping me out and she’s like “You’re good.” So I mean, she kind of hinted to me, “Hey, try not to do so much of this, try not to be so lazy,” stuff like that. She hints me, like family they’ll help you out, they’ll hint you.

One adolescent described restrictions in her home against teasing about weight, using the word *fat*, or even discussing being overweight. Parents were likely to be reassuring when the adolescent was teased by others, and several said their parents did not consider them to be overweight:
Interviewer: Does anyone in your family think you’re overweight?
Elisabeth: No they don’t. My mom just, you know, she always tell me “You’re not supposed to be a size 2.” I don’t feel, I don’t feel like I’m overweight all of the time.

Elisa: I was just like “Well you know I’m big” until my mom would tell me she was like “Oh well maybe you’re different, maybe you’re, you know, special that way.” She was just like, you know. She wouldn’t tell me that I was big, she didn’t tell me I was fat. She was like “You’re not fat,” she was like “You’re not.”

Interviewer: What did they say about you being overweight?
John: To them it really wasn’t, that’s the way my dad’s family kind of was, it was like the males were overweight and the females were like average like my sister wound up growing so she wound up losing it like that but she got real into running; me, it was just like the guys were basically always overweight
Interviewer: They didn’t think much about it?
John: No, it was just normal to them.

Not only were the adolescents and many of their parents overweight, but members of the extended families were also overweight:

Kristina: I know most of the people in my family are overweight. My tia’s overweight, my aunt, my mother’s overweight, some of my cousins are overweight.

Olivia: Actually my whole family is pretty much overweight except for my cousin.

Elisa: Nobody tells me that I am, like, I know myself because my dad’s overweight, my mom’s overweight, my grandma’s overweight, pretty much most of my family’s overweight and so they really don’t say nothing to me because they’d be pointing a finger at themselves too.

Sam: My mother’s side of the family is bigger…And all of them except, I think my uncle who is in the military and he learned to keep himself down and keep himself in shape, everyone else is obese, I guess.

When asked whether their parents were overweight, the teens sometimes looked bewildered and uncertain and finally said they thought they were overweight.

John: My Mom’s more the type that doesn’t really care about nothing, she eats whatever she drinks whatever and she really doesn’t care about it.
Interviewer: Is she overweight?
John: In a way, yes, like she’s overweight, but she don’t look really really bad so yeah she still is.

Interviewer: Are your parents overweight?
Chris: I don't, I really can’t recall that because you know, I can't say if they are or not, or anything.
Interviewer: They don’t seem overweight to you?
Chris: Not, not to me. To me, they’re just loving parents and I just really don’t judge.

Chris clearly vocalized overall implication that “to judge” based on size did not constitute acceptable behavior in the Hispanic families. Being big in the Hispanic family was not believed by the teens to have the same meaning that it might have in other cultures:

Timothy: It’s more accepted, I think, that you’re Hispanic being overweight and like, my grandmother is the closest thing to a Hispanic mom that I've had because my mom’s all White and she [the Hispanic grandmother] always praised me and my brother, she’d always be feeding us and always be trying to make us better. We were like her little princes and like if we were White, you know, it seems kind of different. It just, it makes a big difference. It’s more accepted in the Hispanic to be overweight.

Interviewer: That they are not judged at home for being overweight?
Angela: Oh no! No, no, they’re not. Like my brother, we call him Gordito, that means fat little kid in Spanish. We call him Gordito, they call me Gorda. I mean it’s just like a nickname… It’s a positive way. I’ve noticed that too. Like, they call me Gordita, Gorda, I mean, anything, or Flaca, you’re too skinny. Like, sometimes we’ll be like “You’re skinnier than a piece of paper,” you know? But we’ll play with it, I don’t know. I noticed that though, only Hispanics do that. Like if I were to tell one of my friends who were American, they would be like, “That’s messed up.” I was like, “Yeah I guess it sounds a whole lot better once you say it in Spanish.” ‘Cause like when we say it in Spanish, it seems so much better than when you translate it in English.

If the adolescent voiced concern about being overweight and asked for support, the parents tried to try to help the teen. Most adolescents stated that, if they need assistance with healthy food choices, they would ask their parents for help. Families were described as being supportive but not as establishing goals for change.

Hannah: They always respect me, they never tell me anything bad.. And then they say that, it's my life, my situation... they always tell me that if I want any help,
they can help me or that together we can try like, we can find a solution for me, or be overweight. But, I think that if, it’s hard to be overweight, I know that. ..I can understand all the people that are like overweight, and trying to lose weight. But, the one thing they have to know, to say that if all my family helps me a lot, then I can made it...because you feel like, you’re not by yourself.

One father had accomplished a significant weight loss. Subsequent to the father’s weight loss, the teen had accomplished a sustained lifestyle change. At the time of the second interview, he had maintained the lifestyle change for one year. When describing influences for his success, he described a father who had accomplished and sustained a significant weight loss and who served as his role model. He also mentioned receiving from his family a membership to the YMCA for his birthday; the family was of modest income, and the teen highly valued this gift. A second teen reported a 17-lb weight reduction in a three-month period near the end of the study. She was very excited about her progress and had accomplished the change by working out with friends at the YMCA. In her first interview she had commented that her family did not have enough money for memberships at health facilities, but she said her mother had made some special arrangement to obtain the membership for her and that she was using it 7 days a week. It was too early to evaluate whether she would be able to sustain her progress when she returned for the regular school year. No other participant in the study reported a sustained lifestyle change.

Other teens reported that their parents provided emotional support and advice about how to respond when the teen was hurt by the comments of others or that their parents provided reassurance that the adolescent was attractive.

Olivia: They just give me advice and they tell me if I get my feelings hurt at school it’s okay and to just forget about it. I can either forget about it or I can do something about it and most of the times it’s best to just let it go. When it’s gone, just let it go.
Elisa: I’d get mad and I’d be like you know well, “I’m ugly” and “I’m fat” and everything like that. And then my mom would be like “Mija, you’re not.” And she’d sit there and she’d comfort me. And I’d just be like you know, part of me is just like “Okay, mom you’re supposed to tell me this because I’m your daughter.” And the second part was like, “Okay good, you know, someone thinks I’m pretty,” you know, “someone thinks that I’m” um, you know, “not as big as I see myself.”

Some parents joined the teens in physical activities, and one family member had organized a program that resulted in a positive although not sustained change for the teen.

Seven of the teens described participating in exercise programs with a family member.

Timothy: Then we were both walking together because it was a big deal. I was trying to help him lose weight too because his doctor told him that he wanted him to lose weight. And so I was worried because he had an experience that he thought was a heart attack, but it was a stroke. And I didn’t want to lose my dad sooner than necessary.

Robert: Me and my other brother… we used to go to my uncles and it would be me, my brother, my uncle and a whole bunch of my cousins and we would work out….I lost weight and then um, we just stopped doing it and I think I gained some back. ..we like weighed ourselves and we made our own goals to see how much we could lose. I think the most I lost was 14 pounds.
Table 5

Core Category: Family

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<th>Participant&lt;sup&gt;a&lt;/sup&gt;</th>
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Note. BMI = body mass index.

<sup>a</sup>Pseudonyms were used to protect the confidentiality of the participants.

<sup>b</sup>Entries indicate participant responses.
In summary, the participants described close family relationships that established acceptance for them as an overweight member of the family. Teens approached their parents for assistance when needing advice or support, were willing assistants in meeting family needs, and enjoyed participating in extended-family activities. Many parents and siblings were overweight. The family provided a safe zone free of teasing or weight-based judgment. In significant contrast to being teased and bullied outside their homes, the teens were accepted as one of the family in their homes and encountered no differential treatment on the basis of their size.

Kristina: See, most Mexican families that I know are really, really close…I feel like if you are a family you should do things as a family. You should rejoice as a family, you should like be happy, be sad, whatever, you know, you should dedicate your life to your family because they love you. It may not seem like that all the time, but in their own way they do love you, they always will. And what I think affects people the most is that to Mexicans, family is almost everything…And it shouldn’t matter what the other people think, what should really matter is are you happy with yourself, are you happy with your family, are you happy that they love you?...You don’t need to try to get recognized by your achievements, you don’t need to try to get recognized by anything else, the fact that your family is behind you should be enough of anything, it should be worth more than all the gold in the world.

Contrast Case

As data were collected, a decision was made to seek information from adolescents who perceived that they were overweight, but who did not meet the minimum weight to participate in the study. The purpose of this addition to the study was to determine whether the experiences of the overweight adolescent differed for adolescents who were less overweight. Although I communicated with area referral sources, including physician offices and schools that I was seeking adolescents who perceived themselves as overweight, but who did not meet the prior inclusion criteria, no additional adolescents
expressed an interested in participating. One teen who had previously attempted to enroll was contacted and agreed to be interviewed. The one contrast case was Lara. Lara provided an opportunity to learn more about the experiences of an adolescent who was “at risk” of being overweight and an opportunity to collect data from an outsider, one who had a different set of experiences from the overweight adolescents in the study; however, she had observed the behaviors of her peers with other overweight adolescents.

Lara did not meet the minimum weight to participate in the study but had considered herself overweight since the age of 13. Her BMI was at the 88th percentile of the CDC BMI-for-age chart, and this level would place her at risk to be overweight. She first thought of herself as overweight in junior high when she noticed “skinny girls” and realized she was different. She had never been teased about her weight and had never tried to manage her weight. In contrast with most of the participants of the study, she stated that neither her parents nor her siblings were overweight. Her family owned a Mexican food restaurant, where she ate many of her meals.

As the interview progressed, she described her adolescent cousin’s experiences with teasing. Her cousin, 2 years older than Lara, was overweight. Both girls had attended the same high school, and she had observed her overweight cousin’s experience at school and then observed the response at home. She was able to contrast her cousin’s experience with her own when asked, “What is different for adolescents who are overweight?”

Lara: Just like fat jokes, I don't know, they get treated like worse than other people …like they're outcast just cause they may be overweight, there’s like a few that aren’t probably….sometimes they try to ignore it… and then they go home and cry because they feel hurt like because someone else doesn’t like them … my cousin B is overweight and she used to get teased in school and she used to come home and cry
Interviewer: How did the family respond to that, when she was being teased?
Lara: They felt there wasn’t really anything that they could do, I mean if it’s happening in school I mean you can call the teacher, but that usually doesn’t work.

As she described the teasing her cousin experienced, Lara went on to say that adults may not understand the repercussions of being overweight in schools today:

Lara: It's changed over the years … it’s a different time period, but they might not understand how cruel kids can be… if you tell the teacher they’re just going to find out that you’re the one complaining so you’ll just make it worse I mean, there’s not really anything you can do.

Summary

The majority of the participants were overweight in either preschool or elementary, and their earliest memory of being overweight consisted of identifying themselves as different from other children. To the teens, being teased by other children because of their different appearance communicated that their different body shape was not socially acceptable. Most adolescents had experienced teasing or bullying behaviors for 8 to 10 years before entering high school. Although overt teasing and bullying begin to diminish during high school, social marginalization continues for the overweight teen.

The family plays an active role in the adolescent’s life and provides some balance and contrast to the teasing and bullying of the peer group. The teens described their families as close, supportive, and respectful of individual difference. The family members, many of whom are overweight themselves, communicate that the larger body size is a normal part of their family. Families are not tolerant of teasing and bullying behaviors in the home and create an environment where the adolescent is not different and is accepted in contrast to the school setting of social marginalization. The end result
is an individual who is teased and bullied for a physical appearance that they are told is inherent in their family. The teens struggled with learning how to handle the angry response (again next chapter) to continued teasing from their peers. The adolescent, from an early point in childhood, lives in a divided world. One world which communicates that they are socially unacceptable and the other world that communicates they are exactly like other members of the family and that is both to be expected and acceptable. How the teens deal with the cognitive dissonance between the two worlds is discussed in the following chapter.

In conclusion, this chapter has described the foundation on which the overweight Hispanic adolescent responds to being overweight. Early childhood realization that they are not the same size as other children was quickly reinforced as a socially negative condition by their peers. Their families do not share the same value system and communicate a belief that the larger body size is a natural size in their family and should be expected. The responses of the adolescents to the two significantly different views on being overweight are described in the next chapter.
CHAPTER 5
FINDINGS II

The experiences of the Hispanic overweight adolescent in the previous chapter described an early perception of being different from other children. That perception of difference was used by their peers as the target of teasing and bullying behaviors. The adolescent’s family provided a supportive environment for the child who was experiencing teasing and bullying in other social and academic settings. The child found themselves standing between two groups, family and peers. Peers taunted them and told them they were different. In contrast, the family had many overweight members and accepted them as large. The overweight child and adolescent are targeted with teasing, social exclusion and bullying behaviors for what is understood by them to be acceptable in their family. The responses of the child and adolescent will be discussed in this chapter. As the child discovers they are overweight, they begin filtering messages of ridicule from their peers through a different response in their home, one of acceptance. The response to being teased for something that is perceived by them to be outside their control (genetic) begins the cycle of being overweight. The cycle includes anger, depression, avoidance of social stigma, and failed attempts to change (Figure 2). Some opportunity for variance in the cycle was reported for males and is discussed as gender difference after the cycle is explained. The ongoing cycle of anger, depression, avoiding stigma, and failed attempts to change contribute to the weight of being overweight, a day-
to-day burden. And last, the core variable of the study is presented in this chapter, the resolution of their identity of self. Are they an overweight person who is different from other adolescents as communicated by their peers? Or are they the same as others?

The Cycle of Being Overweight

Anger

As the teens described experiences with teasing, bullying and social exclusion, feelings of anger emerged. Nine of the overweight teens described angry responses related to being overweight or to teasing. Seven described attempts to ignore being teased; however with prolonged provocation some of the teens physically expressed their anger.

Olivia: He was just as big, if not bigger than me. He would not leave me alone. He kept on calling me fat lard, and all this other mean stuff. I was like, “If you don’t shut up, I’m going to hurt you.” And so finally one day after school, we were outside and he came up to me and thumped one of my buttonholes. And I just whipped around, and I slapped the crud out of him. I got in trouble for it, but everyone left me alone after that. I mean I might be the only one who saw it, but I couldn’t hold my hands afterwards. I was just crazy.

