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The Development And Validation Of The Thinness Expectancy Questionnaire (TEQ)

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by

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For Howie and Riley

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ABSTRACT

Although the research on expectancy theory and body image and eating disturbance is very limited, it appears to be an extremely useful and promising line of study. It appears likely that the application of expectancy theory would lend itself well to the area of body image disturbance and eating disorders. Within the field of body image disturbance and eating disorders research, expectancies would most likely refer to the anticipated consequences of being thin. Such expectancies may be established by an individual's direct experience with weight loss and dieting or through the observation of the messages concerning the societal "thin ideal" projected by the media, parents, and peers.

The current study attempted to develop and validate a measure of women's expectancies, or anticipated consequences of being thin. The Thinness Expectancy Questionnaire (TEQ) was developed in a series of three studies: Item Generation, Item Analysis, and Validity and Reliability Analysis. First, a pilot study was conducted in order to generate a broad range of items regarding expectancies about being thin. Second, the initial measure was administered to 355 undergraduate females. A factor analysis and item analysis produced a final version of the TEQ. Last, reliability and validity analyses were conducted. Overall, results indicate that positive thinness expectancies are related to body image and eating problems whereas negative

expectancies appear to have a limited connection with or are unrelated to body image/eating disorders. Although hypothesized models indicated poor to mediocre fits of the data, they represent an initial attempt at examining the role of thinness expectancies in the development of body image concerns and eating disturbance.

The results indicate that positive expectancies of thinness are related to women's body dissatisfaction and eating disturbance. In other words, women's positive expectations and assumptions about being thin may put them at risk for developing difficulties with body image and eating concerns. As a result, preventative interventions that incorporate techniques that challenge or modify these cognitions would seem to be most effective.

Introduction

The recent increase in the incidence of body image disturbance and eating disorders among women within American society is overwhelming. It has been reported that 10 to 20 percent of all American girls and women presently suffer from some form of eating disorder (Wolf, 1991). Although body image disturbance and eating disorders do occur in males, there is a significantly higher ratio of women to men who suffer from these disorders (about 10:1) and this gender difference is much greater than for any other psychiatric disorder (Wilfley & Rodin, 1995). As a result, being female appears to put an individual at risk for developing body image disturbance and eating disorders. Because of this striking gender difference, most research on body image and eating disorders has focused on women and adolescent girls.

Although numerous theories of body image and eating disturbance exist, the theory that examines sociocultural influences on the development of body image disturbance and/or eating disorders has received the most attention. A great deal of research has supported the notion that societal factors are some of the most influential factors in the development of body image and eating problems in Western society (Heinberg, 1996; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Sociocultural theories examine the influence of cultural norms, standards, and expectations on the development and maintenance of body image disturbance and eating pathology. In general, sociocultural theory emphasizes the fact that society places extremely high expectations on women concerning their weight and physical appearance. More

specifically, women are bombarded with images of extremely thin models and are encouraged to accept and internalize this "thin ideal" standard as their own. In addition, women and adolescent girls have been led to believe that the "thin ideal" is a realistic and attainable goal through dieting, exercise, and other weight management techniques. In reality, the cultural ideal is not an accurate representation of the average woman, but an unattainable socially constructed entity. Thus, women are bound to fail in their attempts at meeting the cultural ideal. As a result, most American women experience a "normative discontent" with their weight and body shape and often resort to extreme measures to achieve this cultural ideal (Rodin, Silberstein, & Striegel-Moore, 1985).

Historical Changes in Sociocultural Ideals

Throughout the twentieth century, preferences regarding the "ideal" feminine form have changed significantly with respect to weight and body shape in the United States (Nasser, 1997; Thompson et al., 1999). During the early part of the century, the plump and voluptuous figure was preferred, followed by a preference for the tubular and thin figure of the flapper in the 1920's. Although a preference for the curvaceous figure returned in the 1950's, there has yet again been a shift toward an increasingly thin beauty ideal for women. Since the 1950's, the culturally ideal female figure, as presented in the mass media, has significantly decreased in weight while the average American woman has become heavier. As a result, the discrepancy between the cultural ideal and the average woman has dramatically increased. More specifically, a generation ago, the average model weighed 8% less than the average American women, and now she weighs 23% less (Wolf, 1991). Thus, thinness has again become a central aspect in the definition of feminine beauty (Tiggeman & Rothblum, 1988; Wood, 1994). At present, the

culturally ideal woman is not only thin, but is athletic and toned. It appears that women's ideal body image is not an individualized creation, but a social construction. In other words, beauty ideals seem to be bound culturally and to change with time.

A study by Garner, Garfinkel, Schwartz, and Thompson (1980) was one of the first attempts to document and quantify the shift in our cultural standards for the ideal feminine figure. First, they collected data regarding height, weight, and body measurements of Playboy centerfolds for the twenty-year period between 1959 and 1978. The results revealed that although the absolute weight of the centerfolds did not decline significantly (due to increasing heights of the playmates), the percent of average weight for age and height did significantly decrease over the twenty-year period. In addition, with regard to the measurement data, the results showed that the playmates' busts decreased, their waists increased, and their hips decreased. Thus, it appears that there may have been a shift toward a preference for a playmate with a more "angular" and less curvaceous figure. Second, the height, weight, and age data for both contestants and winners of the Miss America Pageant were recorded for the same twenty-year period. A significant decline in weight was observed for both the contestants and the winners during the twenty-year period. In addition, it was noted that since 1970, the winners have weighed significantly less than the contestants did. The results of both studies support the idea that there has been a gradual but definite change in the culturally ideal body shape for women during the twenty-year period.

Similarly, Silverstein, Perdue, Peterson, and Kelly (1986) examined the shift toward a "thin ideal" using magazines and photographs of famous actresses. The first study was a content analysis of popular women's magazines (Ladies Home Journal and

Vogue) from 1901 to 1981. Bust-to-waist ratios were measured for the models in both magazines at four year intervals. Results revealed a steady drop in bust-to-waist ratios in both magazines from a high at the beginning of the century to a low for the century (about 60% of the 1901 ratio) in 1925. Although the ratio did appear to climb back up by the late 1940's, it never reached the level in 1901. Beginning in 1949, the ratio again decreased and reached the 1920's levels by the late 1960's and early 1970's. The second study was a content analysis of photographs of popular movie actresses from 1933 through 1978. Similar to the first study, the bust-to-waist ratios of the actresses were recorded. The ratios were then compared for the actresses in the 1960's and 1970's with those in the 1940's and 1950's. The mean bust-to-waist ratio of the popular actresses from 1940-1959 was 1.34 compared to 1.22 for actresses from 1960-1979. The results suggest that the popular actresses who serve as models of attractiveness have become thinner and less curvaceous in the recent past.

Morris, Cooper, and Cooper (1989) revealed further support for the apparent shift in the ideal feminine form. Data regarding the height, bust, waist, and hip measurements of models was collected from a London modeling agency for the time period from 1967 to 1987. Results revealed an increase in height and waist measurements with a slight trend toward an increase in bust measurements. In contrast, there was no change in hip measurement over the specified time period. Thus, it appears that a shift toward a more tubular shape in models occurred over the reported twenty year time period.

A more recent investigation of the "thin ideal" indicates a shift toward an even thinner cultural ideal in the media. In an attempt to replicate a previous study (Garner et al., 1980), Wiseman, Gray, Mosimann, and Ahrens (1992) collected body measurements

including height, weight, bust size, hip size, and waist size for Playboy centerfolds from 1979-1988 and for Miss America contestants from 1979-1985. The data were converted into percent of expected weight (actual weight / average weight for height and age group X 100) for each centerfold and each contestant. Results revealed a significant decrease in the percent of expected weight for Miss America contestants from 1979-1988. In addition, a significant decrease was found regarding hip size over the time period. The results also revealed that 69% of the Playboy centerfolds and 60% of the Miss America contestants weighed 15% or more below their expected weight given their age and height. It is important to note that this low body weight is one of the major criteria for the diagnosis of Anorexia Nervosa. Lastly, a comparison with the results of Garner et al. (1980) showed a similar trend toward a thinner ideal with an even further decrease in body size of Miss America contestants. In contrast, it appears that the body size of Playboy centerfolds has remained somewhat constant at a very low and unhealthy level.

Overall, the results of these various studies illustrate the evolution of the sociocultural ideal of feminine attractiveness regarding weight and body shape. It appears that present day women who are exposed to the mass media are presented with a standard of bodily attractiveness that is thinner and less curvaceous than that presented to women since the 1930's. Although this standard may not be promoted solely by the mass media, it is apparent that this standard is a contributing factor in the shift to a thinner ideal for women. Given the popularity of television, movies, and magazines, and the tendencies for the public to adopt the styles of popular media figures, it is likely that the mass media are among the most influential promoters of such thin standards. Thus, similar to footbinding and corsets in the past, women's present weight concerns and

dieting behaviors are just another example of how sociocultural factors dictate ways for women to alter their bodies in an attempt to achieve unnatural beauty ideals.

Present Sociocultural Ideals

In Western society, there appears to be a certain emphasis on physical appearance with strongly shared norms regarding attractiveness; one of which is the importance attributed to being physically attractive in our society. Attractive individuals are perceived to possess character traits that are socially desirable and they are believed to live more successful and fulfilling lives (Dipoye, Arvey, & Terpstra, 1977). As a result, they are treated more favorably and tend to have an advantage over less attractive people in interpersonal situations. For example, attractive individuals are more likely to receive help (Benson, Karabenick, & Lerner, 1976; West & Brown, 1975), be influential in interpersonal settings (Dion & Stein, 1978), receive better jobs and receive higher starting salaries (Cash, Gillen, & Burns, 1977; Dipboye et al., 1977; Dipboye, Fromkin, & Wiback, 1975).

Norms concerning attractiveness appear to be established during early childhood through socialization. For example, Dion and Berscheid (1974) found that pre-school children viewed attractive peers as more popular, self-sufficient, and independent than unattractive peers. In addition, unattractive children were perceived by their peers as engaging in more negative social behaviors than were attractive children. A more recent study (Hanna, 1998) revealed physical attractiveness to be a strong predictor of friendship quality and peer group acceptance at summer camp above and beyond self-reported social behavior. Thus, it appears that physical attractiveness is a highly valued and strongly reinforced attribute within Western society.

In addition, there appears to be a difference in the degree of importance placed on attractiveness for men and women. These differences appear to develop and become well established during early childhood. In a survey conducted by Tavris and Baumgartner (1983), children were asked how their lives would be different if they woke up as the opposite sex. The boys stated that they hoped they would be attractive as a girl because unattractive girls were considered "outcasts". The girls reported that they would be relieved by the fact that they wouldn't have to worry about their looks all the time. Thus, both boys and girls recognize the fact that physical appearance is more important for girls (Wood, 1994). In reality, it appears that men and women view their bodies along different dimensions. Whereas men view their bodies as primarily active and functional, women view their bodies along aesthetic and evaluative dimensions (Striegel-Moore, Silberstein, & Rodin, 1986). As a result, women place a greater importance on their physical appearance and are more vulnerable to be influenced by the culturally mandated "thin ideal."

As a result of socialization and societal expectations, a preoccupation with appearance and the pursuit of beauty has become one of the primary aspects of the female gender-role stereotype (Wolf, 1991; Wood, 1994). In other words, women are expected to be concerned with their physical appearance and the ways in which they can "improve" themselves by altering their unsatisfactory physical attributes. In fact, the word "beauty" was originally only used in reference to women and children and is still defined in Webster's New World Dictionary as " a very good looking woman" (Rodin et al., 1985). Thus, beauty is considered a feminine attribute and its pursuit a feminine responsibility.

