2001

Psychosocial Correlates of Eating Disorder Symptoms in a Young, Black, Female Sample.

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PSYCHOSOCIAL CORRELATES OF EATING DISORDER
SYMPTOMS IN A YOUNG, BLACK, FEMALE SAMPLE

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Psychology

by
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May 2001
DEDICATION

This project is dedicated to my mother and father, Eileen and Michael Zucker, and the Audubon Girl Scout Council: its members, Jill Pollard, and Shelley Upshaw. Without the continued support and enthusiasm of these individuals, I would have bailed out on this degree long ago. In addition, I would like to thank Donald A. Williamson, Ph.D. for years of his supervision, guidance, and sarcastic wit and Richard S. Surwit, Ph.D. for dragging me out of my state of learned helplessness.
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ABSTRACT

The present investigation examined the psychosocial correlates of eating disorder symptoms among a young sample of Black female adolescents. Recent epidemiological investigations have documented higher rates of disordered eating in Black females than had previously been reported. Because of the high prevalence of these symptoms both in majority and in minority populations, many eating disorder researchers are promoting preventive strategies to stem further increases in symptom levels. To this end, several longitudinal investigations have been conducted to delineate the risk factors of disordered eating among White adolescent populations. However, Black adolescents have been minimally represented in these samples. Thus, there is a dearth of knowledge of the psychosocial correlates of eating disorder symptoms among young Black females. The purpose of this investigation was to examine these correlates among a Black, female adolescent sample. Correlates examined included social pressure for thinness from the media, from mothers, and from peers; pubertal development; and self-esteem. Results indicated that young Black females experience some unique pressures that may necessitate tailored preventive interventions. More specifically, Black female adolescents experienced conflicting weight and shape goals from different social contexts, pressure to gain weight from their mothers and teasing about weight from their peers. Thus, young Black females may struggle with choosing a body size and shape that will lead to greater social acceptance. Further, self-esteem was examined as a mediator of environmental pressures for thinness and eating disorder symptoms. In the Black sample, self-esteem was found to partially mediate the relationship between media influence and eating disorder symptoms; while self-esteem was found to totally mediate the relationship between teasing and eating disorder symptoms. The strength of these relationships was not as strong in the White adolescent sample, although the pattern of relationships was consistent. Thus, it is possible that these conflicting pressures from different social contexts contribute to a greater negative evaluation of oneself than consistent pressure for slenderness. Further, these pressures may be particularly potent during adolescent transitions, as Black adolescents were more bothered by the changes associated with puberty than the White adolescents. The implications of these conflicting pressures and their negative relationship with self-esteem are discussed in terms of future preventive interventions.
“Truth is, distorted body images and eating disorders are not the sole domain of privileged, White women. Doesn't it make sense that Western, White, and waif standards of beauty would be exponentially crippling to women of color, whose ethnicity separates them even further from that ideal?”

- (Hues Magazine, 1998)

INTRODUCTION

In her seminal work, Dr. Hilde Bruch described anorexia nervosa as a previously rare condition that was increasingly affecting the “most affluent and most intelligent” White, female members of society (Bruch, 1973). Virtually unheard of decades earlier, psychiatric training in these disorders was limited, if not nonexistent at that time, as the relative rareness of these disorders precluded the devotion of significant clinical resources. In contrast, 349 research investigations and 35 book chapters on eating disorders were published in the year 1999 alone, a testament to the surge of interest in the management and treatment of these diagnoses. Numerous studies have documented the rising incidence rates of these disorders since the 1960’s, and the cognitive characteristics of these disorders are frequently described as “normative” among females in Western society (Striegel-Moore, Silberstein, & Rodin, 1986).

Not only are the prevalence rates of these disorders changing, but our conceptualization of these disorders is also shifting. Formerly thought of as disorders of the Caucasian upper classes, recent review articles are finding that eating disorders are crossing racial and class boundaries (Crago, Shisslak, & Estes, 1996). However, despite evidence that eating disorder symptoms are problematic for many Black females, we know little about the psychosocial correlates of these symptoms among this population. This has become an important area of eating disorder research, as such information may be useful for understanding social and cultural factors involved in the development of eating disorders.

The purpose of this study was to examine some psychosocial correlates of eating disorder symptoms among an adolescent Black female population. Using the research conducted on White samples as a point of departure, this investigation examined proposed correlates relative to an adolescent White sample and investigated the function of self-esteem as a mediator between psychosocial correlates and eating disorder symptoms.
Before describing the study, this paper will 1) summarize current diagnostic criteria, 2) present data on the prevalence of eating disorder symptoms, and 3) review the literature on risk factors and psychosocial correlates of eating disorder symptoms with particular attention to the relevance of these variables for Black females. Finally, a mediational model will be proposed in which low self-esteem functions as the mechanism by which social and cultural variables become associated with eating disorder symptoms.

Eating Disorders: Definition of the Problem

The Diagnostic and Statistical Manual of psychiatric disorders (DSM-IV; American Psychiatric Association, 1994) recognizes two formal diagnostic categories of eating disorders: anorexia nervosa and bulimia nervosa. The category "eating disorder not otherwise specified" is reserved for cases whose symptoms cause significant distress and impairment but do not attain the levels of severity specified by the DSM-IV for a diagnosis of anorexia or bulimia nervosa. Binge eating disorder, which is currently subsumed under "eating disorder NOS," is a proposed diagnostic category currently under investigation.

Anorexia nervosa is characterized by an individual's refusal to maintain a healthy weight level for height or a failure to achieve expected weight gains given one's stage of physical development. Individuals diagnosed with this disorder often manifest a distorted body image, place undue importance on body weight as a determinant of self-worth, and/or deny the severity of their current weight level. Furthermore, individuals with this disorder exhibit an extreme fear of weight gain that motivates excessive forms of weight control. The dangerous level of weight loss seen in individuals with anorexia causes physiological dysfunction leading to the absence of regular menstrual cycles (American Psychiatric Association, 1994). Two subtypes of anorexia nervosa are currently differentiated: the binge-eating/purging subtype and the restrictive subtype. In the former, purgative methods such as self-induced vomiting, the abuse of laxatives or/and diuretics, and/or binge eating is present. Restrictive anorexics primarily accomplish extreme weight loss through fasting, restrictive eating, and excessive exercise. Anorexia nervosa currently has the highest rate of mortality for female adolescents among psychiatric disorders (Vitiello & Lederhendler, 2000).

Bulimia nervosa is characterized by recurrent episodes of binge eating. Binge eating is operationally defined as the rapid consumption of a large amount of food in a discrete period of time and
is associated with a feeling of loss of control during consumption. The amount of food considered to be indicative of a binge is contextually derived. It is defined as excessive consumption relative to the environmental circumstances. In bulimia nervosa, binge-eating episodes are followed by purgative behavior in the form of self-induced vomiting, the abuse of laxatives or diuretics, or the use of excessive exercise. Cognitive components of bulimia nervosa include the undue influence of body size and shape on self-worth (American Psychiatric Association, 1994). Binge eating disorder, a proposed disorder under investigation, shares many similarities with bulimia nervosa. However, binge eating is not followed by purgative behavior, and binge eating may occur less frequently than specified in the diagnosis of bulimia nervosa.

**Increased Prevalence Rates: The Problem of Partial Syndrome Eating Disorders.** The diagnostic criteria for anorexia nervosa and bulimia nervosa have frequently been described as too stringent (Shisslak, Crago, & Estes, 1995). Several factors motivate this criticism. First, a growing body of evidence indicates that approximately 30-40% of eating disorder clinic referrals receives the diagnosis of ED-NOS (Williamson, Gleaves, & Savin, 1992). Individuals diagnosed with ED-NOS typically exhibit the symptoms of disordered eating at a lower frequency and/or level of severity than the formal diagnostic classifications. Thus, although these individuals experience a level of symptom severity that necessitates treatment, they do not meet criteria for a formal eating disorder diagnosis. Herzog, Hopkins, and Burns (1993) report that many individuals with these symptom profiles further deteriorate over time, eventually meeting criteria for a full diagnosis.

An examination of recent community-based investigations provides some insight into the scope of the problem. For example, in an epidemiological study of 2163 female twin pairs, the estimated lifetime prevalence of bulimia nervosa was 2.8%, while the prevalence of partial syndrome bulimia nervosa was 5.7% (Kendler et al., 1991). In a community survey of adolescents, the prevalence rate of partial syndrome anorexia nervosa was 20.8% and the prevalence rate of partial syndrome bulimia nervosa was 11.3% (Stein et al., 1997). Increases in the incidence of the full syndromes of anorexia nervosa and bulimia nervosa have also been documented. In a review of incidence studies of anorexia nervosa conducted between 1950-1992, Pawluck and Gorey (1998) concluded that a near threefold increase was observed over the past 40 years among women in their 20s and 30s.
These prevalence patterns highlight current problems with the diagnostic classification of eating disorders. The broad range of symptom severity that causes impaired functioning argues for the use of continuous measures of eating disorder symptoms rather than the use of dichotomous diagnostic categories. Thus, in the current investigation, continuous measures of eating disorder symptoms were employed.

**The Prevalence of Eating Disorder Symptoms among Black Females.** The number of individuals necessary to conduct epidemiological research on eating disorders is often prohibitive given the .5% prevalence rate often cited for the full syndrome of anorexia nervosa (Walters and Kendler, 1995) and the 1% prevalence rate cited for the full syndrome of bulimia nervosa (Fairburn & Beglin, 1990). Thus, comparisons between racial groups becomes a progressively more daunting task. To maximize efficiency, researchers have traditionally examined the prevalence of eating disorder symptoms among subgroups proposed to have a higher prevalence of these symptoms than the general population, such as adolescent female athletes. Differential rates of eating disorder symptoms among racial groups within these subgroups are then compared. The following review summarizes these patterns of symptom prevalence.

There is a large body of evidence documenting a higher prevalence of eating disorder symptoms, particularly the symptoms of anorexia nervosa, among adult White samples relative to adult Black samples (Pike & Walsh, 1996; Striegel-Moore & Smolak, 1996). However, there has been a relative lack of investigations comparing younger Black and White adolescent samples. Furthermore most studies have been conducted on college or clinic samples, which may not be indicative of symptom patterns in the general population (Pike & Walsh, 1996).

Indeed, comparable levels of eating disorder symptoms have been reported between Black and White female adult samples in recent community-based investigations. The symptom of binge eating, in particular, has been found to be equally prevalent across racial groups in several investigations. For example, Smith, Marcus, Lewis, Fitzgibbon, and Schreiner (1998) reported equal rates of binge eating between Black and White adult females in a community sample of 3938 subjects, ranging in age from 28-40 years. Wilfrey, Schreiber, Pike, and Striegel-Moore (1996) found no differences in a community-based sample on measures of eating disturbance among Black and White female groups with a mean age...
of 37-years. Furthermore, in a community-based survey of Black readers of a popular minority
publication, scores on a well-validated screening instrument of eating disorder symptoms were
comparable to the levels endorsed by White readers of a similar publication (Pumariega, Gustavson,
Gustavson, & Motes, 1994)

In their review, Striegel-Moore and Smolak (1996) concluded that prevalence rates among racial
groups may be comparable; however, groups may display different manifestations of eating disorder
symptoms. For example, Striegel-Moore and Smolak (1996) reported that Black samples have higher
rates of laxative abuse relative to White samples, while the latter exhibited more self-induced vomiting.
The preponderance of evidence indicates that Black populations are more likely to engage in binge eating
and purgative behavior rather than restrictive eating and excessive exercise. For example, Le Grange,
Stone, and Brownell (1998) found the highest rate of purgative behavior among a Black sample relative
to White, Hispanic, and Asian ethnic groups in a Consumer Reports survey of 9971 females aged 21-65
years.

Studies of younger samples also indicate that binge eating and purgative behavior may be
problematic for Blacks. Childress, Brewerton, Hodges, and Jarrell (1993) found a greater prevalence of
binge eating in Black girls in grades 4-8 as compared to White girls (11.4% vs. 5.4%). Black girls
endorsed a greater rate of laxative and diuretic use relative to self-induced vomiting when compared to
the purgative habits of their White high-school classmates (Langer, Warheit, & Zimmerman, 1991).
Further, Story, French, Resnick, and Blum (1995) reported that self-induced vomiting was more prevalent
among Black female adolescents than in White females adolescents in a sample of 34,397 high school
students.

Other unhealthy eating patterns have also been documented in Blacks. Black adolescent females
were almost twice as likely as White adolescent females to skip meals (McNutt et al., 1997). Given the
large body of research that supports the relationship between restrictive eating patterns and the later
development of binge eating, this eating pattern among Black adolescents may portend future problems
(Polivy & Herman, 1993). Furthermore, a Black adolescent sample was reported to engage in more
emotion-induced eating relative to a White adolescent sample (Striegel-Moore et al., 1999). This latter
finding was part of a multi-center collaborative study of the risk factors for obesity conducted with 1213

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Black and 1166 White preadolescent girls. Although these latter studies are not indicative of eating disorder symptoms per say, they do provide evidence of disturbed eating behaviors among Black adolescents.

Moreover, symptoms of eating disturbance among Black adolescent populations do not appear to be limited to the United States. In a sample of 213 adolescent female South African private school students, the author found that 20.7% of White participants and 37.5% of black participants were classified as having abnormal eating attitudes based on their responses on a well-validated measure of eating disorder symptoms (Szabo, 1999).

Thus, there is a growing body of evidence that eating disorder symptoms are occurring in the Black community, sometimes at a rate comparable to their White counterparts. While longitudinal data on changing incidence rates among minorities is lacking, the body of research presented documents a problem in need of further investigation. Moreover, it is likely that methodological limitations of previous studies result in an underestimation of the extent to which minority populations suffer from eating disorder symptoms (Pike and Walsh, 1996). A majority of earlier prevalence studies used clinic-based samples (Pike & Walsh, 1996). These samples are traditionally nonrepresentative of the true rates of disease prevalence within a community due to the differential rates of health care utilization among minority groups (Alvidrez, 1999; Striegel-Moore & Marcus, 1995). Recent reviews indicate that minority adolescents may have a decreased rate of mental health utilization due to the relative scarcity of minority mental health professionals (Hoberman, 1992; Jerrell, 1998). Furthermore, as eating disorders have traditionally been deemed disorders of the White upper class, health care professionals may fail to properly diagnose minority patients with eating disorder symptoms until their symptoms reach a greater level of severity (Pike & Walsh, 1996).