Sarah: Yeah, usually I don’t….I ignore him most of the time. And one time he overdid it and I got really mad and then he pushed me so we got in a fight and uh, after a little while, I just walked to my class and I really haven’t see him much anymore ‘cause he goes with his other friends now.

Mark: Like they didn’t learn…picking on isn’t cool… they haven’t been hit by one, ‘cause like I was sitting in class, one time, and I like I was sitting there and I’m all in my little area and like this dude comes up and looks…like something behind me. He doesn’t ask me to move, he just gets in like my personal space and I’m like, “You need to back up, like really back up.” So, I push him with my foot. He gets mad. I stand up and I start talking to someone else. And he pushes me and like…So I’m like I’m pissed. The teacher starts walking in [thinking] “Don’t push him back, don’t push him back.” And I push him, he flies across the room. And like after that, people really didn’t want to mess with me ’cause then they’ve seen me throw like this little scrawny dude, well not scrawny.
Others did not openly display their angry response or were struggling to learn how to deal with the anger in ways that were acceptable.

Elisa: I felt really bad. I felt like, I wanted to hit the little girl, but I was raised better than that to hit her. But inside, I really wanted to hit her. … I mean I never did anything wrong to her. I had never looked at her wrong, I never called her names ‘cause I wasn’t like that. And for her to come like that and just tell me that, you know, it kind of hurt.

Kristina: Well, I’ve got what you'd call a very severe anger problem, so usually I'd snap back at them like start telling them off or whatever, but now I just ignore them sometimes, if I can I'll just ignore them, if I can't and I’ve had a really hard day and they started in then I will probably snap back at them and stuff, just a little because if I’ve had a bad day earlier in the day then I’ll keep that inside me and then when somebody else gets onto me, I just, I lose it, which I don’t like doing and I’m getting better at it.

Timothy: I walked away ’cause I’ve had to walk away from problems before like with my brother because we haven’t always gotten along very well. So I just did my best to walk away and just kind of breathe and let it out, but I don't know, it was just built up so much that I was ready to go jump on him or something. I was not happy at all.


Depression

One participant said she went home and cried alone when she encountered situations that increased her awareness of her larger body size. Two of the participants were taking medication for depression. Descriptions of behaviors that represented depression include withdrawal, crying, sadness, and rumination. Nine teens, four boys and five girls, described feeling depressed in response to conflicts with their peers.

Bethany: I really don't show it. Like I don't know, usually, I don't show my depression. I go home and just sit there, jot it in a little journal and then I rip it up and throw it away so, that's what I do of mine when I'm depressed, I don't talk to anybody about it or anything, I just jot it down, take it out and rip it up and throw it away.

Interviewer: What do you jot down?
Bethany: Like stuff that happens during the day, and makes me depressed and everything so… I don't know, like if I'm made fun of, I'll go through the day, jot it down, rip it up, throw it away.
Interviewer: Do you talk to anybody about it?
Bethany: No, not really.

Sam: They would tell me about my size. They would make fun of me because of that and, they would just put me into I guess a depression. I mean, I wouldn’t say it was that, but that’s how I felt.
Interviewer: And when you went into that depression, what happened?
Sam: I just tried to stay in my room, not do anything, watch TV, try not to go outside. I guess for fear that someone else would do it to me.

One participant described a serious depression in junior high school that he believed was directly related to the ongoing teasing from his peers. When asked how his friends responded when he was being teased, he said teasing was such a normal part of being in junior high that no one realized how distressing it had become for him. He said he did not share his feelings with his parents until the situation reached a crisis point.

Noah: I was walking around I never looked up. I could only look down. I mean I just had a darker perception of life. In English class I always had the darkest, sadder, poems and I just couldn’t focus on my school life because of the fact that I was so worried about my social life. Which since then I have begun to care less and less the older I get. But at that time, it’s just that people were making fun of me so much and all that stuff, that it really got to me and I mean, I started to believe the things they said, I mean it just got pretty bad [pause] and I mean just bad…. I became suicidal. I ended up getting sent to [inpatient treatment] when I actually did attempt suicide and, I don’t have those feelings anymore or nothing near them, because of the fact that I have just learned how to accept myself, but I back then it was bad. It’s just people don’t accept anyone at that age unless you're like gorgeous or something.

One participant described the depression of her close friend who was overweight:

Angela: I used to know a friend who thought she was so fat, she didn’t even want to live anymore. She’s like “I don’t think I deserve to live, I’m too fat for this world.” She would just stare at magazines and look on TV and she would just bust out crying. She’s like “Why can’t I look like that? Why can’t I look like her? Why can’t I be this pretty or this skinny?” And she would actually be like I don’t even
need to be on this world no more. You know, and I wouldn’t, it scared me. It’s like, “Well I’m just like you, you know. Should I be here too?”

Avoidance of Social Stigma

As overweight children and adolescents, the respondents experienced nonverbal and verbal cues from their peers that they were different. The teens struggled with ways to describe exactly what was going on, and while they didn’t use the term stigma they did describe being “different” and not being accepted.

Sarah: Well, when I was younger, I used to think that I was different ‘cause it’d always be like a group of pretty girls that walked together and they’re always like stuck up and stuff. And then there was a group of the other girls that everybody thought they were normal. And yeah, you felt like you were different, like there was something wrong with you or something that everyone put you in that place.

Bethany: It’s hard for us to go through life with everybody like judging you. The stress of other kids gets put on you and all…in my old school there was because I had stress that I had to be somebody else to make them happy…that stressed me out at the old school to be somebody else that I wasn’t to make, to play, to please everybody else.

Interviewer: And do you feel that you are treated differently?
Sam: Sometimes, with the way you get fed a lot too. Because where I live right now, there’s not much to eat. There’s not much money, you don’t get much food…What we have in the fridge is bologna and cheese and eggs. That’s just about it. And I mean, you have to limit yourself. And whenever I go to someone else’s house, I get asked what food I like to eat and they usually serve big portions to me. Uh, just little things like that… Some people will act a little different especially when you’re eating or something like that out with someone else, they might give you, or say they’ll stop eating, ask if you wanted it. No, I don’t want that, I have my own food right here.

One teen described being overweight as a way of being different and further described different as children who live in house trailers, who struggle to speak English, or who run with a strange hop motion. Another described the concept of being different as follows:
Katia: Look at me I’m different anyways I have piercings, they’re all like that, they’ve got tattoos so being overweight is just one more thing about being different.

The adolescents described the “cool kids,” or groups to which they could not belong because they were not “skinny kids,” “football players,” or “Size 2’s”. One described an ongoing internal struggle between her desire to try out for the highly respected drill team, a fear of being teased if she managed to qualify. Another described the same drill team, but was in awe of their physical ability and believed it would never be possible for her to join them although she admitted she had never seen them perform. When discussing the study findings with one of the participants, she said that she had been a cheerleader in the seventh grade but that, because of her weight, she had withdrawn when a tryout was required in the eighth grade. She feared rejection because of her larger body and did not try out for any teams until her junior year of high school, when she finally auditioned for the dance team. She said she felt overweight teens avoided being placed in positions where others might watch them and make fun of them because they were overweight. She mentioned an overweight male friend who would not play football because the uniform revealed the fat on his legs.

Teens living in smaller communities perceived greater acceptance by their peers, but noted changes when they left the shelter of the smaller group and interacted with peers who did not know them as individuals.

Elisabeth: It’s just different experiences that I’ve had outside of school. Like when we go on trips or something and they try to get us to mingle, like ‘cause our school goes on like seminars and stuff and they split us up into groups, and you meet new people and those people don’t know you and all they see is somebody overweight. And they treat you differently than they treat the skinny girl… Just my school, I guess ‘cause we have such small classes and everybody knows everybody, you don’t get a lot of that as you do when you go outside the school… there are overweight people and there are skinny people…they got to chose first
compared to the overweight kids. Yeah, I see it often you know. They get first choice, or they get more attention or more time to speak their ideas compared to the overweight kids who actually have good ideas and would like those being heard. But, you know, they just don’t get as much attention or much time focused on them.

Failed Attempts to Change: Lack of Information

Eighteen of the teens had tried various combinations of exercise and/or diets for weight management (Table 6). Some of the efforts were not healthy choices, such as the vinegar diet, eating only salads, the 100-sit-ups-a-day plan, and other such attempts that lacked a balance and an underlying knowledge base for healthy lifestyle change. Parents were used as resources for both healthy and unhealthy approaches to weight management. Some teens described making attempts to use exercise without diet change for weight management, and others mentioned instituting very restrictive diet changes that they were unable to sustain for a significant period. Eighty-four percent of the teens skipped meals. For 74%, the most frequently skipped meal was breakfast because there was no time to eat in the mornings. A surprising 47% skipped lunch at school and waited until they got home to eat. Older teens were able to leave the school campus at lunch and could purchase preferred fast foods; others described a lack of money that impacted food choices at home and at school. Although snack machines had been removed at one of the schools, the response of the students was neutral. One teen said most students had little money for snacks from the machine anyway and that removing the machines made little difference in their daily food choices. Two of the teens described a significant food shortage in their home due to financial difficulties in the family and described eating cereal and milk for meals or low cost food such as bologna. Approaches to weight
management included popular diets such as the Atkins diet; diet pills; extreme exercise; and unusual diets such as the chicken-and-dumpling diet, the vinegar diet, and the peanut-butter-with-bread diet. One said he just ate lots of “green stuff.” Many mentioned eating salads for weight loss and growing tired of the lack of food choices. After attempting plans to change their eating habits, most failed to notice any significant weight loss and concluded that nothing works.

Amos: Um, I tried to do that, what’s that diet called? Is it called Atkins diet? I tried to do that and it kind of didn’t work. You know. And then, I tried uh like a salad diet, and I would eat a salad there and uh or regular food and then got salad. …I started although drinking a lot of water you know instead of cokes and stuff like that Kool-Aid. Uhm that worked for a while. I lost about 10 pounds and then to be honest I don’t know where it went wrong and then I gained like probably that weight back.

Overall, many of the teens possessed surprisingly little information about healthy lifestyle choices and about effective means of achieving the goals for a healthy future that most of them described for a healthy future. Either the teens did not see a health care provider, or the health care providers did not meet the needs of teens and created barriers in discussions with the teens.

Sarah: I went to the doctor to ask if I can have a breast reduction because I wear like a 40F right now…She was looking at me and she was like “Well from here you look like a big blob on a table.” She’s like “How much do you weigh?”…so I went on a diet and I lost up to like 15 pounds and she was like “insurance isn’t going to pay for it.”…And I was gonna keep going [losing weight] and then the doctor said “No” [to recommending the breast reduction surgery] and I guess I got mad and I just stopped.

There was a general lack of trust of information related to weight and weight loss by primary care providers; several teens verbalized a lack of trust in information given them about BMI ranges. Coupled with the lack of confidence in information suggesting they were overweight, several verbalized they would be concerned if they were “very,
very” overweight but they did not believe they were. They noted they could look around the high school and identify others who were larger than they were and those individuals were at risk of experiencing health issues.

Interviewer: When you talked to that doctor and she told you, did she ever say what healthy weight was for you?
Noah: At that time I was about 4 foot 9 and I believe what she said my ideal weight was like 70 pounds. I was 13 and I think about it now and 70 pounds even at 13 is, that’s about, extremely unhealthy…I mean I just really didn’t understand how she could tell me that I was that overweight I mean around that time I was probably somewhere around 140 and she was practically saying I was morbidly obese… I mean it's just.. I just think she had serious issues or something.

John: Compared to like height you’re supposed to be a certain weight but now days I mean I honestly think those charts aren’t right or something …I knew like I knew I was overweight for sure but I just didn’t think I was supposed to weigh that low actually ‘cause I have friends that are skinny but they still weigh like 200 pounds but they’re still shorter than I am so I just didn’t think it was like accurate.

Further compounding the lack of information about healthy lifestyle choices and healthy weight management were the adolescents’ underlying beliefs that their body size was predisposed by genetics and could not be changed. This perception developed from the family’s early messages that the teens were not supposed to be small and from the teens’ comparison of themselves with large family members. One participant, who had lost 17 pounds in the previous 3 months, appeared somewhat bewildered by the fact that her body could shrink.

Angela: I’m like I can’t get down to the weight standards, I can’t… ‘Cause like my body frame, I’ve been big my whole life, I mean, my ribs aren’t just going to shrink in you know. They’re my bones, they’re not going to just go in because I want them to. .. I’ve been big my whole life, ever since I was a baby I was big…I don’t think I can shrink in. .I’m like, you can shrink in!...I didn’t think you could until like now...Those people aren’t lying, you actually can, you know.
Although teens described attempts at weight management, when asked many teens indicated they would not attend a weight management program:

Timothy: I can’t say I honestly would just because when I do my, when I’m trying to lose weight I kind of want it to be a personal thing. It’s on a personal level and I’m doing it for myself, I’m not doing it for anyone else.

John: I guess it would just be like, you’re already like kind of comfortable with the way you are and know that you’re overweight and stuff and you get tired of people trying to tell you to lose weight and do stuff like that so you kind of get frustrated and don’t even bother with it

Noah: ahh… probably not I mean I’m not to the point where I would say oh I really, really need to lose some weight ahh I’ll lose it naturally and if I can't lose it naturally I’ll just leave it there (laugh) I mean if it’s just not going to go away and it’s not really bothering me I, I don’t see any reason to do anything about it. I mean I don’t think I’m overweight enough to where it could cause me severe health problems so… I’m fine with it.

Elisabeth: Yeah. Um, I don’t know. I guess, it just depends on what they were doing and whether I actually wanted to participate in that, you know. Some groups do really stupid things, and you’re like “This is just a waste of time, why am I here?” But, if they made it fun and interesting, and made me want to be there, then I would go. But, most are just, they’re just boring or they’re just, it’s just a bunch of lecturing or something like that. I really don’t have time to just go and be lectured.