Currently, being thin is a central feature of the contemporary societal ideal of female attractiveness (Rodin, 1992; Wolf, 1991; Wood, 1994). Rodin and Streigel-Moore (1984) found that among male and female undergraduates, weight and body shape constituted the central determinants of a woman's perception of her physical attractiveness whereas for men, these factors were important but not central in their perceived attractiveness. Further evidence of this gender difference was revealed by Tiggeman and Rothblum (1988) who found that thinness was a more critical aspect of physical attractiveness for women than it was for men. Thus, it appears that, for most women in contemporary American society, being thin is equated with being beautiful.

Spillman and Everington (1989) examined the relationship between female body types (mesomorph, endomorph, and ectomorph) and particular behavioral characteristics. College undergraduates were asked to assign behavioral characteristics to three female silhouettes and to choose the silhouette that most resembled themselves and the one they would most like to have. The results supported the notion of stereotypical characteristics based on body type. The mesomorphic body type ("normal" weight) was perceived as possessing the most positive attributes: being helpful, competent, happy, friendly, having the most friends, being healthy, and intellectual. The findings for the ectomorph body type (thin) also revealed extremely positive attributions such as: being the most sexually appealing, having the most dates, exercising the most, concerned most with appearance, and most knowledgeable about nutrition. In contrast, the endomorphic body type (heavy/overweight) received the most negative characteristics such as: sloppiest dresser, under the most stress, most likely to be depressed, most likely to have a menial job, least likely to work as a professional, and most likely to conform to others' wishes. Although

both men and women regarded themselves as mesomorphs, only the women preferred to change to an ectomorph. The results indicated that individuals (both men and women) attribute certain characteristics to others based solely on their weight and body shape. More specifically, positive qualities were associated with being thin and toned whereas negative qualities were associated with being overweight.

In general, obesity is a condition that is stigmatized strongly in American society. Just as thinness is associated with positive qualities, obesity tends to be related to negative qualities. More specifically, obese individuals are considered obscene and are often discriminated against. Tiggeman and Rothblum (1988) provided support for the notion that there are common stereotypes associated with obese individuals. They found that overweight people were rated as warmer, friendlier, more self-indulgent, less happy, lazier, less self-controlled, and less attractive than thin people. As noted earlier, prior research has demonstrated that positive qualities are associated with thinness, but negative attributions are consistently made for overweight body types (Spillman & Everington, 1989).

Negative attitudes toward overweight individuals and obesity are not limited to adults. Unfortunately, these negative attitudes about being overweight develop at a very early age (Stunkard & Sobal, 1995). For example, Kirkpatrick and Sanders (1978) found that children as young as 6 years old attributed positive characteristics to "normal/mesomorph" figures and negative characteristics to the overweight figures. More specifically, the normal/mesomorph body type was described as: best friend, kind, lots of friends, happy, helps others, polite, healthy, good-looking, smart, and neat. In contrast, the overweight/endomorph body type was characterized by: cheats, fights,

strong, nervous, argues, gets teased, sick, forgets, lazy, lies, sloppy, naughty, mean, dirty, and stupid. More recently, Tiggeman and Wilson-Barrett (1998) provided additional evidence that school-aged children hold negative stereotypes for overweight children. In comparison to a "normal" weight child figure, the overweight figure was perceived as lazier, less happy, less popular, and less attractive. In addition, there was no effect for age or gender of the children indicating that this type of negative stereotyping was consistent for all children.

A related study found that children chose black and white drawings of obese children as the least likeable in comparison to normal weight children and children with physical deformities such as missing limbs, facial disfigurement, or wheelchair-bound (Richardson, Hastorf, Goodman, & Dornbusch, 1961). A more recent study found similar results whereby first graders were less likely to report wanting to be friends with an endomorphic (overweight) child than with a mesomorphic (normal weight) child (Goldfield & Chrisler, 1995).

Thus, it appears that the present societal expectations of physical appearance are extremely high and unrealistic. In addition, there appears to be more pressure for women to achieve the societal ideal than for men. The current feminine ideal has become thinner over the past 20 years and remains extremely thin in comparison to the average American woman.

Internalization

Although most women are exposed to these societal ideals of physical attractiveness through the media, they do not all develop body image concerns and eating problems. In reality, women appear to fall on a continuum of body dissatisfaction ranging

from very low levels of body dissatisfaction to extreme levels of dissatisfaction (which may result in body image disturbance and/or eating disorders). Thus, individual differences exist in the extent to which women are influenced by sociocultural pressures. The question then becomes, what are some of the mechanisms that mediate the relationship between sociocultural influences (e.g., media) of the "thin ideal" and the development of body image concerns and eating disturbance?

One of the most recent variables that has been identified as a risk factor in the development of body image disturbance and eating disorders is the internalization of societal norms regarding physical appearance (Thompson & Stice, 2001). More specifically, the internalization of the "thin ideal" refers to the degree to which an individual accepts the social definition of attractiveness as being extremely thin and engages in behaviors that are designed to replicate these ideals. Although a relatively new area of research, several measures of internalization have been developed and the role of internalization in the development of body image disturbance and eating disorders has begun to be explored.

Heinberg, Thompson, and Stormer (1995) suggested that an awareness and/or internalization of sociocultural ideals regarding physical attractiveness might mediate the relationship between media exposure, body image, and eating disturbance. As a result, they developed the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) to assess women's awareness and acceptance of societal ideals regarding weight, body shape, and other facets of physical attractiveness. Factor analysis of the SATAQ revealed two subscales: an Awareness of societal standards and an Internalization of these standards into one's own cognitive schema of physical attractiveness. Convergent

validity was established between the SATAQ and other well established measures of body image and eating disturbance. More specifically, results revealed a slightly stronger relationship for the Internalization scale than for the Awareness scale. Multiple regression analyses were conducted to examine the strength of these relationships. For all of the measures, Awareness scores accounted for significant amounts of variance above and beyond body mass and self-esteem. Internalization scores, however, accounted for significant variance above and beyond Awareness scores. The amount of unique variance that Internalization scores accounted for above and beyond Awareness scores ranged from four to nineteen percent. Thus, it appears that an internalization of societal standards of physical attractiveness may be related strongly to body image and eating disturbance.

Stice, Schupak-Neuberg, Shaw and Stein (1994) provided additional support for the mediating effects of internalization in the relationship between media exposure and body dissatisfaction. More specifically, they investigated the relationship between media exposure and eating pathology and examined the possible mediating effects of gender-role endorsement, ideal-body stereotype internalization, and body dissatisfaction. Covariate structure modeling techniques revealed a direct influence of ideal-body stereotype internalization on body dissatisfaction. In contrast, the results did not indicate a direct influence of media exposure on ideal-body stereotype internalization. In addition, there was no evidence of a direct influence of ideal-body stereotype internalization on eating disorder symptomatology. Thus, it appears that the internalization of cultural ideals regarding attractiveness was related strongly to body dissatisfaction and indirectly related to eating pathology (through body dissatisfaction).

The adverse effects of women's exposure to the cultural "thin ideal" were further investigated in a laboratory study by Thornton and Maurice (1997). Female undergraduates were asked to complete two sets of questionnaires. Initially, they completed a single measure to assess their adherence to the sociocultural ideal of physical attractiveness. They were then asked to complete a second set of questionnaires which consisted of measures of self-esteem, self-consciousness, social physique anxiety, body dissatisfaction, and possible eating disturbance. Participants in the control group simply completed both sets of questionnaires at the same time. In contrast, the experimental group was exposed to 50 slides of catalog models representing the "thin ideal" in between the first and second set of questionnaires. Results revealed significantly higher levels of social physique anxiety, public self-consciousness, and social anxiety for women exposed to the slides of models than those in the control group. Similar results were found for self-esteem with the women in the "model" condition reporting significantly lower levels of self-esteem than the women in the control group. Results, however, indicate that adherence to the cultural ideal served to mediate these relationships. More specifically, those women who reported less adherence to the societal ideal exhibited lower levels of public self-consciousness, social physique anxiety, body dissatisfaction, eating disturbance, and higher levels of self-esteem than those women reporting a greater adherence to the ideal.

In another controlled laboratory study, Heinberg and Thompson (1995) utilized the SATAQ to examine the mediating effects of an awareness/internalization of societal standards of appearance on the relationship between media exposure and body dissatisfaction. Results revealed that women who endorsed high

awareness/internalization of sociocultural ideals reported significant increases in depression and anger after viewing the Appearance commercials. In contrast, those who watched Non-Appearance commercials significantly decreased in levels of depression and anger. Thus, it appears that the media may have adverse effects on those women who endorse and accept the societal definition of attractiveness with respect to feelings of body dissatisfaction, depression, and anger. Results supported the notion that an awareness and/or internalization of societal ideals serves to mediate the effect of media exposure to body dissatisfaction.

Cusumano and Thompson (1997) further assessed the possible mediating effects of women's awareness and/or internalization of the societal "thin ideal" on the relationship between media exposure and body image and eating disturbance. Participants completed questionnaire packets that included measures that assessed body image disturbance, eating pathology, awareness and internalization of body shape ideals, self-esteem, and the amount of media exposure. Media exposure consisted of three variables (for each of the magazines included): the mean body shape rating of females seen in the magazine, the mean breast size of the females in the magazine, and the total number of images rated in the magazine. This information was then used to calculate an index of total exposure to body shape and breast size. Results did not support the direct relationship between media exposure and body image and eating pathology. In contrast, both awareness and internalization scores accounted for significant amounts of variance for each of the body image, eating disturbance, and self-esteem measures. Similar to previous findings (Heinberg et al., 1995), internalization accounted for significant variance above and beyond awareness for all body image and eating disturbance

measures (for both body shape and breast shape). The results provided additional support for the relationship between the internalization of sociocultural ideals and body image and eating disturbance among women.

Several recent studies have begun to examine the role of internalization within adolescent populations. One of the first attempts to assess the internalization of sociocultural influences regarding the "thin idea" was conducted by Cusumano and Thompson (2000). They developed a measure to assess the multiple components of media influences on body image within a child population (8-11-year-old boys and girls). Results indicated a three factor solution comprised of Internalization, Awareness, and Media Pressure for both boys and girls. However, significant gender differences were revealed suggesting that females reported higher levels across all measures of media influence and body dissatisfaction. In addition, correlations between media influences and body dissatisfaction were higher for the girls than for boys. Multiple regressions indicated that media pressure was a significant predictor of body dissatisfaction for both boys and girls. Internalization accounted for significant variance in body dissatisfaction for the female sample only. Overall, the results of the study replicate the findings for adult populations in that Internalization and Awareness exist as separate entities of media influence on body dissatisfaction and that Internalization appears to be the stronger predictor of body dissatisfaction.

Smolak, Levine, and Thompson (2001) attempted to develop and assess the validity of an adolescent version of the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ). Several modifications were made to the adult version to create the adolescent girl version: 1) all questions were positively worded and 2) more age

appropriate magazine titles were chosen for several questions. The adolescent boy version was slightly changed in that those questions that focused on thinness were reworded to focus on muscularity. The revised questionnaires were administered to 505 middle school children: 248 girls and 248 boys with 9 children who did not indicate their gender. With respect to grade, 250 were sixth graders and 240 were seventh graders with 15 children who did not report their grade. A principal components analysis with an oblique rotation was conducted separately for boys and girls. Results from the girls' data were almost identical to those found in college students (Heinberg et al., 1995) with a two factor solution (Internalization and Awareness) that showed adequate internal consistency and concurrent validity. In contrast, the boy's data indicated a three factor solution: internalization, awareness, and muscular look. All three of the subscales demonstrated adequate internal consistency and concurrent validity as well.