In summary, eating disorder symptoms are a well-documented problem among White samples and a potentially unrecognized problem among Black samples. Because of the potential magnitude of this problem, Battle and Brownell (1996), in concert with many eating disorder specialists, have argued for the development of eating disorder preventive methods. Befitting this goal, investigations into the psychosocial correlates and/or risk factors for eating disorder development have proliferated in recent years. The following sections summarize these findings.
Risk Factors and Psychosocial Correlates: Some Definitions

In the following review, a variable will be considered a risk factor if in a longitudinal study of this variable, the presence of this characteristic at Time 1 predicted the incidence of eating disorder symptoms at Time 2 (Kraemer et al., 1997). Protective factors are variables that are thought to shelter the individual from the development of eating disorder symptoms at Time 2. In contrast, a psychosocial correlate, as utilized in the current investigation, is a variable that has been found to be associated with the presence of eating disorder symptoms in a cross-sectional design.

Social Risk Factors: Media, Parents, Peers, and Teasing

Environmental risk factors, by definition, create a setting in which the development of eating disorder symptoms is more likely to occur. These noxious influences are transmitted from two primary domains: the immediate social context of the individual and the larger cultural context. Social pressure for thinness from these domains via direct verbal commentary and social modeling is thought to create an environment of risk.

Proponents of sociocultural etiological models of eating disorder development often implicate social learning theory as the mechanism by which these external pressures are translated into individual risk factors (Stice, 1994). In this model, vulnerable individuals are believed to be more susceptible to noxious external influences that promote an unhealthy ideal body size and shape. These individuals would then tend to mimic these unhealthy behaviors and internalize this ideal. Adherents of this model cite the concomitant increase in social pressure for thinness in the media and the rise in symptoms of disordered eating as evidence for the model’s validity (Stice, 1994). However, more proximal social pressure, such as weight pressure and teasing from parents and peers, as well as the modeling of weight and shape concerns by parents and peers, has also been studied. In this review, research from four areas of environmental risk will be summarized: the media, the influence of parents, the influence of peers, and the effects of teasing about body size and shape.

Media. Media content analyses, laboratory investigations, historical critiques, and longitudinal studies have supported the contribution of the media to the development of eating disorder symptoms. Several content analyses have documented that the images portrayed in the media have gotten slimmer over the past three decades and that the number of dieting articles have increased during that time.
However, the average weight of American women has increased during this same period. Thus, these changing images are not simply reflective of a changing demographic distribution.

There are two facets of media exposure that are considered to have potential relevance. First is the degree of media exposure, the dosage, and the second is the degree to which the individual internalizes the messages portrayed, the effect. It has been proposed that the same dosage does not guarantee the same effect. For example, it has been hypothesized that one of the factors that protects Black female adolescents from eating disorder symptom development is the lower degree to which they internalize the messages portrayed in the media vs. the possibility that they receive a lower degree of exposure to these images. Thus, several investigations have attempted to tease apart these aspects.

Stice, Schupak-Neuberg, Shaw, and Stein (1994) analyzed the relationships between degree of media exposure, internalization of the ideal-body stereotype, gender-role endorsement, and body dissatisfaction on the development of eating disorder symptoms. A structural equation model was computed on a sample of 238 female college students (racial composition not reported). Results indicated both a direct effect of media exposure on the development of eating disorder symptoms as well as an indirect effect of media exposure mediated through internalization of the thin ideal. Notably, this is a cross-sectional study; thus the predictive ability of these variables is not known.

More recently, longitudinal investigations have documented a relationship between perceived social pressure for thinness and the onset of binge eating (Stice & Agras, 1998) and dieting (Stice, 1998). In a predominantly White adolescent sample of 218 female high-school seniors (2.3% Black), a composite measure of social pressure for thinness assessing pressure from parents, peers, and the media was administered. In addition, body dissatisfaction, internalization of the thin-ideal stereotype, dieting, negative affect, and bulimic symptoms was assessed. Data were analyzed over a 9-month period using a grouping analysis to divide participants based on their symptom level at baseline and follow-up.

Both internalization of the thin-ideal stereotype and social pressure for thinness contributed to the onset of binge eating and the onset of compensatory behaviors. These findings were confirmed in a second sample of 320 predominantly White high school students (Stice, Mazotti, Krebs, & Martin, 1998). Pressure to be thin was one factor reported to significantly predict dieting over a 9-month period.
Further, a lower endorsement of the thin-ideal stereotype predicted the cessation of these behaviors. However, social pressure for thinness was not found to predict the cessation of these behaviors. The authors interpreted these findings as indicating that the factors that initiate the symptoms of a disorder may differ from the factors that maintain that disorder. In this case, it is possible that once environmental messages regarding thinness become internalized, they become self-perpetuating and no longer required external influences to reinforce them. Thus, social pressure for thinness may be important for disorder onset and may be important to assess in younger samples.

Furthermore, the acute effects of exposure to media images have also been documented. In one study, college females were shown pictures of thin models from popular magazines, pictures of normal weight models, or pictures without people. The group exposed to the thin-model pictures endorsed heightened feelings of depression, shame, unhappiness, guilt, and stress as well as decreased levels of confidence relative to the two control groups (Stice & Shaw, 1994). This finding has been replicated across three other college samples (Kalodner, 1997; Pinhas, Toner, Ali, Garfinkel, and Stuckless, 1999; Ogden & Mundry, 1996). In these latter investigations, exposure to pictures of the thin ideal increased feelings of negative affect, body dissatisfaction, and self-consciousness.

Thus, the validity of media exposure and the internalization of the thin ideal to predict eating disorder symptoms have been validated in longitudinal investigations, and the acute effects of media exposure to increase negative emotional states and to decrease feelings of self-confidence has also been demonstrated. However, it appears that no studies of the effects of media on body image in samples of Black adolescents have been conducted.

**Parents.** More proximal pressures by friends and family to lose weight have also been found to contribute to the development of eating disorder symptoms. There have been two longitudinal studies that have found a relationship between parental attitudes towards weight and shape, parental pressure to diet, and the later development of restrictive eating practices in their daughters. Strong and Huon (1998) reported that direct pressure from their parents to diet predicted dieting in a sample of 141 White female high school students (aged 13-16 years). This relationship was significant even after taking into account the effects of body dissatisfaction and body mass index on dieting initiation. Modeling of weight concerns has also been found to predict the development of disordered eating. For example, a mother’s
investment in her own thinness was found to predict the later development of adolescent dieting in a sample of White adolescents (Levine, Smolak, Moodey, Shuman, & Hessen, 1994).

In several investigations, assessment measures were administered to both parents and children. These investigations are correlational and thus cannot provide predictive information about risk factors for eating disorder symptom development. However, these studies report a strong correspondence between the weight and shape attitudes of parents and their daughters. Interestingly, pressure for thinness from parents was found to be more highly correlated with disordered eating than the parents’ own dietary practices.

Wertheim, Mee, and Paxton (1999) reported that mothers’ encouragement of weight loss in their White daughters (14-17 years old) was a better predictor of the daughter’s subsequent dietary restraint than the modeling of weight concerns by the mother. However, there was a correlation between parents’ restrictive eating practices, such as fasting or skipping meals, and the presence of these behaviors in their daughters. This finding was replicated in a correlational study conducted with a sample of 12-18 year-old adolescent females (Keel, Heatherton, Harmsen, & Hornig, 1997). In this study, adolescent dieting was most likely to occur in families in which the mothers described their daughters as overweight and commented on their daughter’s weight. Shisslak et al. (1998) reported a more complex relationship between parental pressure for thinness and the development of weight concerns. In this baseline phase of a longitudinal investigation, a father’s pressure for thinness was found to be associated with weight concerns only in adolescents whose parents were divorced or separated (Shisslak et al., 1998). Only one study was found that examined the effects of social pressure for thinness on Black adolescents. In this study of 180 Black and White adolescents, the perceived weight concerns of friends and family was found to contribute significantly to weight concerns (Thompson, Corwin, Rogan, & Sargent, 1999).

As these studies are correlational, they cannot establish that the weight concerns of friends and family precede the manifestation of these concerns in female adolescents. However, a study by Hill and Pallin (1998) provides evidence that children become aware of their parents’ dieting attitudes at a very young age. The investigators assessed dieting awareness, body and self-esteem, and body shape preference in a sample of 8-year-old girls and boys and found that frequency of maternal dieting...
predicted dieting awareness among the children. It is alarming to realize that children as young as 8 years of age are aware of the frequency of maternal dieting.

Unfortunately, negative maternal attitudes appear to impact young adults as well. Several investigations with college students have reported that negative maternal beliefs and behaviors about eating are linked to eating disordered behavior. For example, in a study of college women and their parents, women exhibiting clinical or subclinical bulimic symptoms perceived their mothers as exerting more pressure on them to lose weight than the control group. Mothers of daughters with disordered eating were also found to have longer dieting histories, to think their daughters were unattractive, and to think that their daughter should lose weight relative to mothers of non-eating disordered participants (Pike & Rodin, 1991). Moreno and Thelen (1993) reported that relative to the mothers of control subjects, the mothers of female college students exhibiting bulimic behaviors placed significantly more pressure on their daughters to lose weight, were more restrictive of their daughters’ food intake, perceived their daughters as being more overweight, and encouraged their daughters to exercise.

**Interim Summary.** Media and maternal messages related to weight and body size may have different meanings for Black relative to White adolescent females. Alternatively, Black female adolescents may receive different messages regarding weight and shape from these sources. Interestingly, in studies of parental attitudes toward weight in Black adolescents, the opposite pressures appear to be operating. Several studies indicate that the parents of Black adolescents may promote larger body ideals and that these attitudes may encourage weight gain (Flynn & Fitzgibbon, 1996; Kumanyika, Wilson, & Guilford-Davenport, 1993). For example, in a preadolescent low-income Black sample, maternal body ideals were found to be associated with their daughter’s weight (Flynn & Fitzgibbon, 1996). Other studies of Black female adults indicate that thinness is associated with poverty and illness and is thus devalued (Brown & Konner, 1987).

These findings are consistent with a large body of evidence that establishes a high level of obesity in Black females relative to other demographic groups. For example, the National Health and Nutrition Examination Surveys conducted from 1960-1991 reported that 49% of Black female adults were obese, relative to a 37% prevalence rate among white females (Kuczmarski, Flegal, Campbell, & Johnson, 1994). The likelihood of becoming obese when born to an obese parent is 2.38-3.50 times that...
of being born to parents of normal weight (Fogelholm, Nuutinen, Pasanen, Myohanen, & Saatela, 1999). Thus, Black adolescents may exhibit a greater likelihood of being obese, which, if realized, would result in significant deviation from the thin ideal of beauty promoted in Western culture. Thus, Black adolescents may be increasingly fearful of “taking after their mother” and developing obesity.

However, for the Black adolescent, the beauty ideal promoted in the media contrasts with the larger body ideal often promoted among Black communities (Flynn & Fitzgibbon, 1998). Thus, Black adolescents may experience very confusing and conflicting messages regarding weight and shape between their immediate family context and the larger social context.

In summary, both longitudinal and cross-sectional investigations document the importance of media influences, parental attitudes, and parental pressures on their daughters’ beliefs regarding weight and shape. Further, these studies have been conducted at varying developmental levels suggesting that parental attitudes may be relevant at various life stages. For the Black adolescent, these messages may not only be potent but also confusing as she may receive divergent messages from differing social contexts.

Peers. Thus far, this paper has examined the larger sociocultural context of slenderness and the influence of parental attitudes. Several longitudinal investigations have reported that pressures from peers can also contribute to the initiation of dieting and the development of weight concerns. This pressure has been reported to take various forms including the number of peers dieting themselves, peer competitiveness, and the importance that peers place on weight. Again, these studies were conducted with predominantly White samples.

For example, Huon et al. (1999) reported that peer competitiveness predicted dieting in a sample of 7644 Caucasian girls (aged 12-17 years-old). This variable was the strongest predictor of dieting, over and above such variables as protective coping skills, positive familial context, and personality characteristics indicative of conformity. In an investigation of the predictors of excessive and unhealthy dieting behavior, the number of peers dieting was found to predict dieting initiation. This investigation was conducted over a 2-year period using a sample of 143 White high-school students in Jerusalem (Neumark-Sztainer, Butler, & Palti, 1997). For Black female adolescents, having peers that emphasize
dieting and weight control would add yet another confusing pressure to the mixed pressures they are receiving.

**Teasing About Weight and Shape.** Teasing regarding weight and shape has been postulated to be one mechanism whereby issues of weight and shape become more salient for an individual. Teasing has been found to be both directly related to the development of weight concerns and to be mediated by other variables such as body dissatisfaction or reduced self-confidence to produce disordered eating (Thompson, Coovert, Richards, Johnson, & Cattarin, 1995). Thompson et al. (1995) studied the effects of teasing, body mass, maturational status, and global psychological functioning on the development of body image and eating disturbance in a sample of 210 females (aged 10 – 25 years) in a 3-year longitudinal investigation (95% White). The only significant longitudinal predictors of eating disturbance were dieting and restrictive eating habits, subclinical manifestations of disordered eating. In their model, body image disturbance was found to predict restrictive eating practices, while teasing was found to be correlated with body image disturbance. Further, in a 3-year longitudinal study of 87 females (aged 10-25 years at baseline), the resulting model found that obesity predicted teasing, teasing predicted appearance dissatisfaction, and appearance dissatisfaction predicted restrictive eating habits and bulimic symptoms (Cattarin & Thompson, 1994).

Several correlational studies among adolescents and college students have found teasing to be related to dieting initiation. Teasing was associated with the initiation of dieting behaviors in a sample of adolescent girls from 7th and 10th grade (Muir, Wertheim, & Paxton, 1999). Similar findings were reported in a group of 401 Swedish students (Birgitta, Halvarsson, Gebre-Medhin, & Sjoeden, 1999). Dieters in this sample were found to have experienced more appearance-related teasing and more feelings of ineffectiveness than non-dieters. In a college sample, early teasing about appearance may have served as a setting event that, when mediated by appearance-based social comparisons, contributed to the development of body image and eating disturbance. Thus, early teasing may have sensitized the individual to the importance of appearance thus setting the stage for the individual to evaluate herself based on appearance-related criteria through social comparisons (Birgitta et al., 1999).