Participants who indicated a marginal interest in a weight management program suggested that the program would need a same-gender instructor who had been overweight. Most teens who expressed an interest in participating in a program expressed ambivalence and verbalized a concern about a risk of being teased by the instructor or pushed beyond their physical capability.
## Table 6

**Weight Management Practices**

<table>
<thead>
<tr>
<th>Participant</th>
<th>BMI</th>
<th>Skips Breakfast</th>
<th>Skips Lunch</th>
<th>Exercise Only</th>
<th>Diet Attempt</th>
<th>Diet and Exercise</th>
<th>Diet pills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timothy</td>
<td>46.4</td>
<td>X</td>
<td>X</td>
<td>Walks with father</td>
<td>Frozen meals; failed</td>
<td>Running and moderation in food choices</td>
<td></td>
</tr>
<tr>
<td>Olivia</td>
<td>47.8</td>
<td>X</td>
<td></td>
<td></td>
<td>Power shakes, Slimfast, vinegar diet, chicken-and dumpling diet</td>
<td>Walking 1 to 2 miles a day and moderation of food</td>
<td>X</td>
</tr>
<tr>
<td>Faith</td>
<td>44.8</td>
<td>X</td>
<td></td>
<td></td>
<td>Exercise with mother</td>
<td>Exercise and less fast food</td>
<td></td>
</tr>
<tr>
<td>Amos</td>
<td>54.9</td>
<td>X</td>
<td></td>
<td></td>
<td>Atkins, salad diet, no cokes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannah</td>
<td>31.9</td>
<td>X</td>
<td></td>
<td>Sit ups and walks with mother</td>
<td>Restricted food intake 2 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bethany</td>
<td>43</td>
<td>X</td>
<td></td>
<td>Does sit ups and push ups didn’t work, runs and does crunches (50)</td>
<td>Fewer cokes and candy; moderation of intake</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Elisabeth</td>
<td>38.8</td>
<td>X</td>
<td></td>
<td></td>
<td>Uses treadmill and bike at home</td>
<td>Low-carbohydrate diet, soup diet</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td>31.2</td>
<td>X</td>
<td></td>
<td></td>
<td>Runs, avoids food changes</td>
<td>Low-carbohydrate diet, “dieting”</td>
<td></td>
</tr>
<tr>
<td>Mark</td>
<td>46.3</td>
<td>X</td>
<td>X</td>
<td>Walked with friends</td>
<td>“Green stuff”</td>
<td>Exercise videos and exercise class</td>
<td></td>
</tr>
<tr>
<td>Elisa</td>
<td>35.9</td>
<td>X</td>
<td></td>
<td></td>
<td>Gave up breads; moderation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noah</td>
<td>31.9</td>
<td>X</td>
<td></td>
<td></td>
<td>Diabetes diet, Atkins diet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6 (continued)

**Weight Management Practices**

<table>
<thead>
<tr>
<th>Participant&lt;sup&gt;a&lt;/sup&gt;</th>
<th>BMI</th>
<th>Skips Breakfast</th>
<th>Skips Lunch</th>
<th>Exercise Only</th>
<th>Diet Attempt</th>
<th>Diet and Exercise</th>
<th>Diet pills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarah</td>
<td>33.7</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Does crunches and squats, walks the dog, exercises with her mother</td>
</tr>
<tr>
<td>John</td>
<td>39.3</td>
<td></td>
<td></td>
<td></td>
<td>High protein</td>
<td></td>
<td>Running, weight lifting, Runs with father, YMCA, moderation in eating</td>
</tr>
<tr>
<td>Kristina</td>
<td>45.9</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moderation</td>
</tr>
<tr>
<td>Bryan</td>
<td>46.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cut back on Cokes and candy</td>
</tr>
<tr>
<td>Robert</td>
<td>33.3</td>
<td>X</td>
<td>X</td>
<td>Exercised with family group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angela</td>
<td>31.7</td>
<td>X</td>
<td>X</td>
<td>Works out at the YMCA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. BMI = body mass index.*

<sup>a</sup>Pseudonyms were used to protect the confidentiality of the participants.

**Gender Difference**

The trajectory of the overweight male and female adolescent was similar until junior high school. In junior high school the type of teasing and bullying behaviors were slightly different as previously discussed. However, in high school a different perception of being overweight for males and females was described by several of the teens.

Angela: I don’t really hear guys saying “Oh, well I’m big, you’re small,” unless they’re exercising, like lifting weights, but muscle wise. That’s all I hear muscle is from guys… I don’t really hear about overweight from males. Like girls, that’s...
all you hear, overweight, overweight. It is definitely different. ..All they think about is lifting weights and just they got muscles, they do it, but if they don’t well they don’t, it’s just not as, they’re more concerned about muscles, we’re more concerned about weight.

Sam: I think they’re more self-conscious about it, a lot more than most guys are, I think. ‘Cause I know a lot of bigger guys and they’re exactly like me, they really don’t put too much thought into it, other than to help themselves, I think…a lot of the bigger girls I meet are a lot, they’re quiet, they don’t tend to talk to anyone, other than people they already know, unless they are forced to. Like a bunch of bigger guys and me, they tend to act a little more, like they’re funnier, they talk and, they’re nicer, or they go out and help people...Like the bigger girls, they’re just gonna, from what I see, they just walk, do what they need to do, don’t talk to anyone unless they have to… I think it’s...the way they see themselves.

One participant disagreed and described similar treatment of both genders at her high school.

Katia: You would think it would be so much worse for the girl to be overweight, but I have seen guys be extremely mean to other guys about being overweight. I don’t know, it’s pretty much the same at [high school] everyone’s on the same level of mean.

The teens noted acceptance for the males in school sports activities but little acceptance for females in similar types of activities. Girls described the “skinny girls” or the “Size 2” girls as people they will never be, yet similar comparisons were not made for the males. Overweight males found a benefit of being overweight was that the larger size could be used as intimidation in conflicts or that the larger size might allow them to participate in certain contact sports.

Interviewer : I was kind of wondering by “fighting” what you meant by “being overweight made it easier.” How?
Mark: Uh most of the kids in school are usually scrawny or like either they’re muscle people and they don’t what to screw with you because if it’s like sit on you so it’s like easier to intimidate and fight.

John: ‘Cause like when you’re heavy and stuff, you tend to have more leg strength and stuff cause your legs build up from holding up your body so much. It’s about all there is, in competition to being bigger.
Over half of the male teens described either past or current participation in a school sports activity or they were training for future participation. Several teens described significant weight gains after discontinuing participation in organized sports. One of the teens moved from a smaller community to a larger community and discovered it was more difficult to be accepted on a team in the larger, more competitive athletic program. Discussions of coaches suggested a strong influence on the males for participation in sports, both positive and negative.

Timothy: The lineman coach was making some crude remarks towards his lineman and it made me really mad one day and I almost did some bad things that day but … I went and talked to the head coach and told him that I was gonna quit that I’m not willing to put up with that anymore… everyone in that group is a big guy and he’d be like “I guess we got a bunch of f’n retards in here” and he’d always call us a bunch of jug butts and stuff and it just drove me nuts…Jug butts. That was his nickname for all his linemen…Slow and dumb.

John: I gave it a try and I actually wound up liking it…It was my first coach, he’s the one that got me into it… I played offense forever and I hated it, and they tried me for defense. …I started doing more, actually lifting weights and running, and actually start working out. I weighed about 280, no muscle at all. Now I’m at like about 265 … I just got real into football and weight training and everything. But before that I never did nothing at all. And I’d eat and watch TV, and that’s about it.

School sports programs did not hold the same attraction for the overweight female teens that was described by their male counterparts. The girls expressed concerns about their appearance in revealing gym clothes.

Sarah: I think about being overweight mostly like team sports. I don't wear shorts ‘cause I have, I’m uncomfortable with my legs, so they’re like mostly a lot of guys in there, like over 10. There’s like 4 girls. And I don’t really, I won’t wear shorts, I won’t wear short sleeves, if I have a short sleeve shirt, I wear a long shirt, long sleeve under it. And mostly I wear this hoodie all the time. Very uncomfortable is how I look.

Elisa: And dressing out, it was, I got like real uncomfortable at times because, it was just, the shorts and then wearing the t-shirt, and then like
all the girls are all like all skinnier than you…. I remember that I think there was a couple of times the first time when I had to dress out, I was kind of disturbed and, not disturbed, but kind of just sad and... knowing that, you know, these big old thighs and these shorts and the other girls have all pretty legs and everything, you know...those are the times that I remember...I would just go home and just cry.

Although overweight males indicated having a desire to participate in sports, only one of the overweight teens was currently playing on the football team. For most, the opportunity to play would be given to them in the distant future when they “got in shape.” None of the girls were actively participating in a team sport, and they did not share the boys’ goal of future team participation.

In summary, gender differences begin to emerge in high school with different perceptions of the significance of being overweight. The subtle difference does not remove all risk of teasing or bullying behavior but may underpin a meaning of being overweight for the male teen that may differ slightly from its meaning for the female adolescent. Although sports offer an opportunity for recognition, few are able to take advantage of the opportunity for many reasons, including having to compete for positions on teams, not being sufficiently physically fit to play on the teams, or not having the hours available for team participation. Furthermore, team participation may be influenced by a supportive coach or an abusive coach. Participation in team sports presents a lure for the males but not for the females. Although sports may offer an escape for the overweight adolescent, few can avail themselves of the opportunity.
The Weight of Being Overweight

Sixty-eight percent of the participants described ongoing burdens related to being overweight, with nearly equal representation of male and female responses. The continued cycle of being overweight creates a day-to-day burden for the overweight adolescent. The day-to-day burden of being an overweight adolescent was described by one teen as “taking a toll”.

Olivia: Just like how does it take a toll on everyday life... is like most teenagers right about now are looking for a car, and like if you're too much overweight and you want a little car like some people have then you might not be able to fit in it...that's a big deal cause then you feel most definitely like you're nothing. And then like if you're trying to use the rest room and somebody walks in and you can't get through the stall door ...I've heard about it and also like just other stuff, people think you're gross because you're fat or they tease you because you're fat. I mention that a lot, but it's true.

These adolescents’ attempts to leave the cycle of being overweight were compounded by a lack of knowledge about and support for making healthy lifestyle changes. They described a desire to have a smaller body, but most felt it was beyond their reach.

Elisabeth: Most teens who are overweight feel, feel bad about being overweight and they would like to change if they could, but sometimes they can’t. You know, they either have a very stressful life at home or you know just a constant like teasing and being picked on and stuff. It drives them to either overeat or not want to exercise or something like that. And it’s, it’s a hard thing to deal with sometimes, ‘cause, I don’t know. You do get treated differently by people you don’t know.

Sarah: Um, [pause] let’s see [pause]. It’s constantly on my mind. I mean, I am always thinking about it. I know there are people that are all like, “You aren’t that fat,” but to me I am …it’s like always there, you're wondering – “Do I look fat, …should I like do something, try and lose it?” …You just kinda, you really don't like it. You just wish you look kind of skinnier, a little.

Angela: Just walking down the halls, it’s just like “Oh my gosh, like my fat is hanging out…I feel all jiggly, …like maybe I should suck my stomach in or something”... I feel like that actually a lot, I really do. Just
walking down the halls, I’m like you know I really don’t want people to see me that much, you know. But I know if I think about it all the time…

Others describe the day-to-day burden of being overweight and how the physical stress of being overweight creates limits in their activity.

Timothy: When you exercise, you’re always losing your breath, you feel like you are going to have a heart attack maybe. You never know what could happen to you, it’s pretty crazy….if I walk long distances or something like that, I can tell and I start breathing hard and it kind of scares me because what if something happens and I’m there alone.

Sarah: I get back pains, I try and get like big straps for the bras but it doesn’t really help and I usually wear a bra like 24/7. I can’t even sleep without one because I feel like it’s pulling right here [pointing] like on the top part.

Robert: I used to play a lot of sports, but now I get tired fast, but also my knees, they give me trouble, I messed them up.

For some teens, the burden of believing that they are stigmatized because of being overweight leads to their believing that their weight has affected their attractiveness to the opposite sex:

Noah: I just can't get a girlfriend. That's usually because they don't usually look at the overweight guy before they look at the thin, muscular guy…Because, I don’t know, they just don't look at me.

Olivia: Like some of the skinny girls I know they get asked to go out on dates and drink and everything and I, I think if I were to ever be asked that I would be so, so excited I think that I might do something stupid.

The teasing and bullying that lead to anger, depression, attempts to avoid being stigmatized, and failed attempts at weight management create an ongoing burden for the overweight Hispanic child and adolescent: the weight of being overweight. Anger, depression, avoidance of stigma, and failed attempts to change do not occur sequentially, and more than one factor may be active at the same time. In some rare cases, those who became overweight later in adolescence, may experience few if any of the factors
described as influences. However, for the majority of the overweight teens, the anger, depression, avoidance of stigma, and failed attempts to change are part of their daily life. Kristina summarized the weight of being overweight quite simply with this statement: “It's just an endless circle.”

Identity: “I’m not Different on the Inside; I’m Just Me”

As teens discussed their weight management attempts and subsequent failures, they began to describe attempts to ignore or to placate people who teased them instead of responding to these people with anger.

Olivia: I guess just the way he said it, and then everyone else started laughing….. now when people call me fat I mean, I just agree with them. ‘Cause I don’t care. I am how I am and if anyone doesn’t like me, they don’t have to like me.

After earlier periods of comparing and realizing they were different, as the teens matured they began to reach the conclusion that although they are big, they were not different on the inside from others who were not overweight.

Elisa: We’re not different, I mean, just because we’re bigger on the outside you don’t have to judge a book by its cover. A lot of people say that they didn’t think that I would be as fast as I really am. They didn’t think that I could stretch as much as I do because I’m overweight, because I’m bigger. They didn’t think I could do a lot of stuff physically because I’m overweight. ..we’re just the same except we’re bigger.

Katia: We’re not any different from a skinny person. I find it so funny I don't know, like you’re fat you have a disease.

Angela: Actually, the only difference is the way we look. Everybody’s the same. I mean everybody has their own specific details and the way they talk, or the way they react and stuff, but we’re all the same. I’ve noticed that. We’re all the same, it’s just if you’re thin, some people do like to like try to push it into the bigger kids … I’m like whatever, I still have my friends. I’m good, I’m still alive, I’m happy. I’m a little extra healthy, but it’s okay, you know.
Some teens communicated no interest in changing their appearance:

Chris: I’m happy for what I am. You know people regard me “Hey, you’re big.”
Look at me, I’m a good looking guy with a good body, uh it really doesn’t matter
to me, I’m happy for who I am. Yes, I’m an overweight teen, but you know I
could easily change that anytime I want to, but I’m happy for who I am, it’s a
great thing that I am.