Sands and Wardle (2003) have recently examined the role of an awareness/internalization of societal appearance ideals in the relationship between sociocultural influences (e.g., maternal factor, peers, media exposure) and body dissatisfaction for young girls. Results from hierarchical regressions supported the idea that the internalization of societal ideals mediates the relationship between sociocultural influences and the development of body dissatisfaction. More specifically, internalization accounted for a significant amount of variance in body dissatisfaction over and above BMI, peer influences, maternal influences, and an awareness of societal ideals. In contrast to the other variables, media exposure was not a significant predictor of body dissatisfaction. In other words, sociocultural factors such as peer and maternal weight related attitudes and behaviors influence body dissatisfaction in that they increase an

individual's awareness of societal ideals which promotes an internalization of these ideals.

At present, there has been limited empirical research to investigate the mediating effects of the internalization of societal beliefs on the relationship between sociocultural influences (e.g., media exposure) and the development of body image and eating disturbance. Unfortunately, the bulk of these studies tend to be correlational in nature and thus, cannot provide a causal explanation of the relationships of interest. As a result, the direction of the relationship is still unclear. However, the results of several recent experimental studies provide consistent findings which suggest that the internalization of sociocultural pressures mediates the relationship between media exposure and body image disturbance and/or eating pathology for adult women (Cusumano, & Thompson, 1997; Heinberg, & Thompson, 1995; Stice et al., 1994) and children (Sands & Wardle, 2003). It is apparent that more robust studies (e.g., prospective, experimental, covariate structure modeling techniques) are necessary to further discern whether media exposure is an etiological factor in the development of body image and eating disturbance or whether these women (with body image and eating pathology) choose to expose themselves to these media images. In addition, these types of studies would better identify the role of the internalization of societal pressures in this relationship. Given that the research in this particular area is relatively new, there is still a need for the development and validation of measures regarding the awareness/internalization of sociocultural influences. Future researchers need to develop and test more integrative models of body image and eating disorders including developmental, biological, personality, and cognitive factors.

Cognitive Processing Models: Expectancy Theory

Cognitive processing models of body image disturbance and eating disorders focus on individuals' thoughts and beliefs regarding their weight and body shape. More specifically, these models propose that individuals have a body image schema, or set of ideas/beliefs concerning their weight and body shape which can be positive or negative. According to Markus (1977), "self-schemata are cognitive generalizations about the self, derived from past experience, that organize and guide the processing of self-related information contained in the individual's social experiences" (p. 64). Cognitive processing models propose that individuals with body image and eating disturbance develop predominantly negative cognitive structures regarding issues of weight and its implications for the self (i.e., cognitive distortions) which ultimately influence and affect their perceptions, thoughts, affect, information processing, and behavior (Lavin & Cash, 2001; Vitousek & Hollon, 1990). Studies have shown negative body image self-schemas to influence self-related cognitions (Cash & Hicks, 1990; Markus, Hamill, & Sentis, 1987; Spangler & Stice, 2001), self-esteem (Geller, Zaitsoff, & Srikameswaran, 2002; McFarlane, McCabe, Jarry, Olmstead, & Polivy, 2001), social information processing (Jackman, Williamson, Netemeyer, & Anderson, 1995; Tantleff-Dunn & Thompson, 1998; Wood, Altabe, & Thompson, 1998), and general information processing (Fairburn, Cooper, Cooper, McKenna, & Anastasisades, 1991; Labarge, Cash, & Brown, 1998; Rieger et al., 1998). Although there is a great deal more to be done in this area, this line of research has shown the necessity of including the role of cognitions in body image and eating disturbance.

A related cognitive processing explanation that has yet to be investigated fully is the idea that women develop assumptions and/or expectations about being thin (i.e., thinness schema) that ultimately influence their thoughts and actions related to weight and body shape. It is apparent that societal influences place a great deal of pressure on women to obtain and maintain a particular body type that is considered the feminine "ideal." The research supports the idea that the ideal feminine form has become extremely thin and less curvaceous in the past twenty years. Thus, the question becomes "What are women's expectations about being thin?" In other words, given the current societal pressures to be thin, what assumptions do women have regarding obtaining the societal ideal of thinness? Expectancy theory addresses this very question.

Although the application of expectancy theory to psychopathology is a relatively new area, the concept of "expectancy" has been well established in the literature. It was first introduced by Tolman (1932) who defined it as an intervening variable between a stimulus and response that is stored in memory to be utilized in the future. The definition was broadened by MacCorquodale and Meehl (1954) to include the idea that expectancies could be established vicariously. In other words, expectancies could be created through both direct experience and observational learning.

Rotter (1954) explicitly defined expectancy in terms of social learning theory as "the probability held by the individual that a particular reinforcement will occur as a function of a specific behavior on his (or her) part in a specific situation or situations." In other words, behaviors that are reinforced on a consistent basis are thought to be more likely to result in similar reinforcement in the future. Rotter also emphasized that the relationship between a particular situation, behavior, and reinforcement could increase in

stability and become resistant to change such that changes in the real-world contingencies would be less likely to alter expectancies (and ultimately behavior) in a given situation.

Bolles (1972) expanded on the theory by proposing two distinct types of expectancies: the primary law of learning and the secondary law of learning. According to the primary law of learning, an S-S* contingency exists such that learned events (S) predict biologically important consequences (S*). The secondary law of learning purports an R-S* contingency where an expectation exists between a response (R) and the consequence of the response (S*). As a result, the learning experience is limited by prior learned or innate expectancies. In addition, the strength of the related expectancy and the value of the direct consequences determine the likelihood that a particular response will occur.

Although the concept of expectancy has been altered and changed over time, it is obvious that in general, expectancies play an important role in an individual's decision-making process, especially with respect to engaging in particular behaviors. At present, there are numerous interpretations of the term "expectancy." In general, the definition often depends on the field of study. In social psychology, expectancies are synonymous with attitudes, beliefs, and attribution. Within the psychotherapy realm, expectancies are seen as attitudes that have been created and maintained by past experiences that ultimately have an impact on the process and outcome of therapy (Nash, Frank, Imber, & Stone, 1964). More recently, the mediational role of expectancies in the development of psychopathology, and more specifically alcohol use and abuse, has been examined (Goldman, DelBoca, & Darkes, 1999).

Within the field of alcohol research, expectancy refers to the intervening, cognitive variable that represents the assumed systematic relationship between certain stimuli and future behavior (Goldman, Brown, & Christiansen, 1987). These expectancies tend to take the form of if…then contingencies. For example, an individual may believe that *if* I drink, *then* I will be more social with others. As a result, an individual's expectations about the effects of alcohol appear to influence his/her decision to drink. According to alcohol expectancy theory, those individuals who hold more positive expectancies concerning the effects of alcohol use are more likely to consume greater amounts of alcohol than those individuals who possess less positive, or negative expectations about alcohol use. Research indicates that expectancies appear to be the strongest predictors of alcohol use, above and beyond all other variables (Christiansen, Roehling, Smith, & Goldman, 1989; Goldman, 1994; Goldman & Rather, 1993).

It is also important to note that these expectancies often exist at an unconscious or automatic level (Goldman & Rather, 1993). Thus, individuals may not deliberately decide to drink because they expect that they will be more social as a result of drinking. More likely, this expectancy regarding increased sociability exists at an unconscious level and influences the individual's decision to drink with very little or no conscious thought.

It appears likely that the application of expectancy theory would lend itself well to the area of body image disturbance and eating disorders. Within the field of body image disturbance and eating disorders research, expectancies would most likely refer to the anticipated consequences of being thin. Such expectancies may be established by an individual's direct experience with weight loss and dieting or through the observation of

the messages concerning the societal "thin ideal" projected by the media, parents, and peers.

Hohlstein, Smith, and Atlas (1998) attempted to apply expectancy theory to eating disorders by developing and validating a measure of eating and dieting expectancies. The purpose of the study was to 1) empirically identify women's expectations regarding eating, dieting, and thinness and to 2) develop and validate a reliable expectancy factor structure.

The first study involved three stages. First, reinforcing effects of eating and dieting/thinness were identified through literature review and interviews. Second, the Eating Expectancy Inventory (EEI) and Thinness and Restricting Inventory (TREI) were developed. Lastly, these measures (along with established measures to serve as criterion measures) were administered to a large (n=557) sample of undergraduate women. Factor analysis of the Eating Expectancy Inventory resulted in 34 items and identified a five-factor structure. The five factors were labeled as Eating Helps Manage Negative Affect, Eating is Pleasurable and Useful as a Reward, Eating Leads to Feeling Out of Control, Eating Enhances Cognitive Competence, and Eating Alleviates Boredom. The final version of the Thinness and Restricting Inventory consisted of 44 items and was composed of a single factor. Convergent and discriminant validity of the measures were established.

The second study investigated the convergent and discriminant validity of the expectancy scales within a clinical population. The EEI and TREI were administered to four participant groups (bulimia nervosa clients, anorexia nervosa clients, psychiatric controls, and nonpsychiatric controls). Results revealed that bulimics scored significantly

higher on the two negative affect regulation scales (Eating Manages Negative Affect and Eating Alleviates Boredom) than the other three groups. Anorexic patients scored significantly lower than the other three groups on the positive reinforcement scales (Eating is Pleasurable and Rewarding and Eating Enhances Cognitive Competence). In addition, both eating disorder groups scored significantly higher on the Eating Leads to Feeling Out of Control scale and the TREI scale than either of the control groups. Thus, the results support previous research with respect to the existence of reinforcing cognitions that are specific to anorexia and bulimia (Cash & Hicks, 1990; Jackman et al., 1995; Vitousek & Hollon, 1990). The only significant difference between the control groups was that psychiatric controls scored significantly higher on the TREI scale. As a result, it appears likely that these expectancy scales do not reflect a general psychiatric distress, but are particular to eating disorders. An attempt to classify subjects by their scores on the expectancy scales resulted in a 94% successful classification rate (58 of the 64 controls, 8 of the 10 anorexic patients, and all 22 of the bulimic patients).

Simmons, Smith, and Hill (2002) attempted to validate the use of the EEI and the TREI with both early (392 seventh graders) and mid (300 tenth graders) adolescent female populations. Initially, they examined the content validity of the two measures by having four trained psychology doctoral students sort a list of eating and diet related items as either an expectancy or non-expectancy item. Overall, the EEI and TREI items were clearly identified by all of the raters as having expectancy content and were easily distinguished from the other eating disorder and dieting items. In addition, the factor structures of both measures were replicated for both adolescent populations using confirmatory factor analysis techniques. The only exception to this finding was seen with

the 8 negatively worded and reverse scored items on the EEI for the seventh grade girls. It was suggested that these items were more difficult to process and respond to for the younger adolescents and as a result, these items were dropped from the EEI.

Correlational analyses revealed similar findings with regard to the role of expectancies in disordered eating for adolescent populations to the previous study with college age women. First, for both early and late adolescent populations, negative reinforcement eating expectancies (eating manages negative affect and alleviate boredom) and the expectancy that eating leads to feeling out of control were correlated significantly with bulimic symptoms and extreme dieting behaviors. Also, the expectancy that thinness and dieting leads to improved life situations correlated with measures of successful dieting, extreme dieting behaviors, and bulimic symptomatology. In contrast, positive reinforcement expectancies (eating is pleasurable and useful as a reward, eating enhances cognitive competence) were unrelated to bulimic symptoms. Multiple regressions also supported the idea that expectancies accounted for unique variance in bulimic symptomatology above and beyond several personality factors (Perfectionism, Interpersonal Distrust, and Ineffectiveness) found to be related to eating disturbances.