The particular salience of parental-teasing was demonstrated in a sample of 139 female undergraduates (Schwartz, Phares, Tantleff-Dunn, & Thompson, 1999). Regression analyses indicated
that both fathers’ and mothers’ teasing about weight was predictive of their daughters’ negative body image.

Thus, these results indicate that teasing may be mediated by other variables to increase risk as well as being directly associated with dieting initiation. In addition, teasing may be associated with current eating practices and thus may serve as a maintaining factor in eating disturbance.

No studies were found that documented the effects of teasing on eating disorder symptom development in Black adolescents. However, Neumark-Sztainer, Story, and Faibisch (1998) reported that both Black and White obese adolescents experience stigmatizing experiences as a result of their weight from both familiar (family and peers) as well as unfamiliar sources. As Black adolescents may have a high predisposition towards obesity, weight-related teasing may be a particularly salient factor for the development of weight-concerns in this population.

Social risk factors appear to have a significant influence on the development of eating disorder symptoms in White adolescents. For the White adolescent, messages from the media, from parents, and from peers all communicate the importance of slenderness, and the internalization of this message has been found to lead to the development of disordered eating. The effect of these influences on the Black adolescent is less clear. Black female adolescents constituted only a small proportion of the samples used in longitudinal investigations. Findings from cross-sectional studies indicate that Black adolescents may experience a unique mix of pressures not faced by their White peers. Namely, the media, their peers, and their parents may be communicating conflicting messages regarding weight and shape making it difficult for the Black adolescent to choose healthy behavior patterns.

Developmental Risk Factor: Puberty

Developmental psychologists have proposed that environmental risk factors may be particularly potent at certain stages of development. One of these proposed factors, pubertal maturation, will be summarized in this review. The preponderance of evidence suggests that puberty alone has a negligible effect on the development of eating disorder symptoms (Brown et al., 1998). However, in several investigations, pubertal status was found to moderate the effects of other risk factors thereby increasing risk. For example, Swarr and Richards (1996) reported that pubertal status interacted with the quality of the parent/child relationship to predict disordered eating behavior in a 2-year longitudinal study of 177...
5th-9th grade White adolescent females. Smolak, Levine, and Gralen (1993) reported that pubertal status interacted with the onset of dating to predict eating problems in a sample of 79 White girls in the 6th and 8th grades.

Keel, Fulkerson, and Leon (1997) reported that pubertal status and body mass index independently predicted disordered eating in a 2-year longitudinal study of 80, primarily White, 5th and 6th-grade females. These two variables, maturational status and body mass index, were also found to predict disordered eating in a sample of 116 White adolescent girls (Graber, Brooks-Gunn, Paikoff, & Warren, 1994).

Other studies have found no relationship between pubertal status and the prediction of eating disorder symptoms (Attie & Brooks-Gunn, 1989; Stommer & Thompson, 1996; Thompson et al., 1995). No study was found that examined the relationship between pubertal status and eating disorder symptoms in Black adolescents. However, a number of large scale investigations have documented that on average, Black adolescents tend to achieve pubertal maturation earlier than White adolescents (Brown et al., 1998). Furthermore, pubertal maturation in Black adolescents is associated with a greater accumulation of body fat relative to White adolescents (Herman-Giddens & Slora, 1997). The implications of these features of puberty for the Black adolescent are unclear. However, given the evidence reviewed, it is likely that Black adolescents may experience physical maturation as a very confusing period given the conflicting feedback that she receives from her environment regarding ideal body size and shape.

**Intra-individual Risk Factor: Low Self-Esteem**

Thus far, this review has examined social factors and developmental factors that may contribute to risk for Black adolescents. This next section postulates that low self-esteem, a characteristic of individuals, may contribute to eating disorder symptom development.

**Longitudinal Investigations of Self-Esteem.** Self-esteem or self-confidence refers to evaluations that individuals have towards themselves. In the psychological literature, low self-esteem often connotes a negative evaluation of oneself, i.e. a low level of esteem towards the self, while high self-esteem connotes a positive evaluation of oneself. This construct is deemed worthy of study as it has been reported to motivate behavior. High levels of self-esteem have been found to act as a protective factor against harmful environmental circumstances. In longitudinal studies of minority groups, high
self-esteem has been shown to act as a protective factor against the development of harmful health behaviors such as unprotected sexual intercourse (Berry, Shillington, Peak, and Hohman, 2000) and cigarette smoking (Botvin et al., 1993).

Self-esteem has been a key construct in many etiological models of eating disorder development. Fairburn, Marcus, and Wilson (1993) proposed that feelings of low self-esteem promote restrictive eating as individuals attempt to enhance their self-worth by improving their physical appearance. Sociocultural models also implicate self-esteem as a potential mediator of eating disorder symptom development. According to such models, the unrealistic beauty ideals portrayed in the media and the association of these images with success and popularity may motivate extreme weight control behaviors in an effort to enhance self-worth (Stice, 1994).

Indeed, several longitudinal investigations have examined the influence of self-esteem on eating disorder symptom development. In a 4-year longitudinal study of adolescent girls aged 11-12 years old at baseline, low self-esteem was found to significantly predict eating disorder symptoms (Button, Sonuga-Barke, Davies, & Thompson, 1996). However, the demographic composition of the sample was not reported. Low self-esteem was also found to predict dieting behavior in middle adolescence but not in late adolescence in a sample of 143 female White adolescents in Jerusalem, Israel (Neumark-Steiner et al., 1997).

However, in several longitudinal studies of self-esteem, high levels of disordered eating symptoms at baseline may have confounded the resulting conclusions. These studies employed "predictor" variables that are better characterized as indices of subclinical stages of an eating disorder. Because of the overlap between these variables and the outcome measure, inclusion of these variables in a regression model often accounts for the majority of the variance in the model and possibly interferes with the discovery of potentially significant relationships. Thus, in several longitudinal investigations that employed measures of weight concerns and self-esteem as predictor variables, self-esteem failed to contribute significantly to the prediction of eating disorder symptoms possibly because of these methodological flaws.

For example, Killen et al. (1993) administered the Eating Disorder Inventory at baseline, a well-validated measure of the psychological and behavioral characteristics of anorexia nervosa and bulimia
nervosa. One of these subscales, the Ineffectiveness subscale, assesses feelings of worthlessness and insecurity, constructs highly associated with self-esteem. Results indicated that a measure of Weight Concerns was the only significant predictor of eating disorder symptom development at 3-year follow-up.

A similar finding was reported in a sample of high-school age adolescent girls assessed over a four-year interval (Killen et al., 1996). Although baseline measures included measures of temperament, including the Ineffectiveness subscale of the Eating Disorder Inventory; dietary restraint, and biological variables, only the measure of Weight Concerns was found to be a significant predictor. Notably, in these large-scale studies, Black adolescents represented 3.6% of a sample of 939 females, and 3% of a sample of 877 females, respectively.

Self-esteem has also been reported to mediate the relationship between media exposure and bulimic symptoms in laboratory investigations. Stice and Shaw (1994) reported that exposure to pictures of a thin-media ideal resulted in decreased self-confidence after only a brief exposure, a finding that was not found in groups exposed to pictures of normal-weight models or magazine pictures without people.

In summary, the relationship of low self-esteem to eating disorder symptom development has been documented in several longitudinal investigations. The complement of this construct, high self-esteem, has been found to be protective against the development of harmful health behaviors. Furthermore, self-confidence may be one mechanism whereby acute exposure to the thin media ideal becomes associated with eating disorder symptoms. This construct has relevance as both a potential risk factor and as a potential protective factor and may help to explain the means by which external pressures develop into symptoms of disordered eating. Thus, the versatility and relevance of this variable makes it an important area for further investigation (Shisslak, Crago, Renger, & Clark-Wagner, 1998). Strengthening this construct has implications for preventive efforts while furthering our understanding of self-esteem may help further our understanding of the manner by which environmental variables become domains of risk. As such, this construct is in need of further investigation among Black female adolescent samples.
A Synthesis of Risk Domains

Given the large number of variables proposed as potential risk factors for eating disorder symptom development, the McKnight research study group designed a composite self-report assessment measure that incorporates several proposed risk domains (Shisslak, Renger, et al., 1998). These domains include: the importance peers put on weight/eating, being teased about weight, the effects of being teased about weight, mother's concern with thinness, father's concern with thinness, drug, alcohol, and cigarette use, pressure to use drugs, alcohol, and cigarettes; menstrual status; tolerance of pubertal changes; tolerance of other's noticing pubertal changes; dating status; trying to look like media images; self-esteem; support from others; and minority status. The resulting measure, the McKnight Risk Factor Survey, was administered to two samples: a sample of 78 female elementary school girls (Grade 4 and 5) and 333 predominantly White middle school girls (Grades 6-8). In the elementary school sample, cross-sectional analyses indicated that the emphasis that peers placed on weight was the strongest predictor of weight concerns with the factors of trying to look like a media figure and body mass index also explaining significant variance (Taylor et al., 1998). Among the middle school sample, the importance that peers placed on weight was also the strongest predictor with self-confidence, teasing, body mass index, and trying to look like a media figure accounting for additional variance.

The factors associated with weight concerns among female adolescents are clearly multi-faceted and most probably, context specific. Thus, the more we can learn about the important domains for certain subgroups of the population, the more informed our interventions would be. As indicated by this review, there is a great deal that is unknown about the influences that impinge on a Black adolescent and that are associated with eating disorder symptoms.

Application of Risk Domains to Black Female Adolescents. Many researchers have reported that Black females are protected from the development of eating disorder symptoms because of their endorsement of a larger beauty ideal as well as the decreased social pressure for thinness that they experience from their environment. However, these conclusions may be premature since, as indicated by this review, we know very little about the influences that impinge on Black adolescents. Indeed, extant data suggests that certain eating disorder symptoms have been found to be equally prevalent among Black and White samples, that Black adolescents are more likely to be overweight than their White peers, and
that obese Black adolescents may experience the same degree of teasing as their White counterparts. There is also reason to suspect that the body image of Black adolescents may demonstrate a cohort effect, in that younger Black adolescents may be less tolerant of weight gain than their parents or grandparents. In a review of body image studies among Black samples, Flynn and Fitzgibbon (1998) reported that younger Black women were more likely to think they had a weight problem and were less likely to be obese than older Black women. In addition, younger Black women were less likely to underestimate their body size and were more likely to correctly classify their weight category.

Several studies have documented that Black adolescents experience pressure from family to gain weight (Flynn & Fitzgibbon, 1996; Kumanyika et al., 1993). This pressure occurs in conflict with some interesting trends in Black media. There were no studies documenting the relationship between the portrayal of Black females in the media and the development of a drive for thinness. However, there has been an increase in articles on body image and eating disorders in Black publications (Hurst, 1997) and a content analysis of Black editorials indicated that several Black celebrities increased in popularity as their weight decreased (Hurst, 1997). It has been reported in longitudinal analyses of Miss America pageant contestants and magazine centerfolds that the weight and hip-to-waist ratio of these women have gotten progressively smaller over the past several decades. Notably, the first Black Miss America pageant winner was crowned in 1984 measuring in at 5'6" and 110 lbs.

It has also been suggested that Blacks may choose a heavier ideal because in low SES communities, thinness is associated with poverty. However, the thin ideals portrayed in the media, particularly music television, are certainly not poor. For young Black adolescents, these relationships may be changing. Obesity may be associated with poverty and wealth with a slender body. Thus, Black adolescents may experience a confusing array of pressures, the future effects of which are unknown. The relevance of weight pressures from peers, from parents, from the media, and the effects of teasing and pubertal change on the Black female adolescent are areas in need of further investigation. The finding of distinctive correlates within this subgroup would necessitate different interventions than those currently being implemented for White samples.
PURPOSE: AN EMPIRICAL STUDY OF BLACK ADOLESCENTS

The present study examined the relevance of known psychosocial correlates of eating disorder symptoms for a sample of Black female adolescents and compared them to the psychosocial correlates of a White female adolescent sample. In this review, several domains of psychosocial correlates have been described. Based on the research reviewed above, the following correlates were investigated: social pressure for thinness from peers, from mothers, and from the entertainment media; teasing about weight and shape; self-esteem; and pubertal status. In general, it was hypothesized that the risk factors reviewed would be experienced differently by Black and White female adolescents. For the White adolescent, the thin-ideal is consistently communicated across domains by peers, parents, and media. Thus for the White adolescent, the question is not whether she will endorse the thin ideal, but to what degree. For the Black adolescent, however, the messages are not consistent, possibly causing her to choose between the views of her parents and the views of her peers regarding ideal body size and shape. For an adolescent, these added stressors would greatly complicate already challenging developmental tasks. Thus, the Black adolescent may experience mixed social messages not experienced by her white peers. These pressures would be demonstrated by the following hypotheses.

Hypotheses

In the media domain, it was predicted that both Black and White adolescents would attempt to emulate media figures and to turn to magazines for advice on appearance and exercise. Because of the pervasiveness of these messages and the frequency of both slender White and Black media figures, both groups of adolescents are likely to evidence media usage for advice on appearance-related concerns. However, the White sample was thought to more strongly endorse the ideal of beauty emulated by fashion models. The representation of Blacks in this domain has only recently begun to increase. Thus Black female adolescents have few Black role models in this domain relative to the number available to the White adolescent.

In the parental domain, it was proposed that White adolescents would endorse more maternal dieting. In contrast, Black adolescents would experience more maternal pressure to gain weight. Despite these divergent pressures, maternal teasing regarding weight was not proposed to differ between groups. In the peer domain, it was proposed that White adolescents would be more likely to have peers who were
dieting. However, given the adolescent focus on appearance, it was hypothesized that the groups would not differ in the degree of emphasis that peers place on weight nor would there be a difference in peer teasing. In the pubertal domain, it was predicted that the Black sample would be more bothered by changes associated with puberty due to the conflicting messages the Black female adolescent experiences regarding body size and shape from different domains of influence.

Furthermore, it was hypothesized that Black adolescents would demonstrate a greater fear of fatness relative to their White peers. This fear was thought to arise from the higher prevalence of obesity within the Black community. However, the groups were not proposed to differ on measures of general weight concerns assessing current preoccupation with weight and shape.