Others simply did not care what others thought:

Sarah: So, I’ll wake up and I’ll go in pajamas, she’s like “You look like a hobo.”
I was like, “I don’t care. I don’t care what people think, I’m me.”

The basic question teens begin to ask themselves as they transition from high
school years to adult years is “Who am I?” Consistently between the teens, they
responded “I’m just me!” and me was “big”. Being ‘big” was okay, not something
perceived to clearly be within their control, a quality inherited from their family and
change efforts had been futile.

Summary

The overweight Hispanic adolescents are influenced by teasing from peers and
from a family who accepts them if they are overweight. The continued years of teasing
result in anger, depression, attempts to avoid the stigma of being overweight, failed
attempts at weight loss and a day-to-day burden from being overweight. As the
cumulative process of the cycle continues, the teens reach a conclusion that they are big,
but they are not different on the inside from other teens and verbalize little or no interest
in changing anything in their life including being overweight.
I’m different

Teasing / Bullying

Family/Cultural influences

Anger

Depression

The Weight of Being Overweight

Failed attempts to change

Avoidance of social stigma

Definition of self as big

Acceptance
I’m not different on the inside,
I’m just me

Figure 2. The cycle of being overweight
CHAPTER 6

DISCUSSION

In chapters 4 and 5, the findings of the study were presented which constructed the cycle of being overweight. The trajectory of the overweight adolescent culminates in the development of the adolescent’s identity, described by the participants as “I’m not different on the inside; I’m just me.” This final chapter addresses study conclusions and their theoretical significance. Specifically, the meaning of the research findings in relation to the literature and to adolescent developmental theory are discussed. Adequacy of grounded theory for this study and the limitations of the study are also presented. Last, study implications and recommendations are proposed in the areas of weight management practice, research, and social policy.

Achievement of Study Aims

The aims of this study were to identify the factors that influence perceptions of weight and weight loss management of the Hispanic overweight adolescent. The factors that influence the perceptions of weight and weight loss management include:

- Perceptions of being different from peers
- Family influences
- Teasing and bullying
- Anger
• Depression
• Avoidance of social stigma
• Failed attempts at weight management
• Weight of being overweight, a day-to-day burden of being overweight
• “I’m not different on the inside; I’m just me” (development of an identity that accepts large size)

The second aim, that of developing a theory for weight loss interventions from the perceptions of the Hispanic overweight adolescent, is presented after a discussion of the influencing factors and supporting literature.

Perceptions of Difference

There has been extensive work done, much of it overlapping, in the fields of psychology and sociology as the development of identity is explored. I have focused the evaluation of the findings of this study in the field that underpins grounded theory, social interactionism.

When the overweight adolescents were asked how they determined they were overweight, they described a comparison to other children and a perception that they were “different.” Meaning evolves from social interaction with others (Blumer, 1986). Social interactionism is founded on three premises:

• Action toward something is based on the meaning it has for the individual;
• Meaning comes from interactions;
• Meaning is modified using an interpretative process by an individual depending on particular interactions. (Blumer, 1986)
Blumer describes social interactionism concisely as “a process that forms human conduct” not merely a group of interactions (Blumer, 1986, p.8). As the factors that influence the overweight Hispanic adolescents’ response to weight management were explored, it became increasingly clear that the weight management behaviors are associated with the meaning that the overweight adolescent has developed about being overweight from years of social interaction. Interactions may occur with any object. Blumer describes three categories of objects: physical, social, and abstract. The meaning of the object evolves from interactions with others who influence the meaning the individual may give the object (Blumer). Blumer contends that to understand the action of people, you must identify their world of objects. Social objects for the overweight teen include peers; siblings; parents; teachers; coaches; and in some cases, significant others. The human being is only able to give and interpret indications through social interaction because he or she possesses a “self” (Blumer). The self becomes recognized as an object of interaction; for example, the individual may be a son, a student, or an overweight teen. The kind of object that the individual identifies as self will guide their interactions with others (Blumer). The earliest memories of being overweight are a memory of seeing themselves as others might see them. Through comparison and identification of difference they begin to recognize themselves as an overweight child, an object, to others who are seeing them outside the home. However, their descriptions of their interactions in the home did not focus on being overweight. Though their parents may acknowledge that they are overweight, the meaning the parent’s communicate about being overweight is not one of rejection, in contrast to the negative perceptions communicated by their peers.
The further importance of self is that the existence of such allows one to interact with oneself and to use this continual process to direct one’s own action (Blumer, 1986). A critical point made by Blumer is that “instead of merely an organism that responds to the play of factors on or through it, the human being is seen as an organism that has to deal with what it notes” (p. 14). As such, the factors that influence the overweight adolescent’s response to weight management are interpreted through the meaning that the adolescent has given to the factor. That meaning evolves from interpretation of many different types of interactions. At the earliest point, the child has defined he is overweight through his interaction with himself and his comparison of his self to others. In her discussion of various theories of identity development in adolescence suggests identity evolves from a balance between self and other (Kroger, 2004). As children interact with the social environment, they begin an early process of defining who they are, a process that extends to the mature adolescent (Kroger). In this study, that process is described as very different between social contact with family and social contact with peers. The adolescent is challenged to balance between the self and the influence of family and the influence of peers.

Family Influences

The family was consistently described by the participants as their refuge from the teasing of their peers. Not only did the family provide a safe haven, they also provided identification with “big” family members. The strong “we” of the culture further reinforces the child’s identification with others who are overweight. While the comparison process may be passive, the family also reassured the child when they
complained of being taunted by their peers for being overweight that although they were overweight, they were attractive. When the teens needed assistance with teasing or diet instruction or even a partner for exercise they looked within their family for who would assist them.

The traditional Mexican American family is described as a collectivist unit in contrast to other cultures which may place a greater value on individualism (Phinney, Ong, & Madden, 2000). Falicov (1998) describes familismo as having a meaning in the Latino culture as inclusiveness with large family networks which also is collective or interdependent. Zayas and others (2005) describe the Hispanic familism as being at the core of society, that the family governs the individual. Respect and deference to parents and family are interwoven into the fabric of the family. Familism includes closeness, intensity and interdependence with an obligation to assure the integrity of the family. The influences of familism are deeply rooted in the individual’s self-identity (Zayas et al.).

Baer and Schmitz (2007) found an increase in family cohesion for adolescents who were oriented to the Mexican culture. Adolescents who did not speak Spanish in the home and were more oriented to the American culture did not report levels of family cohesion that differed from their Euro-American peers (Baer & Schmitz). However, such findings were not consistent with a previous study (Romero, Robinson, Haydel, Mendoza, & Killen, 2004) which found language spoken in the home did not influence child familism and, in fact, increases in familism were reported with higher education and the addition of English spoken in the home.
Padilla and Villalobos (2007) note that cultural difference is often perceived as a barrier in health care when, in fact, it may be a poorly understood strength. There is an absence of a connection between the descriptions of the family perceptions of being overweight (not a problem) and external concerns of the health care community related to being overweight (it is a problem). The absence of stigma in the home allows the adolescent to isolate themselves from teasing and abuse of both peers and sometimes adults. As the family stands at the center of values for the adolescent, issues related to different perceptions of the meaning of being overweight are important to the findings of this study. Obviously the prejudice of their peers is not a motivator of change, but to the other extreme, the acceptance of being overweight in the family without addressing a health concern places the family at risk. The issues at play in this study may be far more deeply rooted than represented by the cursory “the family accepts overweight members”. In a grounded theory study to contrast the meaning of health between older Latino women and older Angelo women, the differences in individualist cultures and collectivist cultures surfaced (McCarthy, Ruiz, Gale, Karam & Moore, 2004). While the Angelo women described their health as something unique and individual to them, the Latino women described health as closely related to family, faith, community and an enjoyment of life (McCarthy et al.). It is apparent from the findings of the study that the meaning given to being overweight by the Hispanic culture is not adequately understood; however, it is also apparent that being overweight may not be a significant concern in many families until serious health issues arise.
Teasing and Bullying

Most children and adults have been teased at some time in their lives. Based on the findings of this study, the underlying issue is both the chronic nature and the negative impact from the teasing and bullying behaviors described by participants. Vessey, Duffy, O’Sullivan and Swanson (2003) described teasing as a behavior which may be part of play, but which takes on different meanings as it becomes chronic and is dependent upon the perception of the intent by the recipient. Horowitz and coworkers (2004) described triggers for teasing behaviors as perceptions of difference which is consistent with teasing triggers described by participants of this study. In focus groups with children ranging from age 11 to 14, children differentiated the verbal name calling as teasing while describing bullying as being threatening (Horowitz et al.). However, other children in the same study had difficulty differentiating between teasing and bullying, and described them as being the same based on the intent to hurt the victim (Horowitz et al.).

Teasing behaviors directed toward what the participants describe as “cool kids” may be as frequent as those behaviors directed toward the overweight adolescent, however the meaning of being teased by the individual defines the significance of the behavior (Vessey et al., 2003). The playful attention directed toward “cool kids” may be inherently known to the recipient as a form of positive attention while similar levels of teasing may be distressing and unwelcome for less popular recipients (Vessey et al.). Much of the literature available about “teasing” behaviors used the term “bullying” behavior to describe the unwelcome nature of the behavior. Olweus (1993) who has studied bullying behavior in school children for more than 2 decades, defined such behavior as follows: “A student is being bullied or victimized when he or she is exposed,
repeatedly and over time, to negative actions on the part of one or more other students” (p. 9). Olweus further clarifies the term: “It is a negative action when someone intentionally inflicts, or attempts to inflict, injury or discomfort upon another.” (p. 9) and according to Olweus, “negative actions can be carried out by words (verbally), for instance, by threatening, taunting, teasing, and calling names. It is a negative action when somebody hits, pushes, kicks pinches or restrains another–by physical contact” (p. 9). Further, negative actions may be accomplished without using words or physical contact with such behaviors as “making faces or dirty gestures, intentionally excluding someone from a group, or refusing to comply with another person’s wishes” (Olweus, p. 9).

Trends in teasing and bullying behaviors are reported with increases of 50% over two decades and increases of serious bullying problems by 65% for the same time periods (Olweus, 2003; Solberg & Olweus, 2003). Nansel and coauthors (2001) defined bullying for participants of a study as follows:

we say a student is being bullied when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she doesn’t like. But it is not bullying when two students of about the same strength quarrel or fight. (p. 2095)

They found that an estimated 1,611,809 children in the United States are victims of frequent bullying behaviors (Nansel et al.).

Bullying behaviors are found to escalate during junior high school, to diminish as the adolescent matures in high school, and does not differ between rural and city youth. (Nansel et al., 2001; Peskin, Tortolero, & Markham, 2006). While boys report more
bullying behaviors than girls, girls are more likely to use less direct forms of bullying such as social exclusion, spreading rumors, or other forms of social manipulations (Olweus, 2003, p. 14). A less direct form of bullying, referred to as relational aggression, is a type of bullying behavior which is defined as harm that occurs “through injury or manipulation of a relationship” (Young, Boye, & Nelson, 2006, p. 298). Relational aggression is observed more frequently between female adolescents than male adolescents (Young et al.).

Janssen, Craig, Boyce and Pickett (2004) studied Canadian school children to evaluate a relationship between being overweight and bullying behaviors. Bullying was defined in the Janssen et al. study to include behaviors of teasing such as “Have you or have you been called mean names, made fun of, or teased in a hurtful way?” (p. 1188). The findings of the study of 5,749 children between the ages of 11 years and 16 years of age identified that overweight children were not only more likely to be involved in bullying behaviors both as victims and as the perpetrators ($p < .05$) but as the BMI increased there was an increased of risk of being a victim of bullying for girls between the ages of 13 years and 16 years and for boys ages 11 to 12 years ($p < .05$; Janssen et al.). Interestingly, males and females ages 15 to 16 that were overweight were also more likely to be perpetrators of bullying than their normal weight classmates (Janssen et al., 2004).

When using the Olweus definition of bullying, Scholte, Engels, Overbeek, de Kemp, and Haselager (2007) found that adolescents who had been bullied from childhood through adolescence or who had experienced bullying only in adolescence were more likely to have social adjustment problems than their peers who were not
bullied or who were bullied only in childhood. Victims of bullying behaviors have reported more difficulty making friends, poor relationships with their peers and loneliness although it is not known if the problems described are secondary to bullying behaviors or increase the risk of being a target for bullying behaviors (Nansel et al., 2001).

The overweight teens in this study described prolonged periods of teasing and bullying behaviors. The teens sought out friends who accepted them and reported having smaller numbers of friends than other more popular teens. Although teasing and bullying behaviors have been well documented in earlier studies of children and adolescents, the impact of this form of prolonged peer abuse on the overweight child and adolescent was not identified. Sixty-eight percent of the teens in this study reported teasing and bullying behaviors that were not playful. The fear of being teased forced some to withdraw into their homes and avoid social contact; others attempted to ignore the taunting, and a few confronted the behavior.

In contrast, the teen that did not meet the minimum weight for initial enrollment in the study did not describe similar experiences with teasing. She did, however, observe teasing for her more overweight cousin. There was a difference in the trajectory for the overweight teen that diverged based on body size. If they were not significantly overweight they were not teased in the same way as a larger child. The younger the age when they realized they were overweight, the more likely they were to describe being teased. Teens that became overweight for the first time in junior high school were less likely to describe problems with teasing and bullying.
**Anger**

The continued verbal taunting and sometimes physical assault from their peers led to angry responses ranging from avoidance of conflict to lashing out at the offender. The concept of anger has been studied to identify relationships between anger and psychological, behavioral and physical responses (Spielberger, 1999). The concepts of anger, hostility, and aggression are components of personality that are often confused (Spielberger, 1999). Spielberger (1999) describes anger as “a psychobiological emotional state or condition that consists of feelings that vary in intensity from mild irritation to annoyance to intense fury and rage, accompanied by activation of neuroendocrine processes and arousal of the autonomic nervous system” (p. 19).

Anger has been measured with a distinction between state anger, the subjective temporal component of anger and trait anger, the component relating to an acquired perception of events and subsequent reaction (Spielberger, 1999). Mahon, Yarcheski and Yarcheski (2000) found higher levels of trait anger in adolescents were associated with a loss of vigor associated with general well-being. Such traits that are developed early in life tend to remain into adult years (Spielberger, 1966). As such, early teasing and bullying may pre-dispose overweight adolescents and children to elevations in trait anger which can influence their general well being and which may influence their response to efforts to change them.