A recent study examined the moderating effects of expectancies on personality variables for two addictive behaviors: drinking and bulimic behaviors (Fischer, Smith, Anderson, & Flory, 2003). The first study examined the relationship between positive expectancies for drinking, the personality trait of extraversion, and alcohol use. Results from hierarchical regressions indicated that an interaction between extraversion and the expectancy of social facilitation accounted for a greater amount of variance than did the

individual predictors. In other words, alcohol use was best explained as a combination of an individual's expectancy of social facilitation and the personality trait of extraversion. More specifically, the relationship between extraversion and drinking behavior was stronger for those individuals who held stronger social facilitation expectancies than those that reported lower social facilitation expectancies.

The second study examined the relationship between expectancies for eating, the personality trait of urgency impulsivity, and bulimic symptoms. Similar to the first study, results revealed that the interaction of impulsivity and eating expectancies accounted for more unique variance in bulimic symptoms than did the combination of the independent predictors. In other words, the expectancy of negative reinforcement from eating (alleviates boredom, manages affect) interacts with the trait of impulsivity to account for bulimic behaviors. Thus, impulsivity correlates with bulimic symptomatology only for those women that hold negative reinforcement eating expectancies. In contrast, the trait of impulsivity does not appear to be a major risk factor in the development of bulimic symptoms for those women that hold low eating expectancies.

Given the lack of prior research in this area, these initial studies were a successful attempt at applying expectancy theory to eating disorders. The authors have provided an initial framework for identifying these expectancies and have established valid and reliable measures of thinness/dieting and eating expectancies for both adult and adolescent populations. In addition, the measures were validated within both clinical and nonclinical samples. An attempt was also made to explain the relationship between expectancies, personality traits, and bulimic behaviors. The present study has attempted to provide additional support for the application of expectancy theory to eating disorders

as well as to expand the scope of study. First, the present study was not limited to the relationship between expectancy theory and eating disorders, but also included the relationship with body image disturbance. Second, the present study examined the role of both positive and negative expectancies regarding thinness. Third, the present study has attempted to create a valid and reliable measure of thinness expectancies, or the anticipated consequences of being thin. Last, the present study has attempted to examine the role of thinness expectancies within the larger framework of societal mechanisms (e.g., internalization) in the development of eating disturbance and body image concerns. Overall, the present study attempts to provide additional support for the application of expectancy theory to body image and eating disorders.

Rationale for the Present Study

Although the research on expectancy theory and body image and eating disturbance is very limited, it appears to be an extremely useful and promising line of study. The present study attempted to better identify these expectancies regarding weight and body shape, with an emphasis on those expectations related to being "thin." As noted earlier, the feminine ideal has become thinner over time and is currently extremely thin in comparison to the average American woman. In addition, for most women, being thin is equated with being beautiful. Thus, it is reasonable to assume that the typical American woman may develop certain ideas about what it means to be "thin" in reaction to these societal messages. Thus, the decision to focus on thinness as the construct of interest was an attempt to identify what these beliefs, ideas, and thoughts might be in relation to the pressures woman experience to meet this thin ideal. Once a broad range of

expectancies were identified, a measure of "thinness" expectancies was developed and validated.

The current study attempted to provide additional information in the application of expectancy theory to the area of body image and eating disturbance by expanding upon the previous literature in several ways. First, a pilot study for the present study yielded a comprehensive list of expectancies regarding thinness, including both positive and negative expectations related to being thin. Second, participants were asked to identify expectations of thinness on a personal as well as a more general level. It was possible that women held different expectancies for themselves than they did for others, and these differences were examined by using different sentence stems (e.g., If I were thinner…, Being thin makes one…) in the item generation phase. Third, the newly developed measure focused solely on women's expectations regarding thinness (as opposed to including other related issues such as restricting behavior and physical attractiveness). Thus, it was probable that any relationships that were found in the present study would be related directly to the construct of "thinness expectancies" and would not be confounded by a different construct such as restricting behavior.

The present study attempted to address several important questions: 1) What are the range of expectancies that women have regarding thinness and the consequences of being thin? 2) Can we accurately measure these expectancies? 3) What is the relationship between women's expectancies of being thin and body image concerns and/or eating disturbance? 4) How are women's expectations regarding thinness related to internalization, another proposed mediating factor in the relationship between sociocultural influences and body image and eating disturbance? 5) Is a woman's actual

body weight and shape (as measured by BMI) related to her expectations about being thin? The main goal of the present study was to develop a reliable and valid measure of expectancies regarding thinness. After developing the measure, the following hypotheses were explored:

1. It was hypothesized that those women who reported greater positive expectancies regarding thinness would report more body shape and weight concerns and/or eating problems, as exhibited by higher levels of body image and/or eating disturbance**.** It was assumed that women who reported more positive expectations about being thin would be more dissatisfied with their current body shape and weight. In addition, it was possible that these women would be more likely to engage in unhealthy behaviors (e.g., bingeing, starving) to become thin. Support for this hypothesis was found within a clinical sample of bulimic and anorexic participants (Hohlstein et al., 1998). More specifically, Hohlstein and colleagues found that both bulimic and anorexic participants had greater positive expectations regarding being thin than did control participants.
2. It was hypothesized that women's expectancies regarding being thin would be related to their awareness and/or internalization of societal norms regarding physical appearance. More specifically, it was hypothesized that those individuals who reported greater positive expectancies regarding thinness would show higher levels of awareness and/or internalization of societal norms regarding physical appearance. This hypothesis was based on evidence that 1) higher levels of

awareness/internalization (Heinberg et al., 1995; Stice et al., 1994) and a greater tendency to engage in social comparison (Rieves & Cash, 1996; Stormer & Thompson, 1996; Streigel-Moore et al., 1986) have both been shown to be related to poorer body image and 2) higher expectancies for being thin have been shown to be related to eating disturbance (Hohlstein et al., 1998). Consequently, it was reasonable to predict a positive relationship between expectancies and awareness/internalization of societal norms.

3. It was hypothesized that thinness expectancies would contribute unique variance in the weight and body concerns of women. More specifically, it was hypothesized that thinness expectancies would account for unique variance above and beyond the other mediating factors (e.g., internalization) in the relationship between sociocultural influences and body image and eating disturbance.
4. In addition, several competing models of the relationship between thinness expectancies, internalization of societal norms, body image concerns, and eating disturbance were tested using covariance structure modeling techniques.

Proposal of a Theoretical Model

In the overall model (see Figure 1), both interpersonal and sociocultural influences are proposed to have direct influences on the internalization of societal ideals of physical attractiveness as well as thinness expectancies. Interpersonal influences are intimate social influences such as peers, parents, and romantic partners. More

specifically, they reflect the extent to which family members, friends, and significant others directly and/or indirectly influence an individual's attitudes and concerns about weight and body shape. In contrast, sociocultural influences exist on a broader societal level and are measured as the extent to which women are exposed to the "thin ideal" through the media (e.g., television, magazine advertisements). Although limited, there is some evidence to support both the path from interpersonal (e.g., peers and family) and sociocultural (e.g., media) influences to internalization (Stice, Nemeroff, & Shaw, 1996). However, these components (e.g., sociocultural influences, interpersonal influences) of the broader model are beyond the scope of the present study. As a result, the proposed model for this study only examined the relationship between the internalization of societal norms, positive and negative expectancies regarding thinness, body dissatisfaction, and eating disturbance.

Within the present model, internalization represented the degree to which women accept the societal ideals regarding weight, body shape, and other aspects of physical attractiveness and the extent to which they engage in behaviors to attain this ideal (Thompson & Stice, 2001). It was measured using the three subscales of the Multidimensional Media Influence Scale **(**Cusumano & Thompson, 2000). Within the context of this particular model, expectancies referred specifically to the anticipated consequences of being thin. For example, an individual may believe that *if* I am thin, *then* I will be more popular with others. In the present study, both positive and negative expectancies were included in the proposed model. It was hypothesized that they would be negatively correlated with one another and that positive expectancies would have the greater influence within the model. It was hypothesized that the negative expectancies

would have no effect (as seen in the initial models 1-4) and/or a negative influence on the other constructs within the model (as seen in models 5-7). The relationship between internalization and expectancies has apparently never been investigated. In addition, there is limited information regarding the role of expectancies in relation to body image and eating pathology (Hohlstein, et al., 1998). Thus, these proposed relationships have no previous research evidence and need to be examined.

In the initial model (see Figure 2), positive expectancies were hypothesized to have a direct influence on internalization. In addition, positive expectancies were hypothesized to influence body dissatisfaction directly. BMI was included in all of the models and was hypothesized to have direct influence on body dissatisfaction as seen in prior research (Faith, & Allison, 1996; Keery, Van den Berg, & Thompson, in press; Striegel-Moore, R., McAvay, G., & Rodin, J., 1986). Finally, body dissatisfaction was hypothesized to have a direct influence on eating pathology. A great deal of research has provided support for this proposed relationship (Attie & Brooks-Gunn, 1989; Cattarin & Thompson, 1994; Gross & Rosen, 1988; Steinhausen & Vollrath, 1993; Stice et al., 1994). This relationship appears to be the strongest relationship proposed in the present model.

Model 2 (see Figure 3) attempted to address the direct influence of positive expectancies on eating disturbance. The initial model remained the same with the exception of an additional path from positive expectancies to eating disturbance. In addition to the indirect relationship through body dissatisfaction, positive expectancies were hypothesized to have a direct influence on eating disturbance. Hohlstein and

colleagues (1998) provided initial support for the relationship between eating and thinness expectancies and eating disturbance.

Model 3 (see Figure 4), as another alternative to the initial model, examined the mediating function of internalization in the relationship between positive expectancies and body dissatisfaction. The rest of the model stayed the same with the exception of an added path from internalization to body dissatisfaction. The added pathway also investigated the mediating role of body dissatisfaction in the relationship between internalization and eating disturbance. Several recent studies have found support for the direct influence of internalization on body image disturbance (Heinberg et al., 1995; Stice et al., 1994). Model 4 (see Figure 5) examined the mediating function of internalization in the relationship between positive expectancies and eating disturbance as well as its direct influence on eating disturbance by adding a path between internalization and eating disturbance.

Given that there is no previous research that has explored the effect of negative expectancies on internalization, body dissatisfaction, and eating disturbance, these variables were included in the remaining models. Thus, Model 5 (see Figure 6) included an additional path from negative expectances to internalization. Model 6 (see Figure 7) included an additional path from negative expectancies to body dissatisfaction. Model 7 (see Figure 8) included an additional path from negative expectancies to eating disturbance. It was hypothesized that there would be a direct negative relationship between negative expectancies and internalization, body dissatisfaction, and eating disturbance within this model.

Study 1: Pilot Study (Item Generation)

Method

Participants

A total of 195 college undergraduates from the University of South Florida participated in the item generation portion of the present study. Participants were recruited from psychology classrooms and received an extra credit point in exchange for their participation. A total of 142 (72.8%) of the participants were female, and 53 (27.2%) were male. The following is the ethnic composition of the participants: 65.5% Caucasian, 11.3% African American, 13.9% Hispanic, 6.7% Asian-American, and 2.6% Other. The mean age of the participants was 20.80 years (*sd* = 4.69) for females and 21.21 years (*sd* = 2.89) for males. With respect to the participants' grade level, 36.8% were in their freshman year, 25.9% were in their sophomore year, 20.7% were in their junior year, 15.0% were in their senior year, and 1.6% were in their postgraduate year.