The association of these correlates with eating disorder symptoms was proposed to be mediated by self-esteem. A mediator provides a clearer interpretation of the relationship between two variables (MacKinnon, 2000). Although mediational models cannot establish causality, mediational hypotheses imply causation as the predictor variable is believed to affect the mediator which, in turn, affects the dependent variable.

The mediational role of self-esteem will be tested with two models, one that examines the association of the media and one that examines the association of teasing with eating disorder symptoms. The first model will explore whether attempting to emulate media figures is associated with a reduction in self-esteem and an increase in disordered eating. The second model will explore whether teasing about weight and shape is associated with a reduction in self-esteem and an increase in disordered eating. In both models, it is proposed that low self-esteem motivates disordered eating as the individual attempts to improve her self-evaluations by improving her physical appearance.
METHOD

Subjects

Participants were 99 members of the Audubon Girl Scout Council, a chapter of the Girl Scouts of the USA serving East Baton Rouge and Livingston Parishes. The modal age of the sample was 12 years (M = 11.93 (1.42)). Seventy-one percent of the sample was Black and 29% was White. The Girl Scouts is the world’s largest girls’ organization, with a current membership of approximately 2.7 million. The stated purpose of this association is to explore issues affecting girls and to encourage the personal growth and development of girls by emphasizing values, leadership, and diversity. Traditionally, members are assigned to local troops, which are often lead by the mother of one of the troop members. Troop leaders report to the local field directors, who are responsible for a particular region.

Recruitment for this study was initially conducted at field-director meetings, attended by local troop leaders. Troop leaders were informed of a body image program available for interested troops. Once a troop leader expressed interest in having her troop participate in this program, a similar informational session was conducted at the troop meeting. At these meetings, informed consent was obtained from both the parent and the child interested in participating in the program. Forty-four subjects (42.7% of the sample) were recruited through individual troop meetings.

The Audubon Girl Scout Council also developed a special program within its organization for underprivileged females called “For Girls Only (FGO).” This program offers the benefits of the organization at a reduced cost and at a greater convenience to members. Meetings are held either during a school period or after school. Leaders for this program are volunteers. Recruitment from this program was conducted at the meetings only. Informed consent was obtained from the girls during these meetings, while adult consent forms were sent home for the girls to return. Fifty-nine subjects (57.3% of the sample) were recruited from FGO groups. A copy of the assent form can be found in Appendix A.

Measures

Assessments were conducted at the respective meetings described above. Packets of questionnaires were arranged in a fixed order and were distributed and filled out during these meetings. Having the girls take home packets to fill out and bring them back to the next meeting or by mail greatly...
reduced compliance. In one FGO group that this was attempted, of 80 packets of questionnaires that were sent out, 2 were returned vs. 100% compliance when the packets were completed within the meetings.

**Children’s Version of the Eating Attitude Test (ChEAT).** The ChEAT was utilized in this investigation as a measure of eating disorder symptoms and was used as the dependent variable in mediational models. The ChEAT is the children’s version of the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), the most commonly utilized self-report screening tool for eating disorder symptoms (Garner, 1997). ChEAT items were adapted from the original EAT to make them more readable for a younger population. The complete measure contains 26 items designed to assess eating attitudes, dieting behaviors, and food preoccupation in children (see Appendix B).

Norms for the ChEAT were established in children aged 8 to 13 years old. Three-week test-retest reliability of the ChEAT was .81 and internal consistency estimates on a population of 318 3rd through 6th graders was .76 (Maloney, McGuire, & Daniels, 1988). Internal consistency for the present sample was .73.

Construct validity of the ChEAT has been demonstrated through its significant association with other child measures of disordered eating and body image disturbance (Vernon-Guidry & Williamson, 1996). The ChEAT has also been employed cross-culturally among Israeli and Swedish samples (Sasson, Lewin, & Roth, 1995). Williamson, et al. (1997) validated the factor validity of ChEAT. A four-factor solution was found: 1. dieting, 2. overconcern with eating, 3. social pressure to increase body weight, and 4. extreme weight control habits. Only the first three factors were employed in the current study due to parents’ and educators’ concerns that assessing extreme weight control behaviors could be harmful to the participants. Indeed, one study has provided limited evidence of this phenomenon (Mann, Nolen-Hoeksema, Huang, & Burgard, 1997). The resulting measure contained 24 items. Sample items from the ChEAT include “I feel that food controls my life” and “I try not to eat when I am hungry.” Respondents are provided with six alternatives ranging from always to never, with the lowest three options scored zero and the remaining options scored from 1 to 3. Possible scores range from 0-72. For screening purposes, scores of 20 and above on the full scale are indicative of potential eating disturbance. With the elimination of two items, the corresponding cut-off would be 18.
Social Pressure for Thinness. Sociocultural pressure for thinness from peers, mothers, and the media was assessed with a measure developed by Levine, Smolak, and Hayden (1994) and with selected domains from the risk factor measure described below. Selected subscales that assessed media influence on choice of ideal body size, the degree of emphasis that peers place on weight, the degree of teasing experienced from mothers and peers, and the degree that mothers are involved in their own weight and the weight of their daughters, were chosen from the measure developed by Levine et al. (1994).

MAGINO is a 7-item scale that assesses the influence of magazines on the formation of ideal body size (alpha = .88). A five-point likert scale is used to code responses. Response choices range from “not at all important” to “very important”. A sample item is “How important are magazine articles in influencing….your ideas of the perfect body.”

MODEL is an 8-item subscale that assesses the desire to emulate the models seen in magazines (MODEL, alpha = .76). A five-point likert scale is used to code responses with higher values connoting less endorsement of the domain. Response options range from “I strongly agree with this” to “I strongly disagree with this.” A sample item is “I would like to look like the thin models I see.” MOMTHIN is a 3-item scale that assesses the girl’s perception of her mother’s investment in her own thinness (alpha = .73), with responses coded on a 5-point likert scale. A sample item is “How important is your mother’s physical appearance to her?”

Additional subscales on the original scale were the parent’s investment in their daughter’s shape (alpha = .80), and family teasing and criticism (alpha = .78.). In this sample, a significant number of the participants did not have regular contact with their father. Thus, two scales assessing the adolescent’s perception of her mothers’ weight concerns were utilized. Items assessing the mother’s investment in her daughter’s thinness (MOMINV, 2-items), and mother’s teasing (MOMTEASE, 2-items) were assessed. Both scales were coded in a 5-point likert format. A sample item from the MOMINV scale is “How concerned is your mother about whether you weigh too much?” A sample item from the MOMTEASE subscale is ‘How often does your mother tease you about your weight or body shape?’

Finally, the peer dieting (PEERDIET, alpha = .73) subscale is a 3-item scale that assesses the girl’s perception of her friends’ level of interest in dieting scored on a 5-point likert scale. A sample item from this scale is ‘How many of your friends are on a diet to try to lose weight or slow down weight
gain?” Internal consistency estimates of these subscales were obtained on a sample of 365 girls with an age range 10.87-15.56 (M = 10.87). These subscales were utilized in a MANOVA comparing psychosocial correlates among the Black and White female samples. The subscale assessing maternal teasing was employed in the teasing mediational model. Items from this measure can be found in Appendix C.

**Risk Factors for Weight Concerns.** A multi-dimensional measure of the risk factors found to be associated with the development of weight concerns was administered. The Multiple Risk Factor Scale-Version III (MRFS-III) reflects a compilation of variables found to be related to the development of eating disorder symptoms in previous research (Taylor et al., 1998). For all domains utilized in this investigation, higher scores indicate stronger endorsement of the domain. The normative sample consisted of 103 elementary school students (grades 4 and 5) and 420 middle school students (Grades 6-8). The domains utilized in this investigation included: the importance peers put on weight/eating, tolerance of pubertal changes, trying to look like media images, and self-confidence/self-eating.

Several versions of this assessment measure were pilot tested before the final version of the measure, the MRFS-III, was administered to a sample of 651 4th - 12th grade girls (10-18-years-old) to establish the measure’s psychometric properties (Shisslak, Renger, et al., 1998). The self-confidence domain was used to assess self-esteem in this study. This is a 3-item scale scored using a 3-point format. A sample item was “In the past year, how often did you feel sure of yourself?” High convergent validity coefficients were obtained for the self-esteem domain and the Rosenberg Self-Esteem Scale, a well-validated measure of self-esteem.

Media influence was assessed by a question that asked the degree to which the girls tried to look like figures in the media and was scored on a 3-point scale. The effect of pubertal change was assessed by a question scored on a 3-point scale. This measure can be found in Appendix D.

**Weight Concerns/Overconcern with Body Size.** Concerns about weight and shape were assessed with the Weight Concerns Scale. This measure was included in the study as a secondary assessment of symptom prevalence. This measure is a 5-item instrument developed by Killen et al. (1993). Responses are weighted so that the total score can range from 0-100. The Weight Concerns Scale was administered to a sample of 887 young adolescent girls (mean age = 12.7) in a 3-year...
longitudinal investigation of the risk factors associated with the later development of eating disorder symptoms. The Weight Concerns Scale was the only significant predictor among many proposed risk factor variables entered in a Cox proportional hazards analysis. About 12% of the girls in the highest quartile of the Weight Concerns Scale developed eating disorder symptoms by age 14.5 as compared to only 2% of girls in the lowest quartile (Killen et al., 1993). This scale has also been utilized with diverse ethnic groups (Borzekowski, Robinson, & Killen, 2000). This measure can be found in Appendix E.

Some of the cognitive features of disordered eating were assessed with two subscales from the Multiaxial Assessment of Eating Disorder Symptoms (MAEDS; Anderson, Williamson, Duchmann, Gleaves, & Barbin, 1999). This measure is a multiaxial self-report measure developed to assess the treatment outcome of patients with eating disorders. Two subscales of this instrument, the Avoidance of Fear Foods and the Fear of Fatness subscale were employed in this investigation.

The Avoidance of Forbidden Foods scale was used to delineate the degree to which Black adolescents were engaging in rigid eating practices. On a sample of 157 female 6th and 7th graders, internal consistency for the Avoidance of Forbidden Foods subscale was .85 with a test-retest reliability of .88 (Varnado et al., in press). Items from the 10-item Avoidance of Fear Foods subscale assess the presence of extreme eating habits for the purpose of weight control. Responses range from 0-7 (never to always). A sample item is: “I avoid foods with sugar.” This measure can be found in Appendix F.

The Fear of Fatness subscale measured the degree to which participants feared gaining weight. Internal consistency for the Fear of Fatness subscale was .89 with a test-retest reliability of .79 (Varnado et al., in press). Items from the 11-item Fear of Fatness subscale assess fears of potential weight gain and assess the presence of stereotypical views of people who are overweight. Responses range from 0-7. A sample item is: “I feel that being fat is terrible.” This measure can be found in Appendix G.

Procedures

Initial contacts were made with the Program Director of the Audubon Girl Scout Council for the purpose of administering a program designed to improve eating habits and body image among middle-school-aged girls. Investigators were then invited to attend a meeting of troop leaders to inform them about the program and to assess their interest. At this meeting, troop leaders set up times for the investigator to attend their troop meetings and to describe the program. In an effort to establish and
improve rapport with this organization, the investigator conducted workshops for mothers and daughters
during the initial stages of this project. Additional troops were signed up for the program via these
workshops.

At the troop meetings, a home-based program for mothers and daughters designed to improve
body image and eating habits was described. Interested participants were asked to fill out a packet of
baseline assessment questionnaires during the troop meeting in exchange for prizes. Informed consent
was obtained from all participants along with consent from mothers. Participants were administered the
MAEDS Fear of Fatness Scale, the MAEDS Avoidance of Fear Foods Scale, the ChEAT, the MRFS-III,
the Weight Concerns Scale, and the Social Pressure for Thinness subscales. Directions for these scales
were read aloud, and the investigator was available while questionnaires were filled out to answer
questions.

Data Analysis

**Treatment of Missing Data.** For participants that were missing a single item on an assessment
measure, the mean of that participant’s score on the remaining items on that scale was used to replace the
missing value. Participants with more than one item missing were excluded from that analysis. Four
subjects were excluded due to excessive missing data.

**Diagnostics.** To protect data points from being entered incorrectly, Access database software
was used for data entry. This software was programmed to accept only values that fell in the acceptable
range of each questionnaire. Thus, it was impossible to enter data that exceeded the acceptable range. In
addition, the data was visually inspected following entry.

To examine statistical assumptions, the Kolmogorov-Smirnov One-Sample Test was used to test
the hypothesis that the sample variables were normally distributed. Box-Plots were used to examine
extreme values on variables of interest. For MANOVAs, equivalence of covariance matrices was
examined using Box’s M statistic and by using criteria described by Tabachnick and Fiddell (1996). For
regression equations, normalized probability plots of residuals and standardized residuals were plotted
against dependent values to assess assumptions of linearity and heteroscedasticity. Studentized Residuals
and Dffits were calculated for each case to determine if a data point was contributing undue influence to
the regression equation. Studentized valued > 3 standard deviations from the mean and Dffits > 1 were
examined. Cases who responses were inconsistent were then eliminated from further analyses. Approximately 2 cases were eliminated from each analysis for failing to meet these criteria.

**Analyses.** To assess the relevance of psychosocial correlates for Black adolescents, a series of analyses was performed. First, to assess the effects of minority status on the development of eating disorder symptoms, the sample was divided into two groups: White and Black. In this sample, the White group included only Anglo Americans, while the Black sample included only African Americans. A MANOVA was performed comparing groups on measures of eating disorder symptoms. The second series of analyses compared groups on levels of proposed psychosocial correlates. First, a correlation matrix was examined to determine the psychosocial correlates that were significantly associated with eating disorder symptoms in the current sample. These variables were then compared between racial groups using MANOVA.