Although no difference has been identified in physical expressions of anger for Hispanic and white non-Hispanic adolescents, Hispanic adolescents are less likely to verbalize anger (Deffenbacher & Swaim, 1999). Hispanic adolescent communication of
anger may be influenced by cultural expectations of harmony in social interactions, also known as simpatico. Triandis and others (1984) describe simpatia as a cultural script which “refers to a permanent personal quality where an individual is perceived as likeable, attractive, fun to be with, and easy-going (p. 1363). The individual with simpatico seeks friendly relationships and may tend toward “a general avoidance of interpersonal conflict” (Triandis et al., p. 1363). Capturing the subtle Hispanic cultural expectation to maintain outer strength in the face of conflict was aptly stated in the movie My Family (Nava & Thomas, 1995) when the eldest brother describes his younger brother’s lack of communication as “never really knew what was going on inside of him except the anger, it was always there” and when the character of the younger brother described his own anger he states it was “burning me up like a fire, but on the outside I’m like a stone.” Simpatica is an unstated expectation in the Hispanic culture that individuals will create an environment of harmony, externalize positive and internalize negative responses (Triandis, Marin, Lisansky & Betancourt, 2004; Carlson, Kurato, Ruiz, Ng, & Yang, 2004). As such, external expression of anger is outside the cultural norms and when such external expression is communicated, it may reflect not only failing to meet cultural expectations but also the severity of the anger in the child or adolescent. Participants in the study described efforts to contain and refocus their anger and extreme responses when they felt they had been pushed too far. Hispanic children and adolescents are potentially again caught between two worlds, one in which teasing and bullying them is leading to anger, and another, an expectation of their culture, which sets an expectation of internalizing negative responses.
Depression

The reports of depressive responses to teasing and bullying behaviors by the teens in this study were not uncommon responses for Hispanic youth. Unfortunately the risks associated with depression and internalizing feelings places the Hispanic overweight adolescents at risk. The national Youth Risk Behavior Surveillance (YRBS) study (CDC, 2006b) finds that in the 12 month period prior to the study, Hispanic female adolescents reported periods of feeling sad or hopeless (46.7%), considering suicide (24.2%), making a suicide plan (18.5%), attempting suicide (14.9%), and requiring medical care for suicide attempts (3.7%) more frequently than any other group of adolescents in the nation. Hispanic males also reported higher rates of sadness and hopelessness (26%) than their white counterparts (18.4%) and had higher rates of suicide attempts (2.8%; CDC, 2006b).

Based on the findings of the YRBS study, Zayas et al. (2005) proposed a conceptual model for research on suicide attempts by adolescent Latinas. The proposed model describes a relationship between family functioning, adolescent development and culture and cultural traditions which interact to influence emotional vulnerability and psychosocial functioning (Zayas et al.). Unfortunately, while rates of suicide attempts remain highest for Hispanic adolescents, there is little known about why their rates are higher than their non-Hispanic peers. In fact, the numbers have been difficult to replicate in smaller studies (Roberts, Roberts, & Xing, 2007). Zayas and coworkers report suicide gestures in the Hispanic adolescent population are more frequently triggered by conflicts
within the family when compared to other groups of adolescents who are more likely to be triggered by peer conflicts.

Forty-seven percent of teens in this study described depressive behaviors or reported they had been depressed. Maladaptive coping strategies are found to increase with a transition from childhood to adolescence with a decreased use of distraction/recreation and an increased use of rumination (Hampel & Petermann, 2005). Rumination is described by Broderick and Korteland (2002) as “directing attention internally toward negative feelings and thoughts” (p. 202). As the teens in this study described feelings of anger, they described responding by using withdrawal, or going home and writing in a diary or other forms of keeping their negative feelings inside. Such behaviors are consistent with the cultural expectation of avoiding interpersonal conflict.

Distraction, in contrast to rumination, allows “the deliberate focusing on neutral or pleasant thoughts or engaging in activities that divert attention in more positive directions” (Broderick & Korteland, 2002, p. 203) and is a more expected coping behavior for adolescent males than for females. Gender-based stereotypes for adolescent coping styles establish an expectation that rumination is more acceptable for females than males although it is not an exclusively female behavior (Broderick & Korteland). Rumination is linked to depression in adolescent females as well as bulimic symptoms, binge eating and substance abuse (Nolen-Hoeksema, Stice, Wade, & Bohon, 2007). Ruminative coping is more common in older female adolescents than in their male adolescent counterparts (Broderick & Korteland; Grabe, Hyde, & Lindberg, 2007; Hampel & Petermann, 2005).
Of particular concern is the suicide gesture of one participant as well as the description of a lack of a reason to live by an overweight friend of another participant. Such serious consequence of teasing and bullying behaviors in combination with the higher risk of suicide for Hispanic adolescents creates a life threatening concern.

Stigma

Dovidio, Major and Crocker (2000) described stigma as a social construct that has “two fundamental components: (1) the recognition of difference based on some distinguishing characteristic, or “mark”; and (2) a consequent devaluation of the person” (p. 3). If the adolescent accepts the message from their peers that they are different and not socially acceptable, they must then recognize a stigma as part of their social identity when they are in the school setting or they must find ways to cope with the stigma. Individuals who are overweight are frequently stigmatized even when the numbers who are overweight exceed the numbers that are not overweight (Puhl & Brownell, 2003). The Hispanic adolescent describes close family ties and acceptance of family values which includes a cultural absence of stigma for being overweight. Although social psychologists and sociologists have theorized the effect of stigma on identity and self esteem for decades, Crocker (1999) proposes that, when a person deals with stigma, “the effects on the self are negotiated, created, and acted upon in the situation” (p. 91.). Crocker proposes that stigma does not become a stable part of the individual’s personality but rather depends upon the meaning given to the stigma by the individual based on other shared beliefs the individual may hold. For the overweight adolescent, Crocker’s proposal would suggest that the meaning that they give to being overweight,
based on their acceptance of the differing beliefs of their peers and their family, will drive their perception of stigma. Their recognition of stigma as part of their social identity may be situational. Goffman (1963) describes the stigmatized and the normal not as persons, but as perspectives that everyone participates in at some level and at some time in their lives as they interact socially. A stigmatized person may be an individual in a role at that particular moment in a social setting (Goffman, 1963). An example of the stigmatized person being in a role would be the overweight Hispanic adolescent in the role as a student where they are stigmatized by their peers, yet when they are in the role as son or daughter in a family setting there is no stigma. Although the Hispanic adolescents described painful situations with bullying behaviors in the world outside of their family, they rejected the stigma communicated by their peers. The strong influence of the Hispanic family on the adolescent was communicated throughout discussions with the adolescent; stigma was clearly not present within their culture. The cultural absence of overweight stigma does not mean, however, that stigma does not have an impact on other parts their lives.

Attempts to avoid the stigma outside their home included such activities as avoiding participation in school activities such as football or drill team. The benefits that come from team participation may subsequently be limited for the youth seeking to avoid stigma. Friendship networks were limited to those who accepted them without teasing or bullying them. Such friends often had their own particular areas of social conflict and may have been more accepting of individuals who were stigmatized by their peers, as they potentially were.
Failed Attempts at Weight Management

A surprising gap surfaced in the knowledge base of information for a healthy lifestyle, both related to food and exercise. Most of the teens comprehended the message that high calorie soft drinks were associated with weight gain, but beyond that change only two were able to describe a change that they had been able to sustain. Their knowledge of effective levels of physical activity presented similar gaps. Efforts toward weight loss were more likely to involve only physical activity or changes in eating behaviors, but less likely to be in combination. Those who elected to use physical activity did such things as large numbers of sit ups or walking relatively short distances without increasing the distance. Few resources were available to provide useful information for lifestyle change. Although health classes are a mandatory course in high schools in the state, only two of the teens were able to grasp what was needed to achieve a healthy lifestyle balance of portion control and physical activity. One of the two tried portion control changes because she wasn’t able to grasp the complexities of calories, fat grams, and other information that she reportedly found overwhelming. Salads for short periods of time seemed to be the most frequently failed effort. Recurrent efforts for weight management and subsequent failures led to descriptions of the futility of even trying.

The absence of support from the health care community in the presence of a nationwide concern for overweight children and adolescents was also a surprising finding. Unfortunately the stigma that extends across society for overweight individuals does not exempt health care providers. In a 2003 study of 389 researchers and health care professionals attending a scientific conference for the study of obesity, an anti-fat
bias was found with such qualities as lazy, stupid, and worthless attributed to obese people (Schwartz, Chambliss, Brownell, Blair & Billington, 2003). The findings of Schwartz and coworkers replicate similar findings in a previous study of physicians (Teachman & Brownell, 2001). A review of medical care provided to 2,543 patients with a BMI of over 30 (obese) found that only 19.9% had received a documented diagnosis of obesity while 22.6% had a obesity management plan in place (Bardia, Holtan, Slezak & Thompson, 2007).

The adolescents in this study who described contact with a health care professional remembered a negative interaction and did not desire to follow up with the health care provider for weight management assistance. They did not name the health care provider as an individual who would be approached with trust if weight management assistance were desired. The health care community that interacted with the teens in this study failed to meet a critical need.

The Weight of Being Overweight

The cumulative effect of teasing and bullying, anger, depression, stigma and failed attempts at weight management create a day-to-day burden for the overweight adolescent. Girls describe constantly being aware of how they look in their clothes, how they move, and how others are seeing them. Boys describe poor performance in sports, and concerns relating to not being able to participate on teams. One of the participants sadly whispered “I’m good at being overweight” (Amos). The futility of trying weight management was laced through the interviews. Being overweight changed their social lives, it changed their ability to participate in sports teams or dance teams, it impacted the
type of car they could purchase, how their opinions would be received in school groups, and placed them in positions of defense throughout the day as they interacted with their peers. Only when they were in their homes or with their families, was the weight of being overweight lifted.

Identity Development

As the overweight Hispanic child enters adolescence they reach a critical developmental stage with a focus on defining who they are, their sense of self or identity (Erikson, 1968). A key part of the process of defining their self identity is processed through how they perceive they look in the eyes of others (Erikson, 1968). While the overweight Hispanic adolescent is struggling to define who they are, they are receiving messages, both verbal and non-verbal from their peers that “who they are” has less value than others in the same setting. To understand the potential meaning the adolescent gives to teasing, bullying and stigma, it is necessary to understand developmentally what is occurring for the adolescent in this same time period. The period of adolescence is the last stage of childhood, a difficult period of development when sustained confusion about one’s identity can create problems for future stages of life (Erikson, 1968).

At the core of identity development is the question “Who am I?” (Blasi & Glodis, 1995). Blasi and Glodis propose that the response to that “identity essentially is a subjective answer to this question” (p. 405). Does the adolescent identify themselves as an “overweight adolescent”? Or does the adolescent perceive their identity to be no different from others although they have been told for many years by their peers they are
different? To understand how influences effect the development of identity a review of the social science literature on identity formation was undertaken.

Such concepts as “identity, self, ego, I, and me” have specific meanings for each theorist studying development; however, while there may be variance in the concepts related to “I”, there is common ground between the theorists in their descriptions of identity. Historically, there have been two approaches to the study of the development of identity, a developmental approach and a sociological approach. Although traditional theorists in the science of psychology have neglected the link between context and identity, there is a growing body of literature that recognizes the relationship between the two (Phinney & Goosens, 1996). Historically there has been a greater focus in the study of influences on self and identity as it relates to the individual and their interactions with society in the science of sociology (Adams & Marshall, 1996). It is impossible to adequately present the vast range of theories within the scope of this work; however a summary of the more significant approaches to the study of identity will be discussed.

Erikson (1963) did some of the earliest work in the field of identity development. Unlike many later developmental psychologists, his theory of psychosocial tasks did not separate the process of individualization from contextual influences (Yoder, 2000). Erikson identifies identity development as a major task of adolescence. Ego identification, a task accomplished after childhood but prior to becoming an adult, as described by Erikson “develops out of a gradual integration of all identifications” (Erikson, 1980, p. 95). It is a synthesis of the trust established from infancy, influences from group influences, struggles of belonging and autonomy to reach the sense of who the individual is (Erikson, 1980). When ego identity fails to progress appropriately the
adolescent is unable to define a role, a sense of which he or she is as an individual (Erikson, 1980). Erikson (1980) defines the term “identity” as a “mutual relation in that it connotes both a persistent sameness within oneself (selfsameness) and a persistent sharing of some kind of essential character with others” (p. 109).

Marcia’s (1980, 1983) work builds on the work done by Erikson with a focus in the area of ego identity. Marcia’s work identified three variables with significant influence on identity formation in adolescence: “confidence in parental support; a sense of industry; and a self-reflective approach to one’s future” (Marcia, 1983, p. 216). Marcia’s work, like that of Erikson, describes a lifelong process of identity changes which reflect early childhood influences as well as those later in life (Marcia, 1983). The period of adolescence marks the period of greatest development of one’s identity due to maturing of both physical and cognitive abilities (Marcia, 1980). The period of adolescence is described by Marcia (1980) as the first time in one’s life the three influences on identity come together, physical development, cognitive ability and social expectations. Identity development in adolescence is a period of testing the unknown with the ability to retreat to the safety of the family (Marcia, 1983).

Later approaches to identity development mesh the work of the individual with the influences of the social environment. Cote (1996) proposes that the formation of one’s identity is dependent upon a relationship between social structure, interaction, and personality. His framework of cultural identity organizes several identity concepts through an integration of the concepts of social identity (social structure), personal identity (interaction) and ego identity (personality) to present a link between culture and
identity (Cote, 1996). It is with the influences of interactions with others, personality, and social structure that cultural identity is formed.

The importance of the social environment on identity was also stressed by Adams and Marshall (1996). They propose that there is an “underlying need for identity that is part of being human”, that there is a need to differentiate one’s self as unique and individual, and third that there is a need to enhance a sense of belonging and mattering which influence social identity (Adams & Marshall, 1996, p. 431). They propose that the relationship between the individual and social environment is so inter-related that it is impossible to completely separate one from the other and that one must understand the contextual features which are influencing the personal and social identity. Further, they propose both macro and micro systems influence adolescent identity development. Macro systems would include such influences as leadership, social policies, and cultural messages. Micro systems would include day-to-day interfaces with others.