Procedure

The item generation phase was based on a previous study focused on identifying the range of alcohol expectancies (Rather, Goldman, & Roehrich, 1992). Based on this previous research, participants in this pilot study were provided with one of two sentence stems and were asked to provide as many endings as possible within 60 seconds. More specifically, participants were asked to generate as many endings to an incomplete sentence in order to identify their assumptions/expectations about being thin. They were given 60 seconds to complete the sentence stem in order to ensure that their responses

were the first that came to mind and, thus, were those that were most strongly associated with their expectations about being thin. One stem "If I were thinner, I would be…" pulled for a personal response, whereas the other "Being thin makes one…" pulled for a more general, nonpersonal response. The use of two separate stems allowed for the widest range of expectancies including those that participants hold for themselves as well as for others. Each participant, however, only was presented with one of the two stems.

Although it was determined that male subjects would not be included in the other two phases of the present study, they were included in the item generation stage to provide for the broadest range of possible responses. It was decided that if any striking differences were noted in male and female responses, then only females' responses would be used in the development of the initial scale. However, no notable differences in the responses of males and females were revealed and, thus, data from both male and female respondents were included in the initial scale.

Results

The response frequencies were recorded for all words and phrases. Any response that was generated by 2 or more participants was included in the initial item pool. In addition, any item that was reported once was included if it was a good synonym for a high-frequency word or was theoretically supported by the literature. This process resulted in 137 items being included in the initial scale. These initial items are listed in Appendix A. Items that were strong synonyms for high frequency words are noted with an asterisk, and items that were theoretically supported by the literature are noted with two asterisks.

The initial scale was presented to four graduate students (including the experimenter) and a faculty member whose primary area of research interest is eating disorders and body image disturbance. An expert review of the initial scale was conducted to assess and critique the relevancy of the items to the construct of interest (i.e., expectancies of being thin), the clarity and conciseness of items, and the general format and organization of the initial scale. Each reviewer was asked to rate how relevant each item was to the construct of thinness expectancies on a 5 point Likert scale ranging from 1 (delete) to 5 (outstanding). Any item with a mean score of less than 2.5 was deleted. This process resulted in 111 items.

Study 2: Item Evaluation

Method

Participants

A total of 355 female undergraduates were included for the purpose of item evaluation. Female undergraduates were chosen as the population of interest due to the high prevalence of body image disturbance and eating pathology among female college students. Respondents were recruited from psychology courses at the University of South Florida and received extra credit points for their participation. The following is the ethnic composition of the participants: 60.6% Caucasian, 21.3% African American, 11.3% Hispanic, 2.0% Asian-American, and 4.8% Other. The mean age of the participants was 19.84 years (*sd* = 3.61). With respect to the participants' year in college, 52.3% were in their freshman year, 27.3% were in their sophomore year, 12.4% were in their junior year, and 8.0% were in their senior year. The participants were quite similar with regard to general demographic characteristics (e.g., ethnicity, age, grade) as those in the initial pilot sample.

Procedure

Questionnaires were administered to participants within their psychology classrooms. First, the examiner provided participants with a brief explanation of the study. Second, participants were asked to sign a consent form (Appendix C) to verify that they knew their participation in the study was voluntary and that their responses

would remain anonymous. Lastly, the examiner read aloud the instructions and answered any of the participants' questions regarding the study.

Participants were provided with two questionnaires: The Thinness Expectancy Questionnaire (TEQ) and a demographics questionnaire (Appendix D). The Thinness Expectancy Questionnaire (TEQ) consisted of 111 items (Appendix B). The majority were positive (n=76) with the remainder being negative (n=31) or neutral (n=4) in meaning. Items were worded to enable the use of a 7-point likert scale ranging from "Strongly Disagree" to "Strongly Agree." Participants were asked to respond to each item with respect to how much they agreed with the statement. The demographics questionnaire asked participants to provide information regarding age, gender, marital status, height, weight, and dieting history. Each participant completed the Expectancy measure first. Participants were asked to read each item and rate how much they agreed with the statement according to a 7-point scale ranging from "Strongly Disagree" to "Strongly Agree." Each administration lasted approximately 30 to 45 minutes. Upon completion of the measures, participants received an extra credit point and a debriefing information sheet.

Results

The ultimate goal of the item analysis study was to create an internally consistent scale that would accurately measure "thinness expectancies." Because it was likely that the variables in the present analysis were composed of both unique and common variance, a common factor model was assumed, resulting in an iterative principal axes factor analysis of the data. In order to achieve the best estimates of communalities, squared multiple correlations were used. Because it was assumed that the factors would

be correlated to some degree, an oblique rotation was utilized in order to best explain the data in terms of simple structure.

A promax rotation was chosen to achieve simple structure with an oblique rotation. The number of factors were determined utilizing several different methods. First, scree plots were examined as an initial attempt at determining the number of factors. According to the scree plot, a two or three factor solution was indicated. Second, eigenvalues were examined for each of the factors. Using the rule of thumb that retains the number of factors with eigenvalues greater than one would have suggested a sixteen factor solution. Unfortunately, a parallel analysis was unable to be conducted due to number of variables (in order to establish the upper limit on the number of factors). Lastly and most importantly, theoretical support and interpretability of the factors was considered. Taking all of these indicators into consideration, a two factor solution was chosen. The identified factors were Positive and Negative expectancies related to thinness.

Once the final number of factors was determined, an item analysis was completed. Those items that failed to load highly on any of the factors (less than .45) were deleted. In addition, items with weak loadings on the appropriate factor (less than .45) and/or strong loadings on the second factor (greater than .25) were also deleted.

At this point, further item analyses were conducted as a final check on the factor structure. It was assumed that item-total correlations within a subscale would be greater than those for the total scale. This pattern would indicate both convergent and discriminant validity for the identified factor structure. First, the coefficient alpha was computed for the final scale (alpha=.98). Second, the coefficient alpha was conducted for

both of the identified subscales/factors (e.g., positive = .98, negative=.93). Third, item-total correlations of each item were compared to the coefficient alpha of the total scale as well as the appropriate subscale. Any item that significantly increased the coefficient alpha when deleted from the scale and/or subscale was eliminated. Only those items with the item-total correlations of .40 or higher were retained for the final scale. Lastly, the means and variances for each item were computed. Those items with a mean close to the extreme scores or a low variance were dropped because they did not allow for adequate discrimination between participants. Thus, item deletion was based on item-total correlations, item contribution to the coefficient alpha of the appropriate subscale, extreme means, low variance, and theoretical reasoning. Item deletion decisions were based on standard practices as described by DeVellis (1991) and Spector (1992). Appendix E identifies the items that were deleted and the reasons for the deletion.

The final version of the Thinness Expectancy Questionnaire was composed of 76 items: 56 positive and 20 negative items **(**Appendix F**).** The factor loadings of the items on the two factors can be seen in Table 1. At this point, the TEQ was subjected to reliability and validity testing as described in Study 3. Because a two factor solution was identified for the TEQ (from Study 2), each factor was analyzed separately regarding reliability and validity analyses.

Study 3: Reliability and Validity of the TEQ

Method

Participants

A total of 666 female undergraduates were included for the purpose of examining the reliability and validity of the TEQ. Although the present sample size was more than adequate for the proposed correlation and regression analyses, such a sample size was necessary to be able to use covariance structure modeling techniques. Respondents were recruited from psychology courses at the University of South Florida and received extra credit points for their participation. The following is the ethnic composition of the participants: 66.2% Caucasian, 14.3% African American, 10.6% Hispanic, 3.6% Asian-American, and 5.3% Other. The mean age of the participants was 20.17 years (*sd* = 4.44). With respect to participants' grade level, 44.3% were in their freshman year, 18.5% were in their sophomore year, 24.1% were in their junior year, and 13.1% were in their senior year. The participants were quite similar with regard to general demographic characteristics (e.g., ethnicity, age, grade) as those in the previous two studies.

Attempts were made to ensure that the participants in the present study did not participate in any of the previous studies related to the development of the TEQ. Participants were asked whether they had previously participated in a similar study (e.g., same questionnaires) at an earlier time. Any data provided by a participant who reported having participated in a similar study were omitted from the present study. In addition, there was approximately a one year time lag between data collection for all three studies.

Given that the majority of the participants were freshman at the time of data collection, it is unlikely that they would have participated in either of the two previous studies. Thus, it is likely that the development and confirmatory samples are independent from one another.

Measures

The following measures were chosen specifically to investigate the validity of the Thinness Expectancy Questionnaire (TEQ) and to address the hypotheses. Convergent validity was established by correlating the TEQ with other measures of thinness expectancies, body image concerns, and eating disturbance. The Thinness and Restricting Expectancy Inventory (TREI: Hohlstein, Smith, & Atlas, 1998: Appendix G) was used to measure expectancies of thinness and the Eating Disorder Inventory (EDI: Garner, 1984: Appendix H) was used to assess body image concerns (Body Dissatisfaction subscale), bulimic tendencies (Bulimia subscale), and restricting/dieting behaviors (Drive for Thinness subscale). The Multidimensional Body Self Relations Questionnaire-Appearance Evaluation Subscale(MBSRQ-AE: Cash, 1994:Appendix I) was also used to provide a global measure of body dissatisfaction. In addition, the relationship between thinness expectancies and internalization of societal expectations regarding physical appearance were examined. The Sociocultural Attitudes Towards Appearance Questionnaire – Revised (SATAQ- R: Cusumano & Thompson, 1997: Appendix J) was used to measure internalization and awareness of societal expectations regarding physical attractiveness. The Multidimensional Media Influence Scale (MMIS: Cusumano & Thompson, 2000: Appendix K) was used to provide an additional measure of internalization that further defines internalization into three distinct subscales:

Television/Magazine, Athletic, and Comparison. The Quetlet's Index of Fatness was utilized in those analyses where body mass index was controlled.

Expectancies

Thinness and Restricting Expectancy Inventory (TREI; Hohlstein, Smith, & Atlas, 1998: Appendix G). The TREI is a self-report measure that identifies expectancies/assumptions for reinforcement from dieting behaviors and thinness. The measure consists of 44 items that assess an individual's positive expectations regarding being thin and dieting. Participants answered each item on the TREI using a 7-point Likert scale ranging from "Completely Disagree" to "Completely Agree." Responses to each of the items are summed to produce a total scale score. The coefficient alpha for the TREI is .98 in the current study. Given that the TREI attempts to measure thinness expectancies, it was one of the measures used to establish convergent validity of the TEQ. In the current study, only those items related to thinness expectancies were totaled resulting in a TREI-Thinness score. The coefficient alpha for the TREI – Thinness items was .98. The items related to expectancies about dieting were not utilized in the present analyses.

Obesity Level

Quetlet's Index of Fatness. A body mass index was computed for each participant using the formula: weight/squared height. The Quetlet's Index is routinely used as an index of adiposity and it is highly correlated with skinfold and other fatness measures. Height and weight were obtained by self-report. Previous research has shown self report to be correlated highly with actual measurements for weight (.98) and correlated moderately with height (.75); (Brooks-Gunn, Warren, Rosso, & Gargiulo, 1987).