Proposed mediators were tested using methods described by Baron and Kenny (1986). It was proposed that self-esteem would mediate the relationship between other psychosocial correlates and eating disorder symptoms. To test these relationships, a series of analyses was performed. 1) The intercorrelations among the variables of interest were examined. 2) The mediator (proposed mechanism of action) was regressed on the independent variable. 3) The dependent variable was regressed on the independent variable. 4) The dependent variable was regressed on both the mediator and the independent variable. To establish mediation, the following conditions were examined for significance (Baron & Kenny, 1986): 1) the independent variable must affect the mediator in the first equation, 2) the independent variable must affect the dependent variable in the second equation, 3) the mediator must affect the dependent variable in the third equation. If these conditions are in effect, then the effect of the independent variable must be significantly less in the third equation than in the first equation. The significance of this difference was tested using a statistic proposed by Baron and Kenny (1986). The indirect effect of the independent variable, ab, where a is the path from the independent variable to the mediator and b is the path from the mediator to the dependent variable, is divided by the square root of: $b^2s_a^2 + a^2s_b^2 + s_a^2 s_b^2$, where s is the standard error of the path coefficients. The resulting statistic is then compared to a z-distribution.
RESULTS

Demographics of Total Sample

The sample was composed of 103 female subjects with a mean age of 11.94 years (range 9-15 years). Four subjects did not provide demographic information and thus these values are based on a sample of 99. The breakdown of the sample by age is as follows: 9-years-old (n = 6, 5.8%), 10-years-old (n = 8, 7.8%), 11-years-old (n = 22, 21.4%), 12-years-old (n = 30, 29.1%), 13-years-old (n = 21, 20.4%), 14-years-old (n = 8, 7.8%), 15-years-old (n = 4, 3.9%). The majority of the sample was Black (n = 70, 70.7%), while the remaining sample was White (n = 29, 29.3%).

Although measures of socio-economic status (SES) were sent home with study participants, few packets were filled out. Thus, as a secondary measure of SES, the quality of the educational system in which the girls were students was used as an index. This inference was made based on a substantial body of research that documents the high correlation between these variables (Brown et al., 1998). Participants were classified into SES groups based on the school rating from the School and District Accountability System, the rating system utilized by the Louisiana Department of Education.

This index provides a summary of a school’s overall performance based on student attendance rates, drop-out rates, performance on the LEAP 21 test, and performance on the IOWA tests. Ratings range from 30 or below – 150 or above, with classifications ranging from Academically Unacceptable, Academically Below Average, Academically Above Average, School of Academic Achievement, School of Academic Distinction, and School of Academic Excellence. Seventy-seven (74%) of the participants were enrolled in academically unacceptable or academically below average schools (65 Black, 12 White), while 22 participants were enrolled in academically above average schools (5%, 17 White, 5 Black).

Racial Differences on Measures of Eating Disorder Symptoms, Eating Disorder Outcome Measures, and Weight Concerns

A MANOVA was performed on the measures assessing eating disorder symptoms, weight concerns, fear of fatness, and avoidance of fear foods. Prior to the analyses, the equivalence of covariance matrices was examined. Box’s M statistic was found to be significant, indicating inequality of variance across groups. An examination of the variance within cells indicated that one cell of the Black sample on the ChEAT scale exhibited more variability than the corresponding cell for the White sample. As the ratio of the variances was 2.5:1 and the greater variability was within the cell with a larger sample...
size, the MANOVA was felt to be robust to this violation (Tabachnick & Fidell, 1996). Tabachnick and Fidell (1996) report that statistical accuracy may be compromised when the ratio of the largest variance to the smallest variance is 10:1, or when the smaller sample exhibits greater variability.

The resulting MANOVA statistic was significant [Wilk’s $\lambda = .862$, $F(4, 70) = 2.81, p < .05, \eta^2 = .14$]. By Cohen’s (1983) standards, the effect size was small indicating that racial group membership accounted for a small proportion of the variance in proposed psychosocial correlates. Examination of the between-group differences indicated that the Black sample scored significantly higher on the ChEAT scale, a measure of eating disorder symptoms, $F(1, 74) = 8.68, p < .01$; the Avoidance of Fear Foods Scale $F(1, 74) = 4.00, p < .05$, and the Fear of Fatness Scale, $F(1, 74) = 5.92, p < .05$. Groups did not differ on the Weight Concerns Scale, $F(1, 74) = .03, p > .05$. To further examine the cause of significant differences on the ChEAT scale, the factor scores were examined. As predicted, the Black sample was found to score significantly higher on the Social Pressure to Gain Weight subscale, $F(1, 82) = 6.31, p < .05$. The groups did not differ on the Diet subscale, $F(1, 80) = 2.12, p > .10$ or the Overconcern with Weight subscale, $F(1, 82) = 2.50, p > .10$.

**Comparison of the Magnitude of Psychosocial Correlates**

Prior to conducting multivariate analyses, correlation coefficients were computed between the proposed correlates of disordered eating and the self-report measure of disordered eating, the ChEAT total scores. Only variables with significant correlations ($p < .05$) were then included in subsequent analyses. Results of these correlations can be found in Table 1. Significant relationships were found between eating disorder symptoms and peers’ emphasis on weight (PEERWT), $r(80) = .41, p < .01$; Mom’s involvement in her daughter’s weight (MOMINV), $r(80) = .36, p < .01$; using magazines for weight and shape advice (MAGINFO), $r(80) = .44, p < .01$; trying to look like media figures (MEDIA), $r(80) = .53, p < .01$; viewing fashion models as ideal (MODEL), $r(80) = -.30, p < .01$; being bothered by pubertal changes (BOTHER), $r(80) = .30, p < .01$; self-esteem (SELF-ESTEEM), $r(80) = -.49, p < .01$; and being teased by your mom (MOMTEASE), $r(80) = .39, p < .01$; and your peers (PEERTEASE), $r(80) = .26, p < .05$. Non-significant correlations were found between maternal concern for thinness (MOMTHIN), $r(80) = .20, p > .05$, and peer dieting (PEERDIET), $r(80) = .07, p > .40$. 

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Table 1. Correlations Between Psychosocial Correlates and Eating Disorder Symptoms.

<table>
<thead>
<tr>
<th></th>
<th>CHEAT</th>
<th>MONTEASE</th>
<th>MONINV</th>
<th>PEERDIET</th>
<th>PEERTEASE</th>
<th>MAGINFO</th>
<th>MEDIA</th>
<th>CONFIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEAT</td>
<td>1.000</td>
<td>.391</td>
<td>.365</td>
<td>.077</td>
<td>.256</td>
<td>.197</td>
<td>.528</td>
<td>-.486</td>
</tr>
<tr>
<td>MONTEASE</td>
<td>.391</td>
<td>1.000</td>
<td>.464</td>
<td>.046</td>
<td>.111</td>
<td>.210</td>
<td>.359</td>
<td>-.383</td>
</tr>
<tr>
<td>MONINV</td>
<td>.365</td>
<td>.464</td>
<td>1.000</td>
<td>.121</td>
<td>.606</td>
<td>.191</td>
<td>.360</td>
<td>-.150</td>
</tr>
<tr>
<td>PEERDIET</td>
<td>.077</td>
<td>.046</td>
<td>.121</td>
<td>1.000</td>
<td>.022</td>
<td>.000</td>
<td>.063</td>
<td>-.383</td>
</tr>
<tr>
<td>PEERTEASE</td>
<td>.256</td>
<td>.111</td>
<td>.606</td>
<td>.022</td>
<td>1.000</td>
<td>.000</td>
<td>.063</td>
<td>-.383</td>
</tr>
<tr>
<td>MAGINFO</td>
<td>.197</td>
<td>.210</td>
<td>.191</td>
<td>.000</td>
<td>.000</td>
<td>1.000</td>
<td>.359</td>
<td>-.383</td>
</tr>
<tr>
<td>MEDIA</td>
<td>.528</td>
<td>.359</td>
<td>.360</td>
<td>.063</td>
<td>.063</td>
<td>.359</td>
<td>1.000</td>
<td>-.383</td>
</tr>
<tr>
<td>CONFIDENCE</td>
<td>-.486</td>
<td>-.383</td>
<td>-.150</td>
<td>-.383</td>
<td>-.383</td>
<td>-.383</td>
<td>-.383</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Notes: ** = correlation is significant at the 0.01 level (2-tailed), * = correlation is significant at the 0.05 level (2-tailed), n = 80.
In an initial exploration of the data, extreme values were examined. Participants were eliminated whose values were extreme and whose pattern of responses indicated inconsistent responding. Two participants were eliminated for these reasons. The ratio of the cell with the smallest variance was compared to the ratio of the cell with the largest variance. If cell sizes are moderately equal (with a ratio of 4 to 1 or less), then the ratio of the variances can be as great as 10 to 1 with no serious violation of assumptions (Tabachnick & Fiddell, 1996). In the present data set, the largest discrepancy in cell size was approximately 1:2, with the largest ratio of variance being 5.6 to 1. In addition, Box’s M test of equality of covariance matrices was performed and was found to be nonsignificant (p > .20). Thus, no transformation of the data was performed.

**MANOVA of Psychosocial Correlates.** A MANOVA was performed comparing Black and White adolescents on measures of PEERWT, MOMINV, MAGINFO, MEDIA, MODEL, BOTHER, MOMTEASE, and PEERTEASE. The resulting MANOVA was significant, [Wilk’s $\lambda = .82, F(9, 80) = 2.00, p < .05, \eta^2 = .18$]. Resulting statistics can be found in Table 2. The reported power to detect significant differences was high, $\beta = .81$ (Cohen & Cohen, 1983).

As can be seen from Table 2, Black adolescents experienced more maternal teasing about weight, and as predicted, Black adolescents were more bothered by body changes associated with puberty. White adolescents were more likely to admire and to attempt to emulate fashion models. Two analyses approached significance, mothers involvement in their daughters’ weight and the use of magazines for advice about diet, exercise, and body shape. Groups did not differ on measures of self-esteem, the degree of peer teasing, the degree of emphasis peers placed on weight, and trying to look like media figures.

**Effects of SES**

To rule out effects due to socioeconomic status, a MANOVA was performed on the psychosocial correlates listed above dividing the sample into low and middle-ses groups. The resulting statistic was not significant, Wilk’s $\lambda = .77, F(9, 62) = 1.96, p > .05$.

**Model 1: The Relationship of Self-Esteem and Media Influence**

Thus, preliminary analyses indicated that both Black and White adolescents experience comparable social pressure for thinness from peers and from their mothers, although Black adolescents
Table 2. Results of MANOVA of Psychosocial Correlates.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Significance Level</th>
<th>Mean (Std) Black Sample</th>
<th>Mean (Std) White Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bothered by pubertal change</td>
<td>$F = 3.90, \ p &lt; .05;$</td>
<td>1.19 (.86)</td>
<td>.83 (.71)</td>
</tr>
<tr>
<td>Admiring fashion models</td>
<td>$F = 9.00, \ p &lt; .01,$</td>
<td>26.20 (8.09)</td>
<td>31.37 (6.53)</td>
</tr>
<tr>
<td>Teasing by mom</td>
<td>$F = 3.90, \ p &lt; .05,$</td>
<td>3.38 (2.24)</td>
<td>2.52 (0.95)</td>
</tr>
<tr>
<td>Mom’s involvement in daughter’s weight</td>
<td>$F = 3.72, \ p &lt; .057$</td>
<td>4.22 (2.23)</td>
<td>3.34 (1.44)</td>
</tr>
<tr>
<td>Using magazines for diet and exercise advice</td>
<td>$F = 3.60, \ p &lt; .06$</td>
<td>11.14 (4.35)</td>
<td>9.14 (5.25)</td>
</tr>
<tr>
<td>Self-confidence</td>
<td>$F = .41, \ p &gt; .8$</td>
<td>7.38 (1.72)</td>
<td>7.46 (1.52)</td>
</tr>
<tr>
<td>Teasing by peers</td>
<td>$F = .49, \ p &gt; .40$</td>
<td>4.78 (1.93)</td>
<td>4.48 (1.84)</td>
</tr>
<tr>
<td>Peers emphasis on weight and shape</td>
<td>$F = .02, \ p &gt; .8,$</td>
<td>9.14 (1.96)</td>
<td>9.07 (2.77)</td>
</tr>
<tr>
<td>Trying to look like a media figure</td>
<td>$F = 1.23, \ p &gt; .20,$</td>
<td>1.42 (.55)</td>
<td>1.29 (.52)</td>
</tr>
</tbody>
</table>

Note: Df = (1, 88).
are more likely to experience maternal teasing and to have a mother who is more involved in her weight level. Further, both Black and White adolescents view figures in the media as worthy of emulation; however, White adolescents are more likely to admire fashion models. The next series of analyses was designed to assess the role of self-esteem as a mediator between this social pressure and the occurrence of eating disorder symptoms. Proposed mediational models were conducted for the Black sample. Next, the White sample was examined to determine if the pattern of relationships was consistent.

Model 1 was designed to examine if self-esteem helped to clarify the relationship between media influence (wanting to look like a media figure) and eating disorder symptoms. It was proposed that trying to emulate media figures would be associated with low self-esteem. This association was proposed because many images of female beauty portrayed in the media are biologically unattainable. Thus, through the process of social comparison, attempting to emulate media images will highlight the discrepancies between these images and one’s own physical appearance. For some, this comparison would be associated with low self-esteem. This lowered sense of self-worth was proposed to be associated with eating disorder symptoms as research indicates that many individuals attempt to bolster their feelings of self-worth through extreme weight loss efforts. The emphasis on thinness in the media would thus be associated with maladaptive eating behaviors via its effect on self-esteem. It was thus proposed that self-esteem would be negatively correlated with both media influence (greater media influence is associated with lower self-esteem) and eating disorder symptoms (lower self-esteem associated with greater eating disorder symptoms).

**Diagnostics.** Prior to the analyses, histograms of the three variables in the model were examined to identify potential univariate outliers. No data point was found to be unconnected from the remaining data points, thus indicating the absence of extreme values (Tabachnick & Fidell, 1996). The Kolmogorov-Smirnov test of normality was performed on all variables in the model to assess the distribution of values. All values were found to be normally distributed.

In addition, violations of linearity, heteroscedasticity, and normality were evaluated through the examination of plots of standardized residuals and normalized probability plots. Examination of these plots did not reveal a violation of assumptions. The impact of stray data points on the resulting model was examined using regression diagnostics. In regression analysis, extreme data points have a strong...
influence on the resulting model because they impact the choice of regression line. Thus, Dffits, a measure of the change in the regression line as the result of a single data point, and Studentized Residuals, a statistic that signifies deviation from the regression line, were examined. Three data points with Dffits > 1 and Studentized Residuals > 3 were identified. Examination of the pattern of test scores for these three individuals indicated inconsistent responding, as evidenced by different responses to similar questions from the MRFS-III and social pressure scales, thus these cases were excluded from the remaining analyses.