By the time the overweight Hispanic adolescent has reached the later years of adolescent they have also reached stages of defining who they are. They have been told by their peers, and sometimes adults, that they are overweight and as such, are not of equal social value. They have been told by their family that they are accepted no matter what their body size. They have been teased and taunted, most have attempted and failed at weight management, and they have reached a conclusion that they are simply “big” and that big is okay. They might prefer to be smaller, but it isn’t a choice available to them. They are adamant that they are not different from others; they are simply in a larger package. Having reached this point in their self-identity, they do not see a lot of value in attempting further weight management efforts as past efforts have been futile
and they are simply big. They will filter any information through their perception of self. One teen who successfully reduced her body size confessed that she believed people had lied to her about the potential of lifestyle change. She said she did not believe her body could reduce in size. She thought that her bones were bigger than other teen’s bones. Such misinformation is deeply rooted in the sense of self as big.

The time of closure of identity of self is a quieter time than the more turbulent childhood and early adolescent years of the cycle of being overweight, including teasing and bullying, depression, attempts to avoid stigma, and failed attempts at weight management. This final stage of identity development is closure of adolescence, an acceptance of self as big and an acceptance of the futility of weight management attempts. It is a quiet resolution that the adolescent defines as follows: “Yes, I’m overweight, but I’m not different on the inside, I’m me.” Bullying behaviors and teasing can no longer make a significant difference to the adolescent at this point. They are not going to make attempts to avoid the behaviors; they have reached a point of giving up, of no longer caring what others say, and of accepting being big. While a few still verbalize goals of weight loss for future years, most state that it would be nice, but if it didn’t happen it wouldn’t matter, they are fine with whom they are today. They identify strongly with their family, many of whom are also big, and they have a place in their family that is safe.

Contribution to Research

One of the most significant contributions to research from this study is the identification of a difference in the influence of the Hispanic family on the adolescent
from that of other cultures. Wadden and others (1990) suggested from findings with African American adolescents that there may be a cultural difference in adolescent responses to parent’s participation in weight management interventions. Earlier work with Caucasian adolescents noted constraints in communication when mothers participate in interventions with adolescents (Brownell et al., 1983). A review of all intervention studies with adolescents for the years from 1980 to 2003 resulted in a conclusion that separate intervention groups for parents and adolescents were more likely to be effective (Stuart, Broome, Smith & Weaver, 2005). That conclusion was based on studies done with minimal Hispanic participants. The findings of this study do not support that conclusion. Family is at the center of the Latino culture (Delgado-Gaitan, 1994). As the Hispanic adolescent develops their unique identity, their family is providing a social system where overweight is not uncommon and messages are provided that the teen is not different, they are family. Their family does not identify the same stigma identified by the world outside their cultural community. Most have spent their life surrounded by an extended family, many of whom are overweight and who are not bullying and teasing them. The family communicates an expectation of respect and belonging and does not ostracize members who may be physically different.

This study presents additional new information in providing a beginning understanding of the consequences of teasing and bullying behaviors on the overweight child and adolescent. Teasing and bullying behaviors begin early in the life of the overweight child and continue through adolescence. Such behaviors contribute to depressive behaviors in the overweight teen which have serious life threatening risk. As teens seek to avoid situations where they may be stigmatized due to being overweight,
they are limited in their development of networks of friends and opportunities for social interaction. Nearly all of the overweight teens had made some attempt at weight management, most of which had failed. Many of the attempts at weight management were poorly designed and lacked an understanding of the balance necessary to achieve and sustain lifestyle change. Due to negative interactions with health care providers some teens will avoid seeking assistance from this resource while others do not have a health care provider available. After experiencing a lifetime of teasing and bullying, teens will avoid any situation which may place them at risk of being teased or bullied including programs designed for weight management. The teens have attempted change through poorly understood programs and reached a conclusion that such efforts are futile. They doubt the health risk associated with their body weight, have reached a point of acceptance of their large size, and are not willing to experience any risk of further stigma to seek a change.

Interactions with the teens which are approached from an individualist culture are processed by the teens that have roots in a collectivist culture. As such, an approach for lifestyle change may fail based purely on a lack of understanding the inherent cultural differences. While programs placed in schools may teach children desirable values for a healthy lifestyle, when they arrive home those same values may lack needed reinforcement and commitment if the cultural differences are not recognized an integrated into program plans. Short term effects of programs cannot be sustained in the cultural intensity of the Hispanic family without family commitment to the change. Such an absence of commitment will not reflect an absence of caring about the child, but rather a lack of understanding of need for change by the entire family.
The need to address bullying behaviors in schools was previously reported (Nansel et al., 2001; Spivak & Prothrow-Stith, 2001). However, in 2007, students continue to describe current teasing and bullying of overweight students in the public schools. The weight management concern cannot be addressed separately from teasing and bullying behaviors or separately from an understanding of the Hispanic culture. To stop the cycle of being overweight, the cycle must be addressed at the points that trigger responses of anger and depression (Figure 2). Two areas contribute to the cycle; the first is teasing and bullying which must be addressed through formal programs both in schools and in social settings. The second area that contributes to the cycle of being overweight is a lack of understanding by the family for the need for weight management. The second area will require a solid understanding of cultural influences on communication within the family. Interventions must be targeted toward the family as a collectivist unit rather than toward individuals for sustained outcome.

Grounded Theory

The factors that influence the Hispanic overweight adolescent’s perception of weight and weight loss management are responses to teasing and bullying by peers mediated by family acceptance of overweight members, creating the cycle of being overweight. The final study aim is to develop a theory for weight loss interventions from the perceptions of the Hispanic overweight adolescent.

The final outcome of the cycle of being overweight is an identity that accepts a larger size and does not perceive an internal difference from others. The adolescent experiences an ongoing assault, including verbal assault, physical assault and nonverbal
behaviors such as social exclusion and having opinions discounted. This abuse from their peers occurs as they attempt to mature a sense of identity. Although they will acknowledge that they are overweight, they will avoid any situation which creates an opportunity for further teasing, bullying or social stigma. The influence of family is of particular importance as it provides an early environment of acceptance of being overweight and few role models for healthy lifestyles. Effective interventions must address the early developmental influences of teasing and bullying behaviors in parallel with the meaning family gives to being overweight to influence weight management behaviors of the overweight Hispanic adolescent. Interventions that fail to address the teasing and bullying behaviors that contribute to the cycle of being overweight are destined to fail.

While current interventions may not be effective, there are opportunities for lifestyle change with overweight Hispanic adolescents through programs that reduce the risk of teasing and bullying and which are inclusive of family members. Any intervention must not further stigmatize the participant. Potentially effective interventions might be considered through partnerships within the community in locations such as churches or social groups. Approaching organizations which have been active for several generations such as the League of United Latin American Citizens (LULAC) might be another way to bring interventions to the family.

Additionally, the overweight cycle may also potentially be prevented through early interventions in prenatal or preschool periods; such time periods provide an opportunity for work with families to prevent children from becoming overweight. Based on the participants’ descriptions of multiple generations of family involvement in
food selection and/or preparation, it would be important to include grandparents and parents in prenatal and preschool interventions. Prenatal interventions are important because parents learn ways to influence food preferences from infancy. Infants may refuse new foods as many as ten times as they learn new tastes. As infants refuse food, they discourage parents and grandparents from continuing to develop eating habits which are conducive to age appropriate weight gain in the future. One participant described her grandmother chewing food for the infants in her family rather than using a commercially prepared baby food. Such individualized feeding of infants may also develop food preferences which may contribute to future weight gains. Early prevention to reduce the risk of children being overweight may also remove future risks of bullying and teasing of the overweight child.

Timing of any intervention to foster prevention ideally might occur before food preferences and food avoidances are established and for that reason, the prenatal period may offer the earliest point for effective intervention. Unfortunately access to health care in the prenatal period is not always available for all families. Opportunities for effective family intervention continue through infancy, toddler periods and the preschool years. The family may be present when the mother enters the health care system, as infants enter clinics to receive first immunizations, or in community church and day care programs. Such points of interaction may allow information to be shared with multiple family members. Based on the family influences identified in this study, the young child may be developing food preferences within a family with overweight members and any efforts toward intervention must be within the family and not focus solely on the child or lifestyle changes are not likely to be adopted. As the participants of this study disclosed,
the risk of teasing and bullying may begin as early as preschool years. The timing of the opportunity for work with a family before the initiation by the child’s peers of weight-based teasing and bullying ranges from the prenatal period to the early preschool years. Rather than tailoring specific intervention programs only for prenatal, infancy or toddler periods, programs must take the opportunity to provide family-centered information and assistance with flexibility to adjust to the availability of the family. However, the earlier the intervention in the developmental cycle, the greater the opportunity for preventing the child from becoming overweight.

Adequacy of Methodology

Charmaz (2006) provides the following criteria for evaluating a grounded theory study: credibility, originality, resonance, and usefulness.

Credibility

Sufficient data were collected to assure no new data were emerging. The sample included participants from a sixty mile radius, equal distribution of both genders, and representation from both a rural and a larger community. The interviews provided rich data and significant insight into the daily lives of the participants. Further review of the literature discussed previously in the analysis provided support for the core categories which emerged from the data. There are strong links between the findings and the analysis.
Originality

The grounded theory study challenges existing practices for weight management with Hispanic youth which are primarily school based. The analysis provides an understanding of the influence of the Hispanic family on the overweight adolescent and the importance of the family in future interventions. No study in the past has identified the link between the influences of teasing and bullying and the influences of culture and family on the overweight Hispanic teen.

Resonance

When the findings were first described to Angela, one of the participants, she sat and stared at me for a moment in silence and then slowly smiled and nodded her head. Then she said, ‘You’ve got it”. And she was so excited. She related that when she is home she can be herself, she can dance around the room and no one stares at her, but when she leaves her home, she is self conscious. She insisted I should study “Americans” because she thought I would be surprised how different they are. “Americans” as she called them, would go to their friends for advice, Hispanic teens, she said, would go to family first. Seeing her quiet smile when she heard the findings was a non-verbal verification that is nearly impossible to describe.

Usefulness

The findings of this study present opportunities for further research as well as encouraging careful evaluation of other planned programs for weight management with children and adolescents. Quantitative studies can be used to further evaluate and
intervene with teasing and bullying, anger, depression and stigma in overweight Hispanic children and adolescents. Expanding the study to other groups of teens will allow comparisons of the meaning of being overweight. Perceptions of Hispanic family members of the meaning of being overweight and the meaning of the children being overweight will further extend the understanding of the needs of family. And, interventions utilizing the components of this theory that achieve sustained weight management will be the final test for the validity of the findings.

Limitations

The areas of recruitment were located 150 miles from the border of Mexico. The close proximity of Mexico allows families ease in continuing relationships with extended family members living in Mexico. It is possible that the sample may not reflect acculturation of other Hispanic families living at greater distances from Mexico.

The participants of this study were all enrolled in high school and volunteered for participation in the study, most in response to encouragement from an adult. Overweight adolescents who may not have positive relationships with adults did not volunteer to participate in the study nor did adolescents who were not enrolled in high school.

Another limitation is the absence of participation by overweight adolescents who are at or greater than the 99th percentile of the CDC growth charts. Of particular concern is the reluctance of the participant Amos to continue the study with a second interview and the absence of enrollment in the study by other extremely overweight adolescents’ in the study. The influence of teasing, bullying, anger, depression and stigma in their lives
is not known and may influence their reluctance to enroll in research studies which address weight.

Only two of the participants in the study were known to have health issues secondary to being overweight. It is possible that overweight adolescents with known health problems may potentially be more receptive to interventions for weight management than the participants of this study.

Recommendations for Future Research

The concerns verbalized by the participants that BMI charts were not realistic may provide clues of specific needs of the Hispanic adolescent. Are targeted BMI percentiles for health risk universal across all ethnic groups? The absence of specific measures known to be associated with health risk for Hispanic adolescents creates a lack of trust in the information provided by the health care provider. Future studies to identify ethnic specific BMI associated with health risk are needed to provide credibility for BMI targets.

Two participants, one male and one female, achieved some success with weight management during the two year period. Of interest is that both had joined the local YMCA and had a work-out partner. The female participant that achieved weight loss expressed surprise that she had been able to reduce her body size. Areas to consider in response to the success of these two individuals would include membership in a facility that encouraged physical activity such as the YMCA, and the influence of having a work out partner. Other unexplored areas include the potential effect of teasing, bullying and depression on self-efficacy for weight management and self-esteem. Studies to measure
self efficacy, self esteem, teasing and bullying at different ages for overweight children may also provide important information for timely intervention.

Differentiation of the influence of culture on the findings of this study provides an opportunity for future research. There is a need for a better understanding of the meaning of being overweight to adolescents of other cultures as well as to Hispanic adults. Does the influence of teasing and bullying have the same impact on adolescents from other cultures? Does the cycle of being overweight apply to adolescents of other cultures? Are different approaches for weight management needed based on cultural meaning of being overweight? Is the support identified in the family an influence of culture or is it related to the need of an overweight family member in any family?

Additionally, future research is needed to measure the effects of anger, depression, and stigma on the overweight Hispanic adolescent. Future studies are needed to test the theory of the cycle of being overweight with interventions at the point of entrance to the cycle, the onset of teasing and bullying as well as interventions which are based on family influences. Future research is needed to differentiate cultural influence from the influence of parent size. Most of the participants in this study reported that at least one parent was overweight. Does the normal weight parent respond differently to an overweight child or adolescent when compared to the overweight parent? Is there a difference between overweight and normal weight parental responses in the Hispanic culture?

The participants of this study describe supportive families with parents who are active participants in many of their weight management efforts. Are such parents unique
to the Hispanic culture? Future studies are needed to differentiate unique cultural influences in family interactions with overweight adolescents.

There is little known about differences for adolescents who may have a BMI greater than the 95th percentile of the CDC growth chart-for-age and the adolescent who may have a BMI greater than the 99th percentile of the CDC growth chart-for-age. Several participants verbalized that they were not very, very overweight and were a similar size to many in their schools. Future research to examine influences for very, very overweight (BMI greater than the 99th percentile) and overweight (BMI greater than the 95th percentile) would provide an opportunity for a better understanding of differences that may be experienced by the two groups of adolescents.