Eating Disturbance and Body Image

Eating Disorder Inventory (EDI; Garner, 1984: Appendix H). The EDI is a widely used self-report measure that assesses symptoms frequently related to anorexia or bulimia nervosa. Participants answered each item on the EDI using a 6-point Likert scale ranging from "Never" to "Always." Responses to each of the items within a particular subscale are summed to produce total subscale scores. It was decided that all six response options would be scored, rather than only scoring the three responses in the extreme range, given the non-clinical status of this particular sample. Three of the eight subscales were used in the present study: The Drive for Thinness subscale consists of 7 items that are used to assess excessive concern with dieting, preoccupation with weight, and extreme fear of weight gain. The coefficient alpha (using an eating disordered sample) for this subscale ranges from .83 to .86. Internal consistency reliability estimates for nonpatient female samples range from .81 to .91. The coefficient alpha in the current study was .90. The Body Dissatisfaction subscale is composed of 9 items that focus on dissatisfaction with overall shape and with the size of those body regions of most concern to individuals with eating disorders. The coefficient alpha for clinical samples ranges from .90 to .92, and the reliability estimates for nonclinical samples range from .91 to .93. Within the present study, the coefficient alpha was .91. The Bulimia subscale includes 7 items concerned with bulimic tendencies such as thinking about and engaging in uncontrollable overeating, or bingeing behaviors. Clinical samples provide a coefficient alpha ranging from .86 to .88. The coefficient alpha for nonclinical samples ranges from .69 to .83. The coefficient alpha in the present study was .78. On all

subscales, higher numbers reflect higher levels of body image concerns or related behaviors.

Multidimensional Body Self-Relations Questionnaire-Appearance Evaluation Subscale (MSRBQ-AE; Cash, 1994: Appendix I). The MBSRQ-AE measures both satisfaction and evaluation of physical appearance providing an overall assessment of body dissatisfaction. It consists of 7 items that measure overall appearance satisfaction. The coefficient alpha for both male and female samples was .88. In the current study, the coefficient alpha was .89. Participants answer each item on the MSRBQ-AE using a 5-point Likert scale ranging from "Definitely Disagree" to "Definitely Agree." Responses to each of the items are summed to produce a total scale score. Higher numbers reflect lower levels of body image concerns, or higher satisfaction with physical appearance.

Awareness/Internalization of Societal Norms

Sociocultural Attitudes Towards Appearance Questionnaire-Revised (SATAQ-R; Cusumano & Thompson, 1997: Appendix J). The SATAQ-R is a revised version of the original SATAQ (Heinberg, Thompson, & Stormer, 1995). It is a 21 item self-report measure used to assess women's awareness and internalization of societal ideals regarding physical appearance. The Awareness subscale consists of 11 items and had a coefficient alpha of .83. The Internalization subscale consists of 10 items and has a coefficient alpha of .89. In the current study the coefficient alphas were .87 for Internalization and .84 for Awareness.

Multidimensional Media Influence Scale (MMIS; Cusumano & Thompson, 2000: Appendix K). The MMIS is a preliminary version of the SATAQ-3 (Thompson, van den Berg, Roehrig, Garda, & Heinberg, in press). It is a 12 item self-report measure used to

assess women's internalization of societal ideals of physical attractiveness. It is composed of three internalization subscales: television/magazine, athletic, and comparison. The Television/Magazine subscale consists of 6 items and has a coefficient alpha of .92 in the current study. The Athletic subscale consists of 3 items and has a coefficient alpha of .85. The Comparison subscale consists of 3 items and has a coefficient alpha of .93.

Procedure

In groups of approximately 150, participants were asked to complete a packet of questionnaires. More specifically, the packet contained a consent form , a demographics questionnaire, a measure of thinness and restricting expectancies (TREI), two measures of eating and body image disturbance (EDI, MSRBQ-AE), two measures of awareness and internalization of sociocultural beliefs regarding physical appearance (SATAQ-R, MMIS), and the TEQ. The questionnaires were randomly counterbalanced to control for possible order effects. Upon completion of the questionnaire packet, participants received extra credit points and a debriefing informational sheet (Appendix L). The study took approximately 45-60 minutes.

Results

Reliability

Coefficient alphas were computed for each of the subscales as well as the total scale of the TEQ. The total scale consists of 76 items and has a coefficient alpha of .98. The Positive Expectancy subscale consists of 56 items and has a coefficient alpha of .98. The Negative Expectancy subscale consists of 20 items and has a coefficient alpha of .93. Thus, the internal consistency was high for the total scale as well as the two subscales.

Concurrent Validity

First, the means, standard deviations, and ranges were computed for each scale (See Table 2). In general, the means of the included measures were consistent with other non-clinical samples (Cusumano & Thompson, 2000; Hohlstein et al., 1998). In the case of the EDI, the scores on the body dissatisfaction and drive for thinness subscales were consistent with non-clinical populations. However, scores on the bulimia subscale for the current sample fell within the clinical range (Garner, 1984). Second, correlational analyses were conducted to assess the convergent validity of the Thinness Expectancy Questionnaire as well as to test the proposed hypotheses. More specifically, comparisons were made between the two subscales of the TEQ and the other measures of interest. As a result of the numerous statistical analyses necessary to test the hypotheses of interest, alpha was set at .01 to reduce the likelihood of experimentwise error.

Relationship between Thinness Expectancies and Body Image and Eating Disturbance. The first hypothesis was tested by computing a Pearson product moment correlation of thinness expectancies and body image and eating disturbance. More specifically, correlations were conducted on the two subscales of the TEQ, the MBSRQ-AE, and the subscales of the EDI (Drive for Thinness, Bulimia, and Body Dissatisfaction) to examine the relationships among thinness expectancies and body image and eating disturbance.

As seen in Table 3, significant correlations were revealed for all of the measures and positive expectancies. More specifically, women's reported level of positive expectancies for thinness correlated positively with their levels of body dissatisfaction, $r(644)=.27$, $p<.001$, bulimic tendencies, $r(652)=.29$, $p<.001$, and drive for thinness,

$r(638)=.34$, $p<.001$, and correlated negatively with appearance satisfaction, $r(662) = -.26$, $p<.001$. In contrast, women's reported level of negative expectancies for thinness only correlated positively with their bulimic tendencies, $r(609)=.12$, $p<.003$. Given that the correlation between bulimic tendencies and negative expectancies was relatively small, it is possible that this relationship was found to be significant due to the large sample size for these analyses. In other words, given that significance tests in correlational analyses are dependent on sample size, it is likely that this relationship might not have been significant with a smaller sample. Negative expectancies did not correlate with drive for thinness, $r(596)=.04$, $p<.33$, overall appearance satisfaction, $r(619) = -.04$, $p< .37$ or with body dissatisfaction, $r(601)=.09$, $p<.04$. In addition, positive and negative expectancies were uncorrelated with reported measures of BMI. In other words, women's expectations about being thin appear unrelated to their actual body weight.

Relationship between Thinness Expectancies and Internalization. The second hypothesis was tested by computing a Pearson product moment correlation between thinness expectancies and the awareness/internalization of societal influences of physical appearance. More specifically, correlational analyses were conducted to examine the relationships among the TEQ, the awareness subscale of the SATAQ, and the subscales of the MMIS.

As shown in Table 4, significant correlations were revealed for all of the measures and positive expectancies. More specifically, women's reported level of positive expectancies correlated positively with their awareness of societal norms, $r(654)=.43$, $p<.001$ as well as their internalization of these societal norms, $r(659)=.42$, $p<.001$. Further examination of the subscales of the MMIS reveals significant correlations

between positive expectancies and all subscales: internalization of societal norms (television), $r(660)=.41$, $p<.001$, internalization (athletic), $r(664)=.33$, $p<.001$, and internalization (comparison), $r(663)=.33$, $p<.001$. In contrast, women's reported level of negative expectancies did not correlate with their awareness of societal norms regarding physical attractiveness, $r(612)=.07$, $p<.07$. Although negative expectancies did correlate positively with global internalization levels, $r(618)=.18$, $p<.001$ and all three subscales (Television, $r(618)=.18$, $p<.001$; Athletic, $r(621)=.20$, $p<.001$; Comparison, $r(621)=.11$, $p<.007$), it is apparent that these correlations are weaker than those of positive expectancies.

Predictive Validity

In order to test the third hypothesis and examine the relative importance of thinness expectancies for the body image and weight concerns of women, multiple regressions were conducted. A hierarchical multiple regression was conducted for each of the EDI subscales (Drive for Thinness, Bulimia, and Body Dissatisfaction). Separate analyses were conducted to examine the individual roles of positive and negative expectancies on body image and eating disturbance.

Positive Expectancies. For each regression, BMI was entered first (to control for women's actual weight/body mass), followed by scores from the MMIS, with the scores from the TEQ-Positive subscale entered last. This particular order was chosen in order to examine whether or not positive expectancies contributed unique variance over and above women's actual weight and internalization. Findings from the multiple regressions are contained in Table 5.

For the first analysis, body dissatisfaction was the criterion and internalization (MMIS) and positive expectancies (TEQ-Positive) were the predictors. In order to control for women's actual weight, body mass index (BMI) was forced into the model prior to the other predictors. Internalization was entered next with Positive expectancies entered last. For body dissatisfaction, both internalization, t (1) =11.95, p<.001, and positive expectancies, t(1)=2.31, p<.02, were significant predictors above and beyond BMI, resulting in a model accounting for 39% of the total variance, R=.62, F(3,631)=132.22, p<.001. These findings suggest that women's positive expectancies about being thin as well as their internalization of the societal norms of physical attractiveness are strong predictors of their level of body dissatisfaction.

In the second analysis, Bulimia was the criterion with the same internalization and expectancy predictors. Again, a significant proportion of variance was accounted for by the predictors, R=.41, F(3,639)=41.69, p<.001. After BMI was taken into account, both internalization, t(1)=6.93, p<.001 and positive expectancies, t(1)=4.12, p<.001 remained significant predictors. Thus, women's positive expectations about thinness and their internalization of societal norms are predictive of their maladaptive cognitions and feelings associated with eating.

Lastly, internalization, t(1)=14.79, p<.001, and positive expectancies, t(1)=3.19, p<.002 were revealed as significant predictors for drive for thinness after controlling for BMI, resulting in a model that accounted for 39% of the variance, R=.63, F(3,625)=134.05, p<.001. These results suggest that women's belief in positive consequences from being thin and their acceptance of societal norms regarding

attractiveness are strongly related to their preoccupation with weight and dieting behaviors.

Negative Expectancies. For each regression, BMI was entered first (to control for women's actual weight/body mass), followed by scores from the MMIS, with the scores from the TEQ-Negative subscale entered last. As with positive expectancies, this particular order was chosen in order to examine the unique contribution of negative expectancies over and above women's weight and internalization of societal norms. The findings of these multiple regressions can be seen in Table 6.

For body dissatisfaction, only internalization, $t(1)=13.42$, $p<.001$, remained a significant predictor when BMI was controlled, resulting in a model that accounted for 38% of the total variance, $R=.62$, $F(3, 590)=119.43$, $p<.001$. In contrast, negative expectancies did not significantly account for any variance beyond BMI and internalization and thus, was not found to be a significant predictor of women's negative thoughts concerning their body shape.

With respect to bulimia, internalization, $t(1)=8.75$, $p<.001$, was again the only significant predictor above and beyond BMI, resulting in a model that accounted for 15% of the total variance, $R=.38$, $F(3,598)=33.54$, $p<.001$. Thus, negative expectancies regarding thinness do not appear to play a significant role in women's irrational thoughts and feelings related to eating.

For drive for thinness, only internalization, $t(1)=16.78$, $p<.001$, remained a significant predictor when BMI was controlled for, resulting in a model that accounted for 38% of the total variance, $R=.61$, $F(3, 585)=118.44$, $p<.001$. As seen in the other measures, internalization was the only significant predictor with respect to drive for

thinness with negative expectancies having no influence on women's preoccupation with weight and dieting behaviors.

Overall, in those analyses examining the role of positive expectancies, both internalization and expectancies were significant predictors of all eating disturbance measures: body dissatisfaction, bulimia, and drive for thinness. Thus, it appears that women's positive expectations about being thin as well as their acceptance of societal norms regarding appearance are strong predictors of eating and body image disturbance in college-aged women above and beyond their measured body mass index. In contrast, negative expectancies did not appear to be significant predictors of body image and eating disturbance. They did not account for any unique variance above and beyond women's body weight and internalization of societal norms regarding physical attractiveness. Thus, it is likely that, although positive expectancies about thinness play an important role in women's body image and eating concerns, negative expectancies appear unrelated.