**Media Model: Significant Intercorrelations Among Variables.** As delineated earlier, there are several steps necessary to establish mediation. The initial variable must be correlated with the outcome, the initial variable must be correlated with the mediator, and the mediator must affect the outcome variable in an equation including both the predictor variable and the mediator. Finally, the effect of the initial variable must be shown to be significantly less in the third equation than in the first equation.

These steps were examined with the Black female adolescent sample. All variables in the model were significantly intercorrelated in the predicted directions. The resulting correlations were as follows: MEDIA and CONFIDENCE, \( r (53) = -.50, p < .01 \); MEDIA and ChEAT, \( r (53) = .55, p < .01 \); and CONFIDENCE and ChEAT, \( r (53) = -.53, p < .01 \).

For the first criterion for mediation, the mediator (self-esteem) was regressed on the independent variable, media influence. The model was significant, \( F (1, 68) = 22.04, p < .01 \), with media influence accounting for 25% of the variance in self-esteem scores. Table 3 shows the model summary from this analysis.

**Black Sample: Step 2. ChEAT Regressed on Media Influence.** For the second criterion for mediation, the dependent variable (eating disorder symptoms) was regressed on the independent variable, media influence. The model was significant, \( F (1, 51) = 22.51, p < .01 \), with media influence accounting for 31% of the variance in ChEAT scores. Table 3 shows the model summary from this analysis.

**Black Sample: Step 3: Complete Media Mediational Model.** For the third criterion for mediation, the ChEAT was regressed first on self-esteem, the mediator variable, and then on media influence. The resulting model was significant, with both variables explaining a significant proportion of
Table 3. Media Model with Black Female Adolescent Sample.

<table>
<thead>
<tr>
<th>Step of Model</th>
<th>Standardized Regression Coefficient (β)</th>
<th>Significance Level</th>
<th>Percentage of Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1.</td>
<td>- .50</td>
<td>.01</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Self-esteem regressed on media influence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2.</td>
<td>.55</td>
<td>.01</td>
<td>.31</td>
</tr>
<tr>
<td></td>
<td>Eating disorder symptoms regressed on Media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eating disorder symptoms regressed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Self-esteem</td>
<td>-.34</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>2) Media</td>
<td>.38</td>
<td>.01</td>
</tr>
</tbody>
</table>
the variance in eating disorder symptoms ($F(2, 52) = 16.45, p < .01$). Self-esteem initially explained 28% of the variance in eating disorder symptoms, with the addition of media influence explaining an additional 12%. Overall, the model explained 37% of the variance in eating disorder symptoms. Table 3 provides the model summary. Although MEDIA initially explained 31% of the variance in ChEAT scores, this value decreased to 12% with the addition of the measure of self-confidence. Using the test statistic proposed by Baron and Kenny (1986), this change was found to be significant, $z = 2.33$, $p < .05$.

Thus, this series of equations supports the function of self-esteem as a mediator between media influence and eating disorder symptoms. The function of a variable as a mediator addresses whether an initial correlation between two variables is, in fact, spurious and due to the effects of a third variable. The presence of such a third variable helps clarify the relationship between the initial variable and the dependent variable. Importantly, although mediator hypotheses propose causal mechanisms, they cannot establish causality because all data is collected simultaneously.

The first model addressed the question of whether trying to look like a media figure was directly associated with eating disorder symptoms or whether there were intervening variables that helped to explain that relationship. In this model, self-esteem was found to be an intervening or mediator variable between media influence and eating disorder symptoms. Initial variance in ChEAT scores explained by media influence was reduced by the inclusion of self-confidence in the model. Among Black participants, variance decreased from 31% to 12%. Thus, results from these first series of analyses indicate that the association between an adolescent female’s emulation of media figures and the presence of eating disorder symptoms may be accounted for, in part, by a decrease in self-esteem. It is possible that trying to attain a goal that is unattainable for the majority of females, i.e. try to model oneself after media figures, is associated with low self-esteem which in turn associated with extreme weight loss behaviors in an attempt to enhance self-worth.

**Media Influence Model: White Sample.** This same series of analyses was performed with the White sample. However, because of the small sample size of this group, the pattern and magnitude of results was emphasized relative to statistical significance due to the limited power to detect such differences. Differences between correlation coefficients were tested using Fisher’s Z transformation, a statistic that takes into account differences in sample size. Comparisons of correlation coefficients
between groups indicate that the relationship between media influence and eating disorder symptoms did not significantly differ between the samples (r = .31 for the White sample vs. r = .55 for the Black sample; z = 1.18, p > .05). However, the correlation between self-esteem and media influence was significantly smaller in the White sample (r = -.11) relative to this correlation in the Black sample, (r = -.50), z = -1.74, p < .05. Thus, among the White sample, trying to look like media figures was not as strongly associated with low self-esteem as in the Black sample.

With these initial relationships, the establishment of self-esteem as a mediator was not meaningful. However, the series of analyses was conducted to determine the interrelationships among these variables. Media influence explained only 1% of the variance in self-esteem, β = -.11, and was not found to be significant. Trying to look like media figures explained 10% of the variance in eating disorder symptoms, β = .31. Although this finding was not statistically significant, the degree of relationship between these variables was comparable between the Black and White samples. Self-esteem was significantly correlated with eating disorder symptoms, accounting for 25% of the variance. The addition of self-esteem to the model reduced the amount of variance accounted for by media influence to 6%. Thus, as in the Black sample, self-esteem is significantly associated with eating disorder symptoms. However, the relationship between media influence and self-esteem was small, indicating that a different mechanism may operate to explain the relation between media influence and eating disorder symptoms in the White sample. Table 4 provides a summary of these analyses.

Model 2: The Protective Effects of Self-Esteem From Teasing

The role of self-esteem as a mediator between teasing about weight and shape and eating disorder symptoms was examined in Model 2. The teasing variable was formed from the combination of maternal teasing and peer teasing items. Items related to the participant's father were not included, as many of the participants did not have contact with their father. Thus including these items would have excluded a number of participants from the analyses. It was hypothesized that teasing in isolation is not sufficient to promote the development of eating disorder symptoms. However, pervasive teasing from significant others about weight and shape may be associated with low self-esteem, which may, in turn, be associated with the eating disordered behaviors. It was thus proposed that self-esteem would be negatively correlated with teasing (the more prevalent the teasing, the lower the individual's level of self-
Table 4. White Media Model

<table>
<thead>
<tr>
<th>Step of Model</th>
<th>Standardized Regression Coefficient (β)</th>
<th>Significance Level</th>
<th>Percentage of Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem regressed on media influence</td>
<td>-.11</td>
<td>.57</td>
<td>.01</td>
</tr>
<tr>
<td>Step 2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorder symptoms regressed on Media</td>
<td>.31</td>
<td>.13</td>
<td>.10</td>
</tr>
<tr>
<td>Step 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorder symptoms regressed:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Self-esteem</td>
<td>-.47</td>
<td>.01</td>
<td>.25</td>
</tr>
<tr>
<td>2) Media</td>
<td>.24</td>
<td>.17</td>
<td>.06</td>
</tr>
</tbody>
</table>
esteem) and eating disorder symptoms (the lower the self-esteem, the higher the level of eating disorder symptoms).

As in the first model, the data was screened for stray data points by examining the Studentized Residuals and Dffits for each case. Data points with residuals >3 or Dffits values >1 were considered extreme and were eliminated from subsequent analyses. One data point met this criterion and was thus excluded. In addition, a scatterplot of standardized residuals by values of the dependent variable and a normalized probability plot of residuals was examined to ensure the data met the assumptions of linearity, heteroscedasticity, and normality. The model met these assumptions and was thus considered valid. As in the first model, the first step was examining the relations between variables.

Black Sample: Teasing Model. Intercorrelations among model variables were all significant

[ChEAT correlated with Teasing, \( r(53) = .39, p < .01 \); ChEAT correlated with Self-Esteem, \( r(53) = -.53, p < .01 \); Self-Esteem correlated with Teasing, \( r(53) = -.39, p < .01 \).] The first step of mediation, self-esteem regressed on teasing, was significant, \( F(1, 53) = 8.73, p < .01 \), with teasing accounting for 13% of the variance in self-esteem. The model assessing the second criterion for mediation, ChEAT regressed on Teasing, was also significant, \( F(1, 51) = 9.05, p < .01 \), with Teasing accounting for 15% of the variance in eating disorder symptoms. Finally, the full mediational model was assessed and was found to be significant, \( F(2, 50) = 11.73, p < .01 \). The full model was able to explain 32% of the variance in eating disorder symptoms. Although Teasing initially explained 15% of the variance in eating disorder symptoms when in the model alone, the amount of variance explained fell to 4% with the addition of self-esteem to the model and was no longer significant. The change in variance was significant, \( z = 2.21, p < .05 \). Thus, among the Black sample, the criteria for full mediation were established. Although the teasing variable was initially able to explain a significant proportion of the variance in eating disorder symptoms when it was the only predictor, this relationship became nonsignificant with the addition of the proposed mediator, Self-Esteem. Table 5 provides the resulting models from these analyses.

Teasing Model: White Sample. These analyses were repeated for the White female adolescent sample. The pattern of correlations mimicked that found in the Black sample. Self-esteem and teasing were negatively correlated (\( r = -.20, p > .50 \)), teasing and eating disorder symptoms were positively correlated (\( r = .40, p < .05 \)), and self-esteem and teasing were positively correlated (\( r = -.50, p < .01 \)).
<table>
<thead>
<tr>
<th>Step of Model</th>
<th>Standardized Regression Coefficient (β)</th>
<th>Significance Level</th>
<th>Percentage of Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1.</td>
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<td>0.01</td>
<td>0.13</td>
</tr>
<tr>
<td>Self-esteem regressed on teasing</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Step 2.</td>
<td>0.38</td>
<td>0.01</td>
<td>0.15</td>
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<tr>
<td>Eating disorder symptoms regressed on teasing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorder symptoms regressed:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) self-esteem</td>
<td>-0.45</td>
<td>0.01</td>
<td>0.25</td>
</tr>
<tr>
<td>2) teasing</td>
<td>0.21</td>
<td>0.09</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Table 5. Teasing Model with Black Female Adolescent Sample
The correlations between teasing and self-esteem, ($z = -.91, p > .05$) and between teasing and eating disorder symptoms ($z = .10, p > .10$) were not significantly different between samples.

Teasing was initially able to explain a small proportion of the variance in self-confidence ($R^2 = 4\%$). The relationship between teasing and eating disorder symptoms was significant, with teasing explaining 16\% of the variance in eating disorder symptoms. In the final model, the amount of variance explained by teasing was reduced from 16\% to 5\% with the addition of self-esteem to the model and was no longer significant. Thus, the White sample demonstrated a similar pattern of relationships between the variables of self-esteem, teasing, and eating disorder symptoms. As with the Black adolescent sample, the inclusion of self-esteem in the regression equation reduced the amount of variance accounted for by self-esteem. However, a greater sample size is needed to verify that all the criteria of mediation have been met. A summary of the steps of this model can be found in Table 6.
Table 6. Teasing Model with White Female Adolescent Sample.

<table>
<thead>
<tr>
<th>Step of Model</th>
<th>Standardized Regression Coefficient (β)</th>
<th>Significance Level</th>
<th>Percentage of Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1.</td>
<td>-0.20</td>
<td>0.31</td>
<td>0.04</td>
</tr>
<tr>
<td>Self-esteem regressed on teasing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2.</td>
<td>0.40</td>
<td>0.04</td>
<td>0.16</td>
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<tr>
<td>Eating disorder symptoms regressed on teasing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorder symptoms regressed on:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) self-esteem</td>
<td>-0.42</td>
<td>0.03</td>
<td>0.25</td>
</tr>
<tr>
<td>2) teasing</td>
<td>0.29</td>
<td>0.11</td>
<td>0.33</td>
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</table>

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DISCUSSION

Findings from this investigation highlight some unique social pressures experienced by Black female adolescents that may contribute to the development of eating disorder symptoms. These pressures may be both distressing and confusing as the pattern of results indicates that Black female adolescents may be receiving conflicting messages about ideal body size and shape from different social domains. Furthermore, results of mediational models indicate that these pressures may be associated with eating disorder symptoms via their effect on self-esteem. Thus, these findings have important implications for the design of longitudinal investigations and preventive efforts.

Black females have traditionally been deemed protected from the development of disordered eating. Their protected status was thought to arise from decreased social pressure for thinness and the concomitant endorsement of a larger ideal body size. However, recent community-based investigations have documented similar prevalence rates of symptoms of disordered eating among Black and White adult samples, particularly the symptoms of binge eating and purgative behavior. The sample for this investigation was predominantly Black (70%), of low socioeconomic status (74%), and with a modal age of 12-years-old. As the preponderance of research on eating disorder development has been conducted on White, college-aged groups, the current sample represents an understudied population. Thus, there is a pressing need to learn more about disordered eating among Black female adolescents.

Conflicting Social Pressures

In this study, Black adolescents were found to endorse greater social pressure for weight gain, a greater fear of fatness, and more maternal teasing about weight and shape. Furthermore, there was a trend for the mothers of Black adolescents to be more involved in their daughters’ weight relative to the White sample.

The finding of higher pressure for weight gain is provocative. The prevalence of obesity among Black females, particularly Black females from low SES backgrounds, has been described as epidemic (Kuczmarski et al., 1994). For example, the Department of Health and Human Services reported that in 1991, 50% of low SES, Black, adult females were obese. Furthermore, recent epidemiological investigations have documented an increase in body mass index among Black adolescent samples, with the greatest population increases being reported among Black female adolescents (Urgo, 1998). Thus, the
pressure to gain weight reported among Black adolescent females may be one factor that contributes to the later development of obesity among this sample. The fact that this finding was reported in an independent sample of Black adolescents indicates that this pressure may be a common experience of this group (Flynn & Fitzgibbon, 1996; Kumanyika et al., 1993).

This social pressure is consistent with the common finding that Black samples endorse a larger ideal body size relative to White samples (Adams et al., 2000). However, if Black adolescents shared the ideals of their parents, we would not expect this pressure to result in appreciable distress — just more eating. Instead, Black adolescents reported a greater fear of fatness than their White peers. As mentioned, this fear of fatness may be realistic. However, the existence of this fear indicates a level of disagreement with their parents regarding an ideal weight range. This latter interpretation may support that the preferred body image of Blacks exhibits a cohort effect, a position posited by Flynn and Fitzgibbon (1998). The parents of Black adolescents may be promoting an ideal body size that is higher than that chosen by their children. The long-term effects of the conflict between adolescent fear of fatness and social pressures to gain weight merit investigation because they could lead to eating disorders.