All of the participants in this study were enrolled in high school. Future research with overweight Hispanic adolescents who are not enrolled in school could provide data to support or contrast findings of this study.

Theoretical Significance

Findings of this study cannot be generalized beyond the sample; however they provide a basis for further study and more in-depth exploration of the influences identified. Grounded theory was an effective tool to explore the influences on the meaning of being overweight to Hispanic adolescents because it allowed adolescents to share their life experiences, an opportunity missed in quantitative studies. Past interventions with overweight Hispanic adolescents have included small numbers with other diverse samples and failed to recognize the strong cultural influence on the adolescents understanding of being overweight.
Health Policy and Practice

As the number of overweight children and adolescents in our country continues to increase, the call for a solution directs funds toward many school based and community intervention programs. There is a risk that such programs may lack adequate resources for the training of providers to assure an absence of teasing and bullying and a reduction of stigma. When working with overweight Hispanic children and adolescents, funds must be directed toward the prevention of bullying and teasing while parallel programs for lifestyle change are implemented at a family level. Interventions which treat the child or adolescent individually are not sensitive to the strong influence of the Hispanic family. Researchers and health care providers must also be sensitive to simpatico and recognize when communication is not effective. Further, training programs for all who interact with overweight Hispanic children and adolescents must be conducted to identify bias and teach effective forms of communication.

Summary

This study presents findings from a grounded theory study to identify the factors that influence perceptions of weight and weight loss management of the Hispanic overweight adolescent. The factors that influence the perceptions of weight and weight loss management include perceptions of difference from peers, family influences, teasing and bullying, anger, depression, avoiding social stigma, failed attempts at weight
management, weight of being overweight (a day-to-day burden of being overweight), and the sense of self as big.

The theory for weight loss interventions from the perceptions of the Hispanic overweight adolescent is that bullying and teasing behaviors drive the adolescent into a cycle of being overweight and must be stopped to break the cycle. If the cycle is not broken, any interventions are not likely to be effective because the adolescent has reached a stage of identity that accepts being big. Interventions directed toward individuals are doomed to fail due to the strong influence of the Hispanic family on the overweight adolescent.
LIST OF REFERENCES


APPENDIX A

DEMOGRAPHIC INFORMATION FORM
**Confidential Information**

<table>
<thead>
<tr>
<th>Participant Number:</th>
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<tbody>
<tr>
<td>Name:</td>
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**Mailing Address**

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<th>Grade in School:</th>
<th>Age:</th>
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**Confidential Information**

<table>
<thead>
<tr>
<th>Number of family members living in your home?</th>
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<tr>
<td>Number of parents living in your home?</td>
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<tr>
<td>Number of grandparents living in your home?</td>
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<tr>
<td>Number of brothers and sisters living in your home?</td>
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<tr>
<td>What language is spoken in your home most of the time?</td>
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<tr>
<td>How long has your family lived in Texas?</td>
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<tr>
<td>How long has your family lived in the United States?</td>
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APPENDIX B

WEIGHT AND HEIGHT MEASUREMENT INSTRUCTIONS
Weight and Height Measurement Instructions

All measurements will be collected by the principle investigator who is a registered nurse. Body weights and heights will be collected after the consent to participate and assent to participate have been signed and prior to scheduling an interview. Weights and heights may be collected in the participant’s home or at the community education clinic as preferred by the participant. A digital scale that records weights up to 500 lbs will be used, the scale will be calibrated according to manufacturer instructions prior to each use. Participants will be weighed and measured in a private room and their body weight and body height will be reported only to the participant.

Weight instructions

Participants will be instructed to remove coats, shoes, sweaters, belts, backpacks and to empty their pockets.

Participants will be weighed in their clothes and with socks on their feet.

Scale is set at zero position.

Participant steps on the platform with both feet on the platform.

Instruct participant to stand without moving until weight is recorded.

Record weight value to the nearest 1/4 pound; specifically record 1/4, 1/2 or 3/4 pound readings to the nearest pound.

Record weight immediately on the demographic form before the participant gets off the scale.
Height Measurement Instructions

A mobile stadiometer will be used for measuring heights. Participants should be measured after completing body weight measurement.

Measurement of height will be completed in socks without shoes.

Remove any hair ornaments, buns, braids, to the extent possible to allow for accurate height measurement. If an accurate height measurement can not be obtained because of hair styling, braids or other hair additions that can not be immediately reconstructed will not be removed. Participant stands on the footplate portion with back against stadiometer measurement ruler.

The participant will be instructed to bring legs together, some part of the legs should touch.

Knees should not be bent, arms straight at sides, shoulders should be relaxed.

Back of body should be touching the stadiometer at some point on the back.

The body is in a straight line (mid axillary line parallel to stadiometer). Figure A1 provides a visual image of the correct body position for measurement.

The head should face forward. Figure A2 provides a visual image of the correct head position for measurement.

Lower flat plate for measurement to the head at a point that it rests snugly on top of the head with enough pressure to depress hair.

Read the value at eye level

Measure to nearest 1/4 inch and stated in decimal form. Example 1/4 inch is 0.25 inch 1/2 inch is 0.5 and 3/4 inch is 0.75 Record value immediately on demographic form.
Figure C1. The mid-axillary line.
While taking height measurements, make sure that the mid-axillary line is parallel to the measuring rod.

Position of Head
“Frankfort Plane”

Figure C2. The position of head.
While taking height measurements, make sure that the “Frankfort plane” is perpendicular to the measuring rod

Note: From State of Maine (n.d.) Measuring Children’s Height and Weight
Adapted and reprinted with permission.
APPENDIX C

BODY MASS INDEX-FOR-AGE PERCENTILES
2 to 20 years: Girls
Body mass index-for-age percentiles

<table>
<thead>
<tr>
<th>Date</th>
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*BMI = Weight (kg) / [Stature (cm) / 100]^2

Published May 30, 2000 (modified 10/18/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).
http://www.cdc.gov/growthcharts
2 to 20 years: Boys
Body mass index-for-age percentiles

Date | Age | Weight | Stature | BMI* | Comments
--- | --- | --- | --- | --- | ---

To Calculate BMI: Weight (kg) / (Stature (cm) - Stature (cm) x 10,000
or Weight (kg) / (Stature (in) - Stature (in) x 703)

Published May 30, 2000 (modified 10/16/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).
http://www.cdc.gov/growthcharts
APPENDIX D

INTERVIEW QUESTIONS
Original first interview questions.

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<tbody>
<tr>
<td>1.</td>
<td>Let’s talk about being overweight. At what point in your life did you begin to think you were overweight?</td>
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<tr>
<td>2.</td>
<td>What things do you find hard because of your weight?</td>
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<tr>
<td>3.</td>
<td>What do you find easier because you are overweight?</td>
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<tr>
<td>4.</td>
<td>What would you change about your body if you could?</td>
</tr>
<tr>
<td>5.</td>
<td>Tell me about your favorite foods. What foods are your least favorite foods?</td>
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</tbody>
</table>
| 6. | Pick a day this past week and walk me through your day.  
Probe questions: Did you have any time outside? Did you participate in any sports? |
| 7. | What does your family think about you being overweight?  
Probe questions: Is anyone else in your family overweight? Tell me about your family meals and family get-togethers. What happens when the family is together? |
| 8. | What things, if any, have you done to lose weight? Have your parents tried to get you to lose weight and if so, what things have they done?  
Probe questions: Did any work better than others? Are there any things that don’t work? |
| 9. | If you were planning a program to help a teenager lose weight, what things might be good things to include?  
Probe questions: Would you have large groups or small groups? Would you add any education to the program? Who could best teach the program? Would time with other overweight teens be helpful? What about music, does it fit in? What wouldn’t be a good idea to do? Would you include family? What about money, if it cost money for the program would teens pay for it? About how much? How long would teens go to the program? How often? Where? |
| 10. | What do you think would make a teen keep coming to a program to lose weight?  
What would make them quit the program? |
| 11. | Is there anything else I should know about being overweight that I didn't ask? |

(Schreiber, 2001)
Original second interview questions.

1. It has been XX weeks since our last meeting and you’ve had time to think about our last discussion. Do you have anything you would like to add to help us learn about overweight adolescents and weight loss?

2. Last time we met you told me about XXXXX, let’s talk more about that today. Could you describe a particular time when that happened?

These questions will develop further based on concepts identified in the initial interviews.

Revised first interview questions.

1. I’d like to learn as much about your life as I can. To help me understand let’s talk about yesterday. Walk me through your day from the time you woke up. Probes: what time did your day start? Did you have breakfast, school, what happened there? Do you have lunch with friends? Best friends? Tell me about your friends, how did you connect with these friends? What about after school, what did you do?

2. Now let’s talk about a weekend day, walk me through last Saturday from the time you woke up. Is that pretty much typical?

3. Do you feel you are overweight? What word would you use? Let’s talk about being overweight (or word of their choice). When did you first start to think of yourself as big (or overweight or whatever term they prefer)? How do you see yourself compared to other kids at school? Tell me about a time being big (or their word of choice) made you feel different?

4. What things or activities do you find hard because of your size?

5. Is there anything that comes easier to you because of your size?
Revised second interview questions.

1. Last time we talked, you described……..could you tell me more about that?

2. What does your parents or brother or sister say about you being big (use their word of preference)? Is your Dad close to your size, bigger or smaller? What about your Mom? Sister? Brother?

3. Have you tried to lose weight? How long did it last? What did you do? What made you decide to lose weight last summer (or whenever time frame is mentioned)?

4. What would you describe as healthy food? Healthy exercise?

5. Would you consider going to a program to lose weight? If yes, “If there were a program for you, what would be included to make it work for you?”

Revised third interview questions.

1. Have you ever talked to a doctor or a nurse about being big (or word of their choice)? What kind of things did they say?

2. Let’s talk about your friends, tell me about them. Do you have a best friend? What kind of things do you do together? On a Friday or Saturday night, what do you do for fun?

3. What about adults, how do they respond to you being big (or word of their choice)? What’s it like at school, are there things/activities that you can't participate in because of your size? Use the mention of tight places - chairs, desks, bathroom stalls, as a probe.

4. Is there anything about being overweight that I didn’t ask?
APPENDIX E

IRB APPROVAL AND CONSENTS
Form 4: IRB Approval Form  
Identification and Certification of Research  
Projects Involving Human Subjects

UAB's Institutional Review Boards for Human Use (IRBs) have an approved Federalwide Assurance with the Office of Human Research Protections (OHRP). The UAB IRBs are also in compliance with 21 CFR Parts 50 and 56 and ICH GCP Guidelines. The assurance became effective on November 24, 2003 and the approval period is for three years. The Assurance number is FWA0005960.

Principal Investigator: STUART, WILMA
Co-Investigator(s):

Protocol Number: X041123002  
Protocol Title: A Grounded Theory Study: Adolescent Expectations of Weight Loss and Weight Loss Interventions

The IRB reviewed and approved the above named project on 1/4/2004. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services. This Project will be subject to Annual continuing review as provided in that Assurance.

This project received EXPEDITED review.

IRB Approval Date: 1/3/2004

Date IRB Approval Issued: 1/3/2004

Marilyn Doss, M.A.  
Vice Chair of the Institutional Review  
Board for Human Use (IRB)

Investigators please note:

The IRB approved consent form used in the study must contain the IRB approval date and expiration date.

IRB approval is given for one year unless otherwise noted. For projects subject to annual review research activities may not continue past the one year anniversary of the IRB approval date.

Any modifications in the study methodology, protocol and/or consent form must be submitted for review and approval to the IRB prior to implementation.

Adverse Events and/or unanticipated risks to subjects or others at UAB or other participating institutions must be reported promptly to the IRB.
Form 4: IRB Approval Form
Identification and Certification of Research
Projects Involving Human Subjects

UAB's Institutional Review Boards for Human Use (IRBs) have an approved Federalwide Assurance with the Office for Human Research Protections (OHRP). The UAB IRBs are also in compliance with 21 CFR Parts 50 and 56 and ICH GCP Guidelines. The Assurance became effective on November 24, 2003 and the approval period is for three years. The Assurance number is FWA00005960.

Principal Investigator: STUART, WILMA
Co-Investigator(s):
Protocol Number: X041123002
Protocol Title: _A Grounded Theory Study: Adolescent Expectations of Weight Loss and Weight Loss Interventions_

The IRB reviewed and approved the above named project on 11-01-05. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services. This Project will be subject to Annual continuing review as provided in that Assurance.

This project received EXPEDITED review.
IRB Approval Date: 11/01/05
Date IRB Approval Issued: 11-01-05

Marilyn Doss, M.A.
Vice Chair of the Institutional Review Board for Human Use (IRB)

Investigators please note:

The IRB approved consent form used in the study must contain the IRB approval date and expiration date.

IRB approval is given for one year unless otherwise noted. For projects subject to annual review research activities may not continue past the one year anniversary of the IRB approval date.

Any modifications in the study methodology, protocol and/or consent form must be submitted for review and approval to the IRB prior to implementation.

Adverse Events and/or unanticipated risks to subjects or others at UAB or other participating institutions must be reported promptly to the IRB.
Form 4: IRB Approval Form
Identification and Certification of Research
Projects Involving Human Subjects

UAB's Institutional Review Boards for Human Use (IRBs) have an approved Federalwide Assurance with the Office for Human Research Protections (OHRP). The UAB IRBs are also in compliance with 21 CFR Parts 50 and 56 and ICH GCP Guidelines. The Assurance became effective on November 24, 2003 and expires on February 14, 2009. The Assurance number is FWA00005966.

Principal Investigator: STUART, WILMA
Co-Investigator(s):
Protocol Number: X041123002
Protocol Title: A Grounded Theory Study: Adolescent Expectations of Weight Loss and Weight Loss Interventions

The IRB reviewed and approved the above named project on 10-13-06. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services. This Project will be subject to all annual continuing review as provided in that Assurance.

This project received EXPEDITED review.
IRB Approval Date: 10-13-06
Date IRB Approval Issued: 10-27-06

Marilyn Doss, M.A.
Vice Chair of the Institutional Review Board for Human Use (IRB)

Investigators please note:

The IRB approved consent form used in the study must contain the IRB approval date and expiration date.

IRB approval is given for one year unless otherwise noted. For projects subject to annual review research activities may not continue past the one year anniversary of the IRB approval date.