Proposed Models and Results

To examine further the relationship between thinness expectancies, internalization, body image, and eating disturbance, covariance structure modeling procedures were utilized to test the plausibility of the models proposed earlier. As noted previously, seven models were hypothesized as potential fits to the data (see Figures 2-8). A preliminary power analysis was performed in order to determine the adequacy of the current sample size in testing the proposed models (MacCallum, Brown, & Sugawara, 1996). The analysis revealed that, given a sample size of 666 participants and a range of 33-39 degrees of freedom, there is adequate power for the present analyses. In order to

maintain an appropriate level of power (.80), a minimum sample size of 252 to 314 participants for a test of close fit and 307 to 366 participants for a test of exact fit would be necessary.

Table 7 contains the overall findings from the covariance structure analyses of the seven proposed models. Model 1 (See Figure 2) hypothesizes a directional effect between positive expectancies and both internalization and body dissatisfaction. In addition, BMI is directly influencing body dissatisfaction. Body dissatisfaction is hypothesized to have a direct influence on eating disturbance. The fit indices for Model 1 were as follows: overall X^2 (df = 39) = 359.44, $p < .0001$, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .12, expected cross-validation index (ECVI) = .71, normed fit index (NFI) = .89, the non-normed fit index (NNFI) = .86, and the comparative fit index (CFI) = .90. These fit statistics indicate that this is not a plausible model and that the model shows a poor fit of the data.

Model 2 examines the direct influence of positive expectancies on eating disturbance by hypothesizing an additional pathway from positive expectancies to eating disturbance (See Figure 3). The fit indices for Model 2 were as follows: overall X^2 (df = 38) = 286.13, $p < .0001$, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .11, expected cross-validation index (ECVI) = .58, normed fit index (NFI) = .91, the non-normed fit index (NNFI) = .89, and the comparative fit index (CFI) = .92. A chi-square difference test revealed a significant difference in fit between Models 1 and 2 (X^2 = 73.31, df = 1, $p < .001$). Therefore, this model is a significant improvement over Model 1 but still remains a poor fit of the data.

Model 3 examines the mediating function of internalization in the relationship between positive expectancies and body dissatisfaction with the added path from internalization to body dissatisfaction. The added pathway also investigates the mediating role of body dissatisfaction in the relationship between internalization and eating disturbance (See Figure 4). The fit indices for Model 3 were: overall X^2 (df = 37) = 266.59, $p < .0001$, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .10, expected cross-validation index (ECVI) = .55, normed fit index (NFI) = .92, the non-normed fit index (NNFI) = .89, and the comparative fit index (CFI) = .93. Again, a chi-square difference test revealed that Model 3 provided a significantly better fit than both Model 1 (X^2 = 92.85, df=2, $p < .005$) and Model 2 (X^2 = 19.54, df=1, $p <$ .005). Thus, Model 3 appears to provide a significantly better fit of the data than both previous models tested. In addition, several fit indices reveal it to be a mediocre fit of the data.

Model 4 includes a direct path from internalization to eating disturbance. The fit indices for Model 4 were: overall X^2 (df = 36) = 244.54, $p < .0001$, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .10, expected cross-validation index (ECVI) = .52, normed fit index (NFI) = .92, the non-normed fit index (NNFI) = .90, and the comparative fit index (CFI) = .93. The fit statistics for Model 4 indicate that this is a plausible model and that the model shows a mediocre fit with the data. In addition, it provides a significantly better fit of the data than Model 3 (X^2 = 22.05, df = 1, $p < .005$).

Model 5 examines the role of negative expectancies with the addition of a path from negative expectancies to internalization. The fit indices for Model 5 were: overall X^2

(df = 35) = 239.13, p < .0001, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .10, expected cross-validation index (ECVI) = .51, normed fit index (NFI) = .93, the non-normed fit index (NNFI) = .90, and the comparative fit index (CFI) = .94. However, a chi-square difference test revealed that there was no significant difference in fit between this model and Model 4 (X^2 = .5.41, df = 1, ns). In other words, Model 5 did not significantly improve the fit of the data.

Model 6 includes the direct influence of negative expectancies on body dissatisfaction. The fit indices for Model 6 were: overall X^2 (df = 34) = 237.11, p < .0001, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .10, expected cross-validation index (ECVI) = .51, normed fit index (NFI) = .93, the non-normed fit index (NNFI) = .90, and the comparative fit index (CFI) = .94. These fit statistics also indicate a mediocre fit of the data. However, this model does not provide any significant improvement in the fit of the data from Model 5 (X^2 = 2.02, df = 1, ns.).

Model 7 examines the direct influence of negative expectancies on eating disturbance. The fit indices for Model 7 were: overall X^2 (df = 33) = 231.45, p < .0001, X^2 test of close fit (p = .00), root mean square error of approximation (RMSEA) = .10, expected cross-validation index (ECVI) = .51, normed fit index (NFI) = .93, the non-normed fit index (NNFI) = .90, and the comparative fit index (CFI) = .94. Again, the fit statistics indicate a mediocre fit of the data, and no significant improvement in the fit of the data is indicated from the significant chi-square difference test (X^2 = 5.66, df = 1, ns) between this model and Model 6.

An evaluation of the seven proposed models indicated that while Models 1 and 2 demonstrate poor overall fit, Models 3-7 provide a mediocre fit of the data. Given that

models 3–7 had the same RMSEA values, they were each considered for further examination. As noted earlier, a chi-square difference test revealed that there was a significant difference in fit between Models 3 and 4 ($X^2 = 22.05$, df = 1, $p < .005$), and that Model 4 provided a significant improvement in the fit of the data. In contrast, a chi-square difference test revealed that there was no significant difference in fit between the remaining models (5-7). Thus, Model 4 appears to be the best representation of the data.

The results indicate that the additional paths from Internalization to Body Dissatisfaction and Eating Disturbance produce the best fits of the data (Models 3 and 4). In other words, it appears that those models specifying a causal relationship between Internalization and Body Dissatisfaction and Eating Disturbance produce better fits of the data (Models 3 - 7). Theoretically, these results support previous findings that suggest a relationship between internalization of societal norms of attractiveness and body image and eating disturbance (Cusumano, & Thompson, 1997; Heinberg, & Thompson, 1995; Stice et al., 1994). In addition, these particular models indicate that internalization also serves to mediate the relationship between positive expectancies and body image and eating disturbance. As stated earlier, given the fact that Model 4 (direct paths from internalization to both body dissatisfaction and eating disturbance) provided a significantly better fit than Model 3 (direct path from internalization to body dissatisfaction), it is likely that Model 4 provides the best fit for the data of the seven proposed models.

Overall, adding paths between negative expectancies and internalization (Model 5), body dissatisfaction (Model 6) and eating disturbance (Model 7) did not improve the overall fit of the data. Thus, it appears that those models that include the influence of

negative expectancies on internalization, body image concerns, and eating disturbance do not contribute anything more than those models which only include positive expectancies. In other words, it is likely that negative expectancies have little or no influence within the present model.

Although modification indices for the models were examined, none were theoretically sound. For example, the index for the loading of a subscale from the TREI measure(an indicator variable for the Positive Expectancies latent variable) on BMI latent variable was somewhat high suggesting that by freeing this parameter, a small drop in chi-square may be produced, possibly increasing the fit of the model. However, allowing for this parameter to be freed causes a significant theoretical change in the model with respect to indicators for the latent variables. As a result, no changes based on modification indices were made.

Discussion

Overall, the results of the three studies support the reliability and validity of the Thinness Expectancy Questionnaire (TEQ). The TEQ was shown to be an internally consistent measure composed of two factors: positive and negative expectancies regarding thinness. The measure was developed over the course of several studies and was used to examine the role of women's expectations about being thin in the development of body image and eating concerns.

Similar to previous research and consistent with Hypothesis 1, those women who acknowledged greater positive thinness expectancies also reported greater difficulties with respect to body image and eating disturbance. More specifically, women who attributed more favorable characteristics (e.g., pretty, sexy, outgoing) to being thin acknowledged higher levels of body dissatisfaction, bulimic tendencies, and preoccupation with weight and dieting. There is limited support for this relationship within both adult (Hohlstein et al., 1998) and adolescent populations (Simmons et al., 2002).

Although not included in Hypothesis 1, it is important to examine the relationship between negative expectancies and body image and eating concerns. Overall, negative expectancies were only correlated with bulimic tendencies and did not correlate with drive for thinness or with body dissatisfaction. In other words, the more women attributed negative outcomes to being thin, the more they reported maladaptive cognitions and behaviors related to eating. These results are counterintuitive to what one might

expect. It would be expected that negative expectancies might serve as a protective factor and thus be negatively correlated with body image concerns and eating disturbance. However, the results of the present study do not support this idea. Although there have been some studies that support the role of negative expectancies as a deterrent in drinking behaviors (Jones & McMahon, 1992; Jones & McMahon, 1994), most research suggests a limited role of negative expectancies secondary to that of positive expectancies (Goldman, Darkes, & Del Boca, 1999; Leigh & Stacey, 1993). In addition, there has been empirical evidence to suggest that personality factors may serve to mediate the influence of expectancies in both alcohol use (Del Boca, Darkes, Golman, & Smith, 2003; Fischer et al., 2003; McCarthy, Kroll, & Smith, 2001) and eating disturbance (Fischer et al., 2003).

In addition, positive expectancies regarding thinness were similarly related to the extent to which women were aware of and internalized the societal norms regarding attractiveness. Those women who reported higher positive expectancies of thinness also reported higher levels of awareness and internalization of societal norms regarding attractiveness. More specifically, they reported an increased desire to resemble, a greater tendency to compare themselves to, and greater attempts to look like those people in the movies, on television, and athletes. Thus, the more women attribute positive outcomes to being thin, the more they ascribe to the societal definitions of attractiveness and act accordingly. These findings were consistent with Hypothesis 2. Although there is a great deal of support for the role of internalization in the development of body image and eating disturbance (Cusumano & Thompson, 1997; Sands & Wardle, 2003; Smolak, Levine, & Thompson, 2001; Thompson & Stice, 2001), the present study was the first to

examine the direct relationship between internalization and positive expectancies of thinness. Given that higher levels of awareness/internalization (Heinberg et al., 1995; Stice et al., 1994) have been shown to be related to poorer body image and that higher expectancies for being thin have been shown to be related to eating disturbance (Hohlstein et al., 1998), it was reasonable to predict a positive relationship between expectancies and awareness/internalization of societal norms. Future research is needed to provide further clarification on the direction and strength of this relationship within the larger theoretical framework of body image disturbance and eating disorders.

Surprisingly, similar results were revealed for negative expectancies of thinness. Although negative thinness expectancies were unrelated to women's awareness of societal attractiveness norms, they were related to their internalization of these norms. Women who reported higher levels of negative characteristics related to being thin also reported higher levels of internalized beliefs regarding the sociocultural definition of attractiveness. In other words, although women reported negative consequences associated with being thin, they still reported an increased desire to resemble and greater attempts to look like those people in the media that represent the societal "ideal." Prior research supports the idea that the mass media exerts extreme pressures on women to conform to the societal ideal of attractiveness (e.g., thin, toned), often resulting in poor body image and eating disturbance (Groesz, Levine, & Murnen, 2002; Kalodner, 1997; Stice & Shaw, 1994; Tiggeman & Pickering, 1996). It appears that negative expectancies of thinness do not dissuade women from pursuing the images of attractiveness portrayed in the media. This finding appears to speak to the powerful impact that the media has on women's desire to conform to this socially constructed "ideal" despite their negative

beliefs about being thin. However, it is apparent that the relationship between negative expectancies and internalization are weaker than that of positive expectancies. Thus, as seen in other research areas, the role of negative expectancies appears to be secondary to that of positive expectancies (Goldman et al., 1999; Leigh & Stacy, 1993).