**Lack of Role Models: Avoidance of Fear Foods**

These conflicting messages may be compounded by a lack of healthy role models in the environment of the Black female adolescent. Black female adolescents were found to exhibit the same degree of weight concerns as their White peers. Given this degree of concern and their fear of fatness, it is probable that these adolescents would engage in weight loss efforts or weight maintenance strategies. However, Black female adolescents may not have healthy role models for such behavior. The weight loss efforts of adult Black females have been described as ineffective, characterized by a short duration, limited physical activity, and the use of subjective rather than objective feedback to determine progress (Kumanyika et al., 1993).

In this sample, the Black adolescents reported a low frequency of maternal dieting and concern about weight. Thus, if Black adolescents desired to lose or maintain weight, they would have to rely on other sources, such as peers or the media, for advice. Such mediums are likely to provide unhealthy messages regarding eating and weight loss practices.
In partial support of this, Black adolescents also endorsed a greater avoidance of fear foods. Items from this scale assess the degree to which individuals endorse extreme dietary practices, such as avoiding whole categories of food. Thus, items from this scale may assess an unsophisticated and simplistic form of dieting that an adolescent may adapt when lacking healthier eating guidelines. Recommendations from national dietetic associations and weight loss organizations have moved away from this type of eating pattern, as eliminating foods tends to promote cravings and perhaps subsequent binge eating. The greater endorsement of this pattern of eating may thus portend problems with later disturbed eating patterns.

**Self-esteem as a Mediator**

To help clarify the relationships between external pressures for thinness, two mediational models were proposed. To understand the results of the proposed models, the meaning of mediation will be reviewed using the Media model proposed. In a simple regression model, it is assumed that a variable X, the initial variable, affects another variable Y, the outcome variable. In the case of the Media Model, it is assumed that emulating media figures is associated with symptoms of disordered eating. However, this model is deemed too simplistic. In appearance-obsessed Western culture, the majority of women would probably like to look like a media figure if they could and probably use media sources for appearance advice. Despite this, the majority of women do not develop eating disorder symptoms. Thus, this model, if true, would imply that the total female population would develop disordered eating. Therefore, a process or mediating variable is proposed that helps to explain the relationship between media variables and eating disorder symptoms. In this model, the intervening variable proposed was self-esteem. It was hypothesized that low self-esteem mediates the relationship between attempting to emulate media figures and eating disorder symptoms.

To establish mediation, a series of analyses recommended by Baron and Kenny (1986) were conducted. As the result of these analyses, self-esteem was found to partially mediate the relationship between these two variables in the Black sample. As specified by Baron and Kenny (1986), the addition of self-esteem to the regression model significantly reduced the amount of variance explained by media influence. In the Black sample, the amount of variance explained by media influence decreased from 31% to 12%, a change in variance that was statistically significant.
Although mediational hypotheses are often framed in terms of causal hypotheses, the contemporaneous nature of data collection precludes the establishment of causal conclusions. Rather, the findings of mediation can guide future research on causal mechanisms. For example, the purpose of this model was to explain the mechanism by which media pressures develop into symptoms of disordered eating. Thus, we can speculate why these variables might be correlated.

The images portrayed in the media are associated with values desired by the majority of individuals, success, acceptance, wealth, and security. These images, however, are just that – images. Thus, they are fantasies, products of plastic surgery, computer art, or other forms of deceptive manipulation. Trying to emulate these images will frequently result in failure. In some, this failure will result in a reduction in self-esteem, contributing to a more negative evaluation of oneself. This lowered sense of self-worth may result from the discrepancy between one’s current evaluation of one’s appearance relative to media figures.

The state of low self-esteem is aversive. Individuals who feel badly about themselves are often motivated to change this evaluation to one that is more positive. Thus, a way to reduce this discrepancy would be to enhance one’s weight control efforts, thus trying to look more like media figures. Because of the exceptional nature of the figures portrayed, extreme attempts would be required resulting in the later development of disordered eating.

These findings have implications for eating disorder prevention efforts. The inference drawn from this model is that if self-esteem did not decrease, the individual would be less likely to develop later symptoms of disordered eating. Thus, interventions aimed to bolster self-esteem by making self-esteem less dependent on physical appearance may serve protective functions. This conclusion is speculative as this study was cross-sectional and thus risk factors for eating disorder symptom development cannot be delineated. However, the examination of self-esteem as a protective factor is a fruitful area for longitudinal research among Black samples. Furthermore, although the same pattern of findings differed slightly in the White sample, the high correlation between self-esteem and eating disorder symptoms was consistent. Thus, interventions that seek to bolster self-esteem may be applicable for eating disorder prevention across racial groups.
The second model was similar in purpose. In this model, the environmental variable examined was teasing from peers and mothers. In the simple regression model, teasing is proposed to affect the development of eating disorder symptoms. Again this model is deemed too simplistic. Teasing is a pervasive phenomenon. Thus, if teasing were necessary and sufficient to cause disordered eating, then eating disorder diagnoses would truly be epidemic. However, as has been demonstrated in longitudinal research, teasing has been found to be highly associated with more proximal predictors of disordered eating. Thus, self-esteem was again proposed as a process variable that helped to explain the relationship between teasing and eating disorder symptoms.

Again the function of self-esteem as a mediator was tested according to methods proposed by Baron and Kenny (1986). In the Black sample, the criteria for complete mediation were met. Thus, in the Black sample, any effects of teasing on eating disorder symptoms were due to the effects of teasing on self-esteem. Although teasing initially explained 16% of the variance in eating disorder symptoms, this value decreased to 4% with the addition of self-esteem to the equation, an amount of variance that was no longer significant.

Two hypotheses may feasibly explain these findings. In the first hypothesis, it is the conflict between pressures that is the problem. Examination of psychosocial correlates indicated that Black female adolescents experience a similar degree of peer teasing about weight and shape as their White adolescent peers. This pressure occurs in conflict with the maternal pressure for weight gain already described. These conflicting pressures experienced by Black adolescents may create a sense of learned helplessness, a feeling that they cannot gain acceptance no matter what they do. With this set of pressures, they have a choice—be teased by their mothers or be teased by their peers.

However, an additional interpretation of this model is that it is the pervasiveness of teasing that is damaging to self-esteem. The Black sample experienced significantly more maternal teasing than the White sample, although both groups experienced the same degree of teasing from peers. Social acceptance is highly valued. Teasing may imply a form of nonacceptance, as traits or characteristics of an individual are emphasized that are different from the reference group. Thus, people who are teased would be motivated to reduce this teasing to increase their sense of social acceptance. When teasing is
about body size and shape, the most logical way to reduce teasing would be to change one's body size and shape to fit that of the reference group.

One can imagine that the effects of peer teasing could be buffered by coming home to a supportive environment. However, if one were to return home to more teasing, one may feel very alienated and alone. Furthermore, the more pervasive the message one receives about one's unacceptability, the more likely one would be to believe such messages. As articulated by Gordon (1998), the potency of agents of socialization are frequency and consistency across domains. Although the content of teasing may differ, the overriding theme, that one is unacceptable, would be more potent when across different domains. Thus, these pressures may be associated with the development of disordered eating in an effort to alleviate these pressures.

These findings also have implications for preventive efforts. Creating more tolerance of diverse body sizes and shapes and instruction in ways to combat negative verbal commentary would both go a long way in steeling female adolescents against the potentially deleterious effects of teasing. Indeed, such content is already included in many curriculums designed to prevent eating disorder symptoms among White female adolescents. However, findings from this investigation indicate that including the mothers of Black adolescents may be a vital addition to such programs as such an inclusion would help to ensure consistency in messages regarding healthy eating and weight practices.

**Psychosocial Correlates**

Several additional findings in this investigation are also worthy of note. The Black sample was found to be significantly more bothered by the body changes associated with puberty than were their White peers. Black adolescents have been found to exhibit a greater accumulation of body fat associated with pubertal maturation relative to their White peers (Brown et al., 1999). The finding that Black adolescents were more bothered by these changes may have been a reaction to this potentially greater accumulation of body fat. However, the fact that Black adolescents were bothered by these changes further supports that this sample is less tolerant of overweight than was previously reported.

Further, Black and White female adolescents may be experiencing the same degree of pressures from peers. Both groups were found to endorse the same degree of peer emphasis on weight and the same degree of teasing about weight and shape. These findings are consistent with recent large-scale
investigations that document similar levels of stigmatization among Black and White samples of the same BMI. Thus, rather than finding that Black adolescents are growing up in an environment that is protective against the development of weight pressures, Blacks are reporting the same degree of pressure from peers relative to the White sample.

The effect of the media on the body image of Black adolescent females is a vastly unexplored area of research. However, the power of the media to shape values and to influence behavior is well established (Gordon, 1998), and laboratory investigations of acute exposure to thin media images have demonstrated negative effects on mood and self-confidence (Stice & Shaw, 1994). The desire to emulate media figures and the use of magazines for weight and shape advice was found to be equivalent across groups in this study. Although many researchers have speculated that the ideal body shape promoted in the media is larger for Black females, longitudinal analyses of such media messages have not been conducted. Such analyses would reveal whether the ideal body size of Black media figures has, in fact, gotten progressively slimmer in a manner consistent with that found for White media figures.

As reviewed, several longitudinal investigations have documented the relationship between the thin media ideal and the development of body dissatisfaction among White college samples. Images of thin models are pictured as successful, popular, and powerful – very emotionally evocative themes that ascribe to universal needs. The association of these values with thinness in Black media figures would be a powerful message for an underprivileged, Black adolescent. Thus, future research in this area is desperately needed.

With this information, the pressures facing a Black, female adolescent are becoming clearer. She experiences conflicting pressures from her social environment that may have a negative effect on her self-evaluation. As established in longitudinal research, these factors may serve as setting events for the later development of disordered eating.

Limitations and Implications

The primary limitation of this study was its cross-sectional design. The models in this investigation were cross-sectional thus indicating that data on all variables was collected concurrently. From a statistical standpoint, the mediator and the predictor could have easily been interchanged. However, from a theoretical standpoint, this interchange was not deemed appropriate. Given the
appearance orientation of Western culture and the "normative discontent" of female body dissatisfaction, it was proposed that the majority of females turn to the media for guidance, not just individuals with low self-esteem. Thus, it was the effect of the media that was of interest in this investigation. Furthermore, the test of self-esteem as a moderator variable, the statistical test of this latter conclusion, was not found to be significant. ⁱ

What the model fails to address, however, is the delineation of the individuals at risk for suffering such a loss of esteem. This question requires more longitudinal investigations. Previous research indicates several plausible hypotheses. Individuals whose self-esteem is uni-dimensional with a sole focus on appearance may be vulnerable. Furthermore, individuals with a low level of interoceptive awareness and a high degree of neuroticism may also be at-risk.

Results of mediational models indicate that self-esteem may partially mediate the effects of media influence and may totally mediate the effects of teasing for Black adolescents. Furthermore, self-esteem was equally correlated with eating disorder symptoms in the White female adolescent sample. Thus, interventions designed to bolster self-esteem may serve to protect both Black and White adolescents from the later development of disordered eating. In such interventions, developing a self-concept that is multi-faceted, based on domains other than physical appearance, is emphasized. However, results from this investigation highlight the need to include Black mothers in such interventions. Educating these mothers about the pressures that their daughters are experiencing, helping them to be healthy role models of balanced eating, and promoting acceptance of diverse body shapes would go a long way towards creating an accepting environment for these adolescents.

There is a great deal that we do not know about the cultural environment of Black adolescents. The challenge for future research with this population will be to create an environment of health and acceptance that promotes neither obesity nor eating disorders.

Footnote. 1. To clarify the relationship of self-esteem to media influence and eating disorder symptoms, the function of self-esteem as a moderator was also examined. This analysis tested relationships of media influence, self-esteem, and their interaction entered as predictors. A moderator effect is indicated by the significance of the interaction term. This effect was not found.
REFERENCES


Pawluck & Gorey


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APPENDIX A: ASSENT FORM

I, _____________________________, agree to be in a study that will help my parents and me to learn about nutrition and how to feel better about how we look. In this study, I will be in one of three groups. We will call them groups A, B, and C. The people running this study will randomly assign me to one of these groups. This is like picking from a hat who will be in each group. The reason why this study has three groups is so these groups can be compared to see which program works the best.

If I am assigned to group B, the following things will happen.

♦ I will be asked to come early to a Girl Scout troop meeting with my parents so that my parents and I can fill out questionnaires.
♦ I will also be called on the telephone by a registered dietician who will ask me what I ate for the past 24 hours. This is so the people running the study can see if I eat differently as a result of participating in this program.
♦ Then, at the next five troop meetings, I will be given a packet of materials that I will bring home. This packet contains two workbooks: one for my parents and one for me. The workbooks have activities, games, and lots of information about healthy eating, how to solve problems, how to figure out if television commercials or magazine ads are trying to trick me, the truths about dieting, and improving how I feel about my appearance.
♦ These workbooks are for both my parents and me. Assignments in these workbooks ask me to do many activities with my parents and some activities on my own.
♦ At the end of each lesson, I will be asked to take a quiz. I will also be instructed to put the quiz and some other materials from the packet in a return envelope.
♦ I will bring this return envelope to my next troop meeting and will hand it in to the people running the study.
♦ Then, I will receive the next packet of materials at the troop meeting and I will do the same thing! There are a total of 5 lessons in this program.
♦ At the end of these lessons, I will again be asked to come early to a troop meeting to fill out questionnaires.
♦ For six months after I complete the lessons, I will get a monthly newsletter. The purpose of this newsletter is to help remind me of all that I learned and will give me phone numbers to call if I have questions.
♦ I will also be mailed the same questionnaires 3 months following the completion of the study, 6 months after completion of the study, 1 year after completion of the study, and two years after completion of the study. These questionnaires will let the people running the study see if the effects of this program last!

If I am assigned to Group A, the following things will happen to me.
I will be asked to come early to a Girl Scout troop meeting with my parents so that my parents and me can fill out questionnaires.