Any modifications in the study methodology, protocol and/or consent form must be submitted for review and approval to the IRB prior to implementation.

Adverse Events and/or unanticipated risks to subjects or others at UAB or other participating institutions must be reported promptly to the IRB.
Form 4: IRB Approval Form  
Identification and Certification of Research  
Projects Involving Human Subjects

UAB's Institutional Review Boards for Human Use (IRBs) have an approved Federalwide Assurance with the Office for Human Research Protections (OHRP). The UAB IRBs are also in compliance with 21 CFR Parts 50 and 56 and ICH GCP Guidelines. The Assurance became effective on November 24, 2003 and expires on February 14, 2009. The Assurance number is FWA00005960.

Principal Investigator: STUART, WILMA 
Co-Investigator(s):  
Protocol Number: X041123002  
Protocol Title: A Grounded Theory Study: Hispanic Adolescents' Experience of Being Overweight

The IRB reviewed and approved the above named project on 9-28-07. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services. This Project will be subject to Annual continuing review as provided in that Assurance.

This project received EXPEDITED review. 
IRB Approval Date: 9-28-07 
Date IRB Approval Issued: 9-28-07

Marilyn Doss, M.A. 
Vice Chair of the Institutional Review Board for Human Use (IRB)

Investigators please note: 
The IRB approved consent form used in the study must contain the IRB approval date and expiration date.
IRB approval is given for one year unless otherwise noted. For projects subject to annual review research activities may not continue past the one year anniversary of the IRB approval date.

Any modifications in the study methodology, protocol and/or consent form must be submitted for review and approval to the IRB prior to implementation.

Adverse Events and/or unanticipated risks to subjects or others at UAB or other participating institutions must be reported promptly to the IRB.
Consent Form

TITLE OF RESEARCH: Focus Group for "A Grounded Theory Study: Adolescent Expectations of Weight Loss and Weight Loss Interventions".

INVESTIGATOR: Wilma Powell Stuart, RN, M.A.

SPONSOR: None

Explanation of Procedures

You are being asked to participate in a focus group to review questions that will be asked in a research study designed to identify what influences weight loss and treatment for weight loss for adolescents or teens. You will also be asked for suggestions for communication with overweight adolescents.

The focus groups will be divided into two groups, one for males and one for females. There will be 4 overweight adolescents in each group and 2 adults. You will be asked to look at questions that are planned for the research study and to share your thoughts about the questions and suggestions for how to communicate when the study is done.

Risks and Discomforts

The risks associated with participating in this project are no greater than the risks from day-to-day living. It is possible that answering questions in a group might be upsetting to you. You do not have to answer a question during an interview if you do not wish to do so. You can take a break from the group or discontinue the interview without any consequences.

Benefits

You may not personally benefit from your participation in this research; however, your participation may provide valuable information to the medical community about the treatment for weight loss.
Alternatives
You have the right not to participate.

Confidentiality
The information gathered during this study will be kept confidential to the extent permitted by law. However, representatives of the University of Alabama at Birmingham (UAB) Institutional Review Board (IRB) will be able to inspect your research records and have access to confidential information that identifies you by name. The results of the research study interviews may be published for scientific purposes; however, your identity will not be revealed.

Withdrawal Without Prejudice
You are free to withdraw your consent and to discontinue participation in this focus group study at any time without prejudice against further care that you may receive at this institution.

Significant New Findings
Any significant new findings that develop during the course of the study that may affect your willingness to continue in the research will be provided to you by Wilma Powell Stuart.

Cost of Participation
There will be no cost to you for participation in the focus group.

Payment for Participation in Research
You will be paid $25 for travel and inconvenience for participating in the focus group. Payments will be made at the end of the group interview. Your total compensation for participating in the group will be $25.
Payment for Research Related Injuries

UAB and Wilma Powell Stuart have made no provision for monetary compensation in the event of injury resulting from the research. In the event of injury, assistance to obtain treatment will be available, but the treatment is not provided free of charge.

Questions

If you have any questions about the research or a research related injury, Wilma Powell Stuart will be glad to answer them. Wilma Powell Stuart’s number is (325) 280-0012. If you have questions about your rights as a research participant, you may contact Ms. Sheila Moore, Director of the UAB Office of the Institutional Review Board for Human Use (IRB). Ms. Moore may be reached at (205) 934-3789 or 1-800-822-8816, press the option for an operator/attendant and ask for extension 4-3789 between the hours of 8:00 a.m. and 5:00 p.m. CT, Monday through Friday.

Legal Rights

You are not waiving any of your legal rights by signing this consent form.

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Page 3 of 4
Revised 12-10-2004

Participant Initials__________________
**Signatures**

Your signature below indicates that you agree to participate in this study. You will receive a copy of this signed informed consent.

<table>
<thead>
<tr>
<th>Signature of Participant or Legally Authorized Representative</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature of Investigator</td>
<td>Date</td>
</tr>
<tr>
<td>Signature of Witness</td>
<td>Date</td>
</tr>
</tbody>
</table>

**Signature of Child/Minor**

(name of child/minor) has agreed to participate in research *A Grounded Theory Study: Adolescent Expectations of Weight Loss and Weight Loss Interventions* (title of project).

SIGNATURE OF CHILD/MINOR                                      Date
Consent Form


INVESTIGATOR: Wilma Powell Stuart, RN, M.A.

SPONSOR: None

Explanation of Procedures

You are being asked to participate in a research study designed to identify what influences weight loss and treatment for weight loss for adolescents or teens.

If you decide to participate in the study, you will be asked questions in three interviews. The interviews will be tape recorded with two tape recorders. Before you can be enrolled in the study, you will be asked to provide information about you and your family such as how many brothers and sisters you have, how many people live in your home, what language is spoken in your home. When you are interviewed, you will be asked questions about being overweight, to describe things you have done to lose weight, to describe your physical activity and food preferences and to describe what might be different for teens than adults when planning a program for weight loss.

Risks and Discomforts

The risks associated with participating in this project are no greater than the risks from day-to-day living. It is possible that an interview question or the response to a question might be upsetting to you. You do not have to answer a question during an interview if you do not wish to do so. You can take a break from the interview or discontinue the interview without any consequences.

Benefits

You may not personally benefit from your participation in this research; however, your participation may provide valuable information to the medical community about the treatment for weight loss.

UAB—IRB
Consent Form Approval 11-01-05
Expiration Date 11-01-09
Alternatives
You have the right not to participate.

Confidentiality
The information gathered during this study will be kept confidential to the extent permitted by law. However, representatives of the University of Alabama at Birmingham (UAB) Institutional Review Board (IRB) will be able to inspect your research records and have access to confidential information that identifies you by name. The results of the research study interviews may be published for scientific purposes; however, your identity will not be revealed.

Withdrawal Without Prejudice
You are free to withdraw your consent and to discontinue participation in this project at any time without prejudice against further care that you may receive at this institution.

Significant New Findings
Any significant new findings that develop during the course of the study that may affect your willingness to continue in the research will be provided to you by Wilma Powell Stuart.

Cost of Participation
There will be no cost to you for participation in the research.

Payment for Participation in Research
You will be paid $25 for travel and inconvenience for each study interview. Should you withdraw from the study, you will be paid $25 for travel and inconvenience for each study interview that you have completed. Payments will be made at the end of each interview. If you complete the entire study, you will have received a total of $75 for three completed interviews.
Payment for Research Related Injuries

UAB and Wilma Powell Stuart have made no provision for monetary compensation in the event of injury resulting from the research. In the event of injury, assistance to obtain treatment will be available, but the treatment is not provided free of charge.

Questions

If you have any questions about the research or a research related injury, Wilma Powell Stuart will be glad to answer them. Wilma Powell Stuart’s number is 325-280-0012. If you have questions about your rights as a research participant, you may contact Ms. Sheila Moore, Director of the UAB Office of the Institutional Review Board for Human Use (IRB). Ms. Moore may be reached at (205) 934-3789 or 1-800-822-8816, press the option for an operator/attendant and ask for extension 4-3789 between the hours of 8:00 a.m. and 5:00 p.m. CT, Monday through Friday.

Legal Rights

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Signatures

Your signature below indicates that you agree to participate in this study. You will receive a copy of this signed informed consent.

Intentionally Left Blank
Signature of Participant or Legally Authorized Representative

Signature of Investigator

Signature of Witness

Signatures of Child/Minor

(name of child/minor) has agreed to participate in research A Grounded Theory Study: Adolescent Expectations of Weight Loss and Weight Loss Interventions (title of project).

SIGNATURE OF CHILD/MINOR

Date

INVESTIGATOR: Wilma Powell Stuart, RN, M.A.

SPONSOR: None

Explanation of Procedures

You are being asked to participate in a research study designed to identify what influences weight loss and treatment for weight loss for adolescents or teens.

If you decide to participate in the study, you will be asked questions in three interviews. The interviews will be tape recorded with two tape recorders. Before you can be enrolled in the study, you will be asked to provide information about you and your family such as how many brothers and sisters you have, how many people live in your home, what language is spoken in your home. When you are interviewed, you will be asked questions about being overweight, to describe things you have done to lose weight, to describe your physical activity and food preferences and to describe what might be different for teens than adults when planning a program for weight loss.

Risks and Discomforts

The risks associated with participating in this project are no greater than the risks from day-to-day living. It is possible that an Interview question or the response to a question might be upsetting to you. You do not have to answer a question during an interview if you do not wish to do so. You can take a break from the interview or discontinue the interview without any consequences.

Benefits

You may not personally benefit from your participation in this research; however, your participation may provide valuable information to the medical community about the treatment for weight loss.

UAB - IRB

Consent Form Approval 10-27-06
Expiration Date 10-15-07

Participant initials________________
Alternatives

You have the right not to participate.

Confidentiality

The information gathered during this study will be kept confidential to the extent permitted by law. However, representatives of the University of Alabama at Birmingham (UAB) Institutional Review Board (IRB) will be able to inspect your research records and have access to confidential information that identifies you by name. The results of the research study interviews may be published for scientific purposes; however, your identity will not be revealed.

Withdrawal Without Prejudice

You are free to withdraw your consent and to discontinue participation in this project at any time without prejudice against further care that you may receive at this institution.

Significant New Findings

Any significant new findings that develop during the course of the study that may affect your willingness to continue in the research will be provided to you by Wilma Powell Stuart.

Cost of Participation

There will be no cost to you for participation in the research.

Payment for Participation in Research

You will be paid $25 for travel and inconvenience for each study interview. Should you withdraw from the study, you will be paid $25 for travel and inconvenience for each study interview that you have completed. Payments will be made at the end of each interview. If you complete the entire study, you will have received a total of $75 for three completed interviews.
Payment for Research Related Injuries

UAB and Wilma Powell Stuart have made no provision for monetary compensation in the event of injury resulting from the research. In the event of injury, assistance to obtain treatment will be available, but the treatment is not provided free of charge.

Questions

If you have any questions about the research or a research related injury, Wilma Powell Stuart will be glad to answer them. Wilma Powell Stuart’s number is 325-280-0012. If you have questions about your rights as a research participant, you may contact Ms. Sheila Moore, Director of the UAB Office of the Institutional Review Board for Human Use (IRB). Ms. Moore may be reached at (205) 934-3789 or 1-800-822-8816, press the option for an operator/attendant and ask for extension 4-3789 between the hours of 8:00 a.m. and 5:00 p.m. CT, Monday through Friday.

Legal Rights

You are not waiving any of your legal rights by signing this consent form.

Signatures

Your signature below indicates that you agree to participate in this study. You will receive a copy of this signed informed consent.

Signature of Participant

Date

Signature of Investigator

Date

Signature of Witness

Date
APPENDIX F

PERMISSION TO REPRINT
The drawings on the Maine School Health Manual web site were provided by the
Harvard School of Public Health (they wrote this section for us). We
received another request from a state last year and I attempted for some
time to get permission from Harvard but was not successful. As they didn't
respond, I am assuming they did not object. You certainly have our
permission - and hope Harvard concurs.

-----Original Message-----
From: Fellows, Kathy
Sent: Monday, October 25, 2004 11:38 AM
To: Hall, DeEtte
Subject: FW: Maine.Gov feedback: School Report Query

DeEtte, the person below wants to duplicate some of your information on the
weights page of the health manual and he wants permission. I thought I'd
forward the message to you.

kathy

-----Original Message-----
From: Lounsberry, Wendy
Sent: Monday, October 25, 2004 11:34 AM
To: Fellows, Kathy
Subject: FW: Maine.Gov feedback: School Report Query

Kathy,

I am sending this to you because you are the one that has been taking care
of the website. Would you forward this to whomever would be able to answer
this question please.

Thank you.

Wendy

From: Kasi Bean [EMAIL:kasi@infome.org]
To: wendy.lounsberry@maine.gov
CC:

Subject: [FW: Maine.Gov feedback: School Report Query]
Sent: 10/25/04 10:11 AM
Importance: Normal

Good morning!

Could you please assist with this request?

Thank you,

Kasi

Infome/Maine.gov

http://webmail.aol.com/mandview.aol?folder=SUSCT1&sp=&sid=10388691

10/25/2004
Question/Comment:
I am writing to request permission to duplicate the figures provided with the information at the above URL. The figures provide detailed drawings of the proper positions for collecting heights and weights. The reproduced drawings will be referenced to the web site and used in my doctoral dissertation in a study of overweight adolescents. Thank you for any direction you may provide to me for properly obtaining permission to use both figures.

Page referenced: www.state.me.us/education/sh/height.htm
APPENDIX G

FLYERS AND ADS USED FOR RECRUITMENT
Overweight Latino or Hispanic Adolescents ages 16 & 17 needed to participate in a focus group on weight.

The focus group will be held in San Angelo & will last approximately 1 hour and you will be compensated for your time. Please call Wilma at 280-0012 for more information.
Overweight Latino or Hispanic Adolescents ages 16 & 17

needed to participate in a research study about being overweight and needs of overweight Latino teens.

Two 60 minute tape recorded interviews in San Angelo or nearby.

You will be compensated for your time.

Please call Wilma at 280-0012 for more information

Wilma Stuart 280-0012 Wilma Stuart 280-0012 Wilma Stuart 280-0012 Wilma Stuart 280-0012 Wilma Stuart 280-0012