I will also be called on the telephone by a registered dietician who will ask me what I ate for the past 24 hours. This is so the people running the study can see if I eat differently as a result of participating in this program.

Then, at the next five troop meetings, I will be given a packet of materials that I will bring home. This packet contains two workbooks: one for my parents and one for me. The workbooks have activities, games, and lots of information about healthy eating, how to solve problems, how to figure out if television commercials or magazine ads are trying to trick me, the truths about dieting, and improving how I feel about my appearance.

These workbooks are for both my parents and me. Assignments in these workbooks ask me to do many activities with my parents and some activities on my own.

In addition, unlike Group B, if I am in Group A, I will also be telephoned or e-mailed periodically during each lesson to make sure I understand the program materials.

At the end of each lesson, I will be asked to take a quiz. I will also be instructed to put the quiz and some other materials from the packet in a return envelope.

I will bring this return envelope to my next troop meeting and will hand it in to the people running the study.

Then, I will receive the next packet of materials at the troop meeting and I will do the same thing! There are a total of 5 lessons in this program.

At the end of these lessons, I will again be asked to come early to a troop meeting to fill out questionnaires.

For six months after I complete the lessons, I will get a monthly newsletter. The purpose of this newsletter is to help remind I of all that I learned and will give me phone numbers to call if I have questions.

I will also be mailed the same questionnaires 3 months following the completion of the study, 6 months after completion of the study, 1 year after completion of the study, and two years after completion of the study. These questionnaires will let the people running the study see if the effects of this program last!

If I am assigned to Group C, the following things will happen to me.

I will not participate in the program right away.

I will fill out questionnaires at the same time as people in Groups A and B, however, I will not receive program workbooks until three months later.

After three months, my family will do the program that was found to work the best.
• The reason why one group has to wait is so that the people running the study can see if the program works!
• After 3 months, I will do the same things as Groups A and B as described above.

No matter what group I am in, for each week of the program that I complete with my parents, I will receive a Girl Scout Patch. If I am in Group C, I will receive patches at the same time as the other groups, even though I have not received the workbooks yet. In addition, for each week that my family completes the program, my family’s name will be entered in a raffle for prizes.

____________________________________  ______________________________________
Signature                                      Age      Date

____________________________________
Witness Signature       Date
APPENDIX B: CHILDREN'S EATING ATTITUDE TEST

6. Lowest Weight ____
7. Grade Level: 4th 5th 6th 7th 8th
8. Ethnic/Group: African American Asian American Caucasian Hispanic American Indian Other

Directions: Read each sentence and indicate on the form which word best tells what you think.

1. I am scared of being fat.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
2. I try not to eat when I am hungry.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
3. I think about food a lot of the time.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
4. Sometimes I eat a lot and feel like I cannot stop.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
5. I cut my food into small pieces.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
6. I know how many calories are in the foods that I eat.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
7. I try not to eat foods like bread and potatoes.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
8. I think other people want me to eat more.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
9. I feel very guilty after I eat.
   (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
10. I think about being thinner a lot.
    (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
11. I think about burning up calories when I exercise.
    (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
12. Other people think that I am too thin.
    (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
13. I often think about having fat on my body.
    (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
14. I take longer than others to eat my meals.
    (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
15. I try not to eat foods with sugar in them.
    (a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

17. I feel that food controls my life.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

18. I can control myself around food.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

19. I feel that others push me to eat.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

20. I give too much time and thought to food.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

21. I do not feel comfortable after eating sweets.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

22. I try to lose weight.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

23. I like my stomach to be empty.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never

24. I enjoy try new fattening foods.
(a) always  (b) usually  (c) often  (d) sometimes  (e) rarely  (f) never
APPENDIX C: SOCIAL PRESSURE FOR THINNESS

Social Pressure for Thinness:
Survey of Family Attitudes About Food and Weight

For each question, circle the number that you feel is true for you.

READ THIS CAREFULLY: Some of the following questions may not apply to you. For example, you may not have brothers or sisters (see #3), or your father (see #1) may live in another town and therefore you hardly ever see him. If the question does not apply to you, then place a check in the space for Not Applicable.

If you do not live with your parents, let the word “parents” in the questions stand for the adult(s) who take(s) care of you.

1. How often is your father on a diet to lose weight? _______ Not Applicable
   1  2  3  4  5  6
   Never Rarely Sometimes Often Very All the Time

2. How often is your mother on a diet to lose weight? _______ Not Applicable
   1  2  3  4  5  6
   Never Rarely Sometimes Often Very All the Time

3. If you have brothers or sisters, how often do they tease you about your weight or body shape? _______ Not Applicable
   1  2  3  4  5  6
   Never Rarely Sometimes Often Very All the Time

4. How often does your mother CRITICIZE you (lecture you, get on your case, and so on) about your weight or body shape? _______ Not Applicable
   1  2  3  4  5  6
   Never Rarely Sometimes Often Very All the Time

5. How often does your mother TEASE you about your weight or body shape? _______ Not Applicable
   1  2  3  4  5  6
   Never Rarely Sometimes Often Very All the Time

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6. How often does your father CRITICIZE you (lecture you, get on your case, and so on) about your weight or body shape? ______ Not Applicable

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very</th>
<th>All the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

7. How often does your father TEASE you about your weight or body shape? ______ Not Applicable

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very</th>
<th>All the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

8. How concerned is your mother about whether you weigh too much or are too fat or might become too fat? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all concerned</th>
<th>Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

9. How concerned is your father about whether you weight too much or are too fat or might become too fat? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all concerned</th>
<th>Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

10. How important is it to your mother that you be thin? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

11. How important is it to your father that you be thin? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

12. How important is it to your mother that she be thin as possible? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

13. How important is it to your father that he be thin as possible? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all important</th>
<th>Important</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

14. How important is your mother's physical appearance (shape, weight, clothing) to her? ______ Not Applicable

<table>
<thead>
<tr>
<th>Not at all important</th>
<th>Important</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Risk Factor Measure

1. How important has it been that you look good for boys?
   - 1. Not At All
   - 2. Some
   - 3. A Lot

2. In the past year, how often have you changed your eating when you were around boys?
   - 1. Never
   - 2. Sometimes
   - 3. A Lot

3. How much do you think your weight made boys NOT like you?
   - 1. Not At All
   - 2. Some
   - 3. A Lot

4. How much do you think your weight made other girls NOT like you?
   - 1. Not At All
   - 2. Some
   - 3. A Lot

5. In the past year, how often have your friends talked about wanting to lose weight?
   - 1. Never
   - 2. Sometimes
   - 3. A Lot

6. How important has it been to your friends that you be thin?
   - 1. Not At All
   - 2. Some
   - 3. A Lot

7. In the past year, how often have you been teased about your weight?
   - 1. Never
   - 2. Sometimes
   - 3. A Lot

8. If you have been teased about your weight in the past year, how much has it changed the way you feel about yourself?
   - 0. This hasn’t happened
   - 1. Not At All
   - 2. Some
   - 3. A Lot

9. If boys have teased you about your weight in the past year, how much has it changed the way you feel about yourself?
   - 0. This hasn’t happened
   - 1. Not At All
   - 2. Some
   - 3. A Lot

10. If girls have teased you about your weight in the past year, how much has it changed the way you feel about yourself?
    - 0. This hasn’t happened
    - 1. Not At All
    - 2. Some
    - 3. A Lot

11. In the past year, how often have you tried to change your weight so you would not be teased?
    - 0. This hasn’t happened
    - 1. Not At All
    - 2. Some
    - 3. A Lot

12. How important has it been to your mother that you be thin?
    - 1. Not At All
    - 2. Some
    - 3. A Lot

13. In the past year, how often has your mother criticized you (put you down) about your weight or your eating?
    - 1. Never
    - 2. Sometimes
    - 3. A Lot

14. In the past year, how often has your mother tried to lose weight?
    - 1. Never
    - 2. Sometimes
    - 3. A Lot

15. How important has it been to your father that you be thin?
    - 1. Not At All
    - 2. Some
    - 3. A Lot
16. In the past year, how often has your father criticized you (put you down) about your weight or your eating?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

17. In the past year, how often did you drink alcohol?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

18. In the past year, how often did you use drugs (not medicine)?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

19. In the past year, how often did you smoke cigarettes?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

20. If you have been pressured by friends to drink alcohol, how much has this bothered you?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This hasn’t happened</td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

21. If you have felt pressured by friends to use drugs, how much has this bothered you?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This hasn’t happened</td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

22. If you have felt pressured by friends to smoke cigarettes, how much has this bothered you?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This hasn’t happened</td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

23. Have you gotten your period yet?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

24. If your body has changed in the past year, how much has this bothered you?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This hasn’t happened</td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

25. If other people have noticed changes in the past year, how much has this bothered you?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This hasn’t happened</td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

26. Have you started to date?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

27. How much have you tried to look like the girls or women you see on television or in magazines?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

28. In the past year, how often did you feel sure of yourself?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

29. In the past year, how often have you liked most things about yourself?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

30. In the past year, how often have you been happy just the way you are?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not At All</td>
<td>Some</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

31. In the past year, how often have you had someone you can count on to listen to you when you needed to talk?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

32. In the past year, how often have you had someone to give you good advice about a problem?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>

33. In the past year, how often have you had someone to have a good time with?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>A Lot</td>
</tr>
</tbody>
</table>
34. In the past year, how often had you had someone to help you understand a problem when you needed it?

1. Never  2. Sometimes  3. A Lot

35. In the past year, how often have you had someone to give you good advice about a problem?

1. Never  2. Sometimes  3. A Lot

36. In the past year, how often have you had someone to love you and make you feel wanted?

1. Never  2. Sometimes  3. A Lot

37. Which ONE of the groups below best describes what you consider yourself to be?

White  African-American/Black  Latina/Mexican American  Native American  Japanese/Chinese/Asian  Other

Mexican-American  Cambodian  Filipino  Pacific Islander  Korean American  Vietnamese  Laotian

38. What is the main language you speak when you are at home?

English  Spanish  Vietnamese  Cambodian  Chinese  Indian  Other
APPENDIX E: WEIGHT CONCERNS

Weight Concerns Scale

1. How much more or less do you feel you worry about your weight and body shape than other girls your age? (CIRCLE ONLY ONE NUMBER)
   1. I worry a lot less than other girls.
   2. I worry a little less than other girls.
   3. I worry about the same as other girls.
   4. I worry a little more than other girls.
   5. I worry a lot more than other girls.

2. How afraid are you of gaining 3 pounds? (CIRCLE ONLY ONE NUMBER)
   1. Not afraid of gaining.
   2. Slightly afraid of gaining.
   3. Moderately afraid of gaining.
   4. Very afraid of gaining.
   5. Terrified of gaining.

3. When was the last time you went on a diet? (CIRCLE ONLY ONE NUMBER)
   1. I've never been on a diet.
   2. I was on a diet about one year ago.
   3. I was on a diet about 6 months ago.
   4. I was on a diet about 3 months ago.
   5. I was on a diet about 1 month ago.
   6. I was on a diet less than 1 month ago.
   7. I'm now on a diet.

4. Compared to other things in your life, how important is your weight to you? (CIRCLE ONLY ONE NUMBER)
   1. My weight is not important compared to other things in my life.
   2. My weight is a little more important than some other things.
   3. My weight is more important than most, but not all, things in my life.
   4. My weight is the most important in my life.

5. Do you ever feel fat? (CIRCLE ONLY ONE NUMBER)
   1. Never
   2. Rarely
   3. Sometimes
   4. Often
   5. Always
APPENDIX F: AVOIDANCE OF FORBIDDEN FOODS

Avoidance of Fear Foods

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>NEVER</td>
<td>VERY</td>
<td>RARELY</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>VERY</td>
</tr>
</tbody>
</table>

1. Certain foods are forbidden for me to eat.
   1 2 3 4 5 6 7

2. I avoid greasy foods.
   1 2 3 4 5 6 7

3. I don't eat certain foods.
   1 2 3 4 5 6 7

4. I don’t eat red meat.
   1 2 3 4 5 6 7

5. I eat small portions to control my weight.
   1 2 3 4 5 6 7

6. Some foods should be totally avoided.
   1 2 3 4 5 6 7

7. I avoid fatty foods.
   1 2 3 4 5 6 7

8. I don’t eat fried foods.
   1 2 3 4 5 6 7

9. I avoid foods with sugar.
   1 2 3 4 5 6 7

10. I’m very careful of what I eat.
    1 2 3 4 5 6 7
APPENDIX G: FEAR OF FATNESS

Fear of Fatness Scale

Use the scale below, please answer the following questions on a scale from 1 to 7. Please answer as truthfully as possible. Circle your answer.

<table>
<thead>
<tr>
<th></th>
<th>1 NEVER</th>
<th>2 VERY RARELY</th>
<th>3 RARELY</th>
<th>4 SOMETIMES</th>
<th>5 OFTEN</th>
<th>6 VERY OFTEN</th>
<th>7 ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that being fat is terrible.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I do everything to avoid being overweight.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. It's okay to be overweight.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I would be very upset if I gained 2 pounds.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I feel that being fat would be terrible.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I am terrified about being overweight.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I am obsessed with becoming overweight.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Fat people are unhappy.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I hate it when I feel fat.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Fat people are disgusting.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I wouldn't mind gaining a few pounds.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VITA

Nancy Lee Zucker was born in Chicago, Illinois. She completed her undergraduate work at the University of North Carolina, Chapel Hill, where she studied psychology and English and graduated with high honors. Following graduation, she worked as a research assistant in the areas of eating disorders and obesity and went on to attend Louisiana State University in the doctoral clinical psychology program. While there, she continued to participate in research in the areas of eating disorders and obesity under the supervision of Donald A. Williamson, Ph.D. She completed her clinical internship at Duke University Medical Center and is currently working there as a NIH postdoctoral fellow under the supervision of Richard Surwit, Ph.D. She is currently working on an NIH trial studying the relationship between depressive symptoms and diabetes. She wishes to use the information gained from this work to design and test treatment interventions for adolescents with Type II diabetes.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Nancy Lee Zucker

Major Field: Psychology

Title of Dissertation: Psychosocial Correlates of Eating Disorder Symptoms in a Young, Black, Female Sample

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Amy Bennett

Mary J. Kelley

Michael Keenan

Date of Examination:

Oct. 19, 2000