The results of the multiple regressions examining the predictive ability of thinness expectancies on body image and eating disturbance indicated that, although positive expectancies were related to body image and eating problems, negative expectancies were not. When BMI was controlled statistically, both internalization and positive expectancies remained significant predictors of body dissatisfaction, bulimic tendencies, and drive for thinness. However, it is important to note that the order of predictors (BMI, Internalization, and Positive Expectancies) was chosen to examine the unique contribution of positive expectancies after both weight and internalization were entered into the model. The findings indicate that positive expectancies of thinness added significantly to the variance accounted for in the model above and beyond both actual weight and internalization of societal norms of attractiveness. In contrast, negative expectancies did not account for any unique variance above and beyond weight and internalization and thus was not a significant predictor of body image concerns and eating disturbance. In all cases, negative expectancies did not remain a significant predictor once weight and internalization were included in the model. Thus, it is likely that, although positive expectancies about thinness play an important role in women's body image and eating concerns, negative expectancies are unrelated. Similar findings regarding the limited role of negative expectancies have been revealed in other research areas (Goldman et al., 1999; Leigh & Stacy, 1993). However, more research is needed to

explore the possible contributions of negative thinness expectancies within the body image and eating disorders literature. Overall, these findings are consistent with Hypothesis 3.

Despite the fact that the hypothesized models indicated poor (Models 1 & 2) to mediocre (Models 3-7) fits of the data, they represent an initial attempt at examining the role of thinness expectancies in the development of body image concerns and eating disturbance. As stated earlier, the proposed models were limited to the relationships among expectancies, internalization, and body image and eating concerns. It is possible that the relationships among the constructs in the overall model (Figure 1) may not be as posited in any of the proposed models, and a more accurate representation of the true nature of the relationship may be found in a competing model which was not tested in this investigation. In other words, there may be alternative models that still include thinness expectancies, but provide a better explanation of its relationship with the other related constructs (e.g., internalization, sociocultural influences, body dissatisfaction, eating disturbance). Given the lack of prior research in this area, there is a limited number of sound indicators for thinness expectancies, especially negative expectancies. Thus, further research needs to continue to develop and validate reliable measures of expectancies regarding thinness as well as to examine the role expectancies play in body image disturbance and eating disorders.

The implications for intervention and prevention are clear given the results of the present studies. The results suggest that positive expectancies of thinness are related to women's body dissatisfaction and eating disturbance. In addition, women's positive expectations about being thin appear unrelated to their actual body weight. Thus,

women's positive cognitions, or schemas about being thin, may put them at risk for developing difficulties with body image and eating concerns, regardless of their actual body weight. As a result, interventions that incorporate techniques that challenge or modify these cognitions would seem to be most effective.

Presently, psychoeducational programs remain the standard method for intervention and prevention with respect to body image disturbance and eating disorders. However, several recent cognitive based programs that utilize the theory of cognitive dissonance have been instituted and evaluated for bulimia (Stice, Chase, Stormer, & Appel, 2001; Stice, Mazotti, Weibel, & Agras, 2000; Stice, Trost, & Chase, 2002). These studies found that by simply having women create an internal cognitive conflict regarding their beliefs about the "thin ideal" (writing a counterattitudal essay), they exhibited significant longstanding decreases in thin-ideal internalization, dieting behaviors, body dissatisfaction, and bulimic symptoms. Similar "expectancy challenges" or cognitive manipulations have been successful in the area of alcohol use as well (Darkes & Goldman, 1993; Del Boca et al., 2002).

There are several limitations of the present study, so these results should be interpreted with some caution. First, only a moderate amount of variance was accounted for by the predictors which suggests that other relevant factors were not measured in this study. Similarly, the relationships examined within the proposed models were extremely limited given the multifaceted nature of body image and eating disorders. The only constructs explored were expectancies, internalization, body dissatisfaction, and eating disturbance. Future research might include measures of sociocultural influence (Levine, Smolak, & Hayden, 1994; Smolak et al., 2001; Thompson et al., in press), interpersonal

influences (Moreno & Thelen, 1993; Ricciardelli & McCabe, 2001; Rieves & Cash, 1996), as well as other possible well-established mediating factors such as social comparison (Keery et al., in press; Stormer & Thompson, 1996; Thompson, Coovert, & Stormer, 1999) in order to provide a more extensive explanation of the development of body image and eating problems. More specifically, it would be worthwhile to incorporate thinness expectancies into the established Tripartite Influence Model of body image and eating disturbance (Keery et al., in press; Thompson et al., 1999; van den Berg, Thompson, Obremski-Brandon, & Coovert, 2002) to clarify the role of expectancies within this pre-existing model.

A second limitation is the use of cross-sectional data which is inadequate to fully explain a causal relationship. Thus, a prospective, longitudinal design would provide a more accurate explanation of the relationship between thinness expectancies and the development of body image disturbance and eating disorders. Given that the development of body image concerns and eating disorders occurs over time, a longitudinal study would better specify the directionality of these relationships, such as the relationship between thinness expectancies and internalization. In addition, a prospective study would help to provide support for the hypothesis that positive expectancies of thinness predict the onset of body image and eating disturbance, and thus identify positive expectancies as a possible risk factor (Field et al., 2001; Shisslak & Crago, 2001; Shisslak et al., 1999; Tyrka, Waldron, Graber, & Brooks-Gunn, 2002).

Third, because there is minimal research in the area of expectancies related to thinness, the goal of this study was to provide additional support for previous work and to expand the scope of study. The use of the expectancy construct in the present study was

modeled after prior theoretical and empirical work with the concept in the alcohol literature. Although the nature of expectancy theory remains the same within both fields, there are some qualitative differences in the roles of expectancies within the areas of body image/eating disorders and alcohol use that need to be considered. By definition, expectancies are anticipatory in nature (Goldman et al., 1987) in that our decisions and behaviors are based on the anticipation of a particular outcome. However, this outcome can be immediate or delayed. In the case of substance use, the anticipated outcomes, or expectancies can be produced quite quickly simply through engaging in the act of drinking. In contrast, thinness expectancies appear to rely on a delayed outcome. More specifically, positive thinness expectancies, or the anticipation of a generalized life improvement, may influence an individual's lifestyle and daily behaviors without immediate reinforcement. As a result, daily choices and decisions are made based upon the anticipation of the delayed outcome of becoming thin. Thus, whereas the reinforcing component of expectancies is typically immediate with respect to alcohol use, it is often delayed or never achieved in the case of a drive for thinness.

Additionally, individuals' experiences with alcohol tend to be more sporadic and situation specific than those related to eating, food, or thinness. This is likely given that food and the act of eating is an essential part of life. Common situations such as exercise, shopping for clothes, watching television, or reading a magazine may serve to trigger the activation of positive expectancies regarding thinness. In other words, exposure to weight-related events occurs on a more frequent and consistent basis than does exposure to alcohol-related contexts and events.

As stated earlier, it is apparent that expectancy theory is causal in nature. Within the framework of the theory it is assumed that women's positive expectations about being thin have a causal effect on their behaviors (e.g., dieting behaviors, body image concerns, eating disturbance). However, with the exception of a "true experiment," it is assumed that causal relationships between constructs/variables cannot be proven by statistical procedures (e.g., correlations, regressions). In other words, it is impossible to imply causal relationships from mere associations between variables. Whereas a statistical concept is any that is based on a distribution of variables, a causal concept is dependent on changes in the variables that cannot be explained simply by the distribution. Most recently, Pearl (2001) introduced the idea that structure equation modeling techniques may be utilized as "a formal and meaningful language for formulating causal assumptions" and provided extensive theoretical and philosophical explanations for his beliefs. Thus, the results of the proposed competing models may have more causal implications than those of the correlational and regression analyses.

Last, the TEQ was developed and validated on a college-aged female population. Despite the fact that the item generation stage included men and women, the remainder of the study was limited to female undergraduates. However, it is worthwhile to note that there were no differences in responses by males and females with respect to initial items. For the overall study, however, the results may not be generalizable to other groups and may be specific to female college students. Future research needs to evaluate and validate the TEQ with other populations (e.g., older women, men, child and adolescent populations). More specifically, given the wealth of support for the existence of body image concerns and eating disturbance in children (Ricciardelli & McCabe, 2001;

VanderWal & Thelen, 2000; Williamson & Delin, 2001) and adolescents (Sands & Wardle, 2003; Thompson & Smolak, 2001), it is imperative to identify thinness expectancies for children and adolescents. It will be interesting to see whether these expectancies remain consistent over time or change developmentally as is seen with alcohol (Dunn & Goldman, 1998). Also, examining the reliability and validity of the TEQ within clinical populations would provide initial support for its usefulness in identifying individuals at risk for developing body image and eating problems.

Even with these limitations, the present study produced a reliable and valid measure of women's expectations regarding thinness. In addition, it was an initial attempt to examine the role of thinness expectancies within the larger framework of societal mechanisms (e.g., internalization) in the development of eating disturbance and body image concerns. Overall, the present study provides additional support for the applicability of expectancy theory to body image and eating disorders. Future research will need to continue to expand on the previous work in this area in order to provide a more comprehensive understanding of thinness expectancies and the role they play in the development of body image and eating problems.

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Tables

Table 1

Factor Loadings of TEQ from Study 2

Items	Positive Expectancies	Negative Expectancies
TEQ1 - Ugly	-.154	.439
TEQ2 – Able to wear smaller clothes	.277	-.202
TEQ3 – Healthy	**.553**	-.214
TEQ4-Comfortable	.789	-.351
TEQ5 – Unhappy	-.428	.636
TEQ6 – Liked by others	**.544**	.015
TEQ7 – Secure	**.672**	-.108
TEQ8 – Energetic	**.629**	-.102
TEQ9 – Agile	**.594**	-.072
TEQ10 – Vulnerable	.134	.390
TEQ11 – Sociable	**.613**	.086
TEQ12 – Want to stay thin	**.571**	-.051
TEQ13 – Athletic	**.579**	.033
TEQ14 – Popular	**.596**	.142
TEQ15 – Hungry	.062	.301
TEQ16 – Envied	**.468**	.069
TEQ17 – Outgoing	**.590**	.127
TEQ18 – Boyish	.074	**.510**
TEQ19 – Pretty	**.781**	-.115
TEQ20 – Look better in clothes	.867	-.360
TEQ21 – Proud	**.648**	-.036
TEQ22 – Desirable	**.821**	-.197
TEQ23 – Depressed	-.139	**.683**
TEQ24 – Exercise	**.504**	.175
TEQ25 – Beautiful	**.791**	-.068
TEQ26 – Flexible	**.483**	.156
TEQ27 – Self-assured	**.799**	-.049
TEQ28 – Socially accepted	**.581**	-.022
TEQ29 – Happy	**.684**	.064
TEQ30 – Active	**.710**	.056
TEQ31 – Hated	.116	.409
TEQ32 – Fun	**.521**	.216
TEQ33 – Better-looking	**.858**	-.201
TEQ34 – Weak	.016	**.677**
TEQ35 – Look tall	.164	.355
TEQ36 – Satisfied	**.736**	.045
TEQ37 – In control	**.659**	.093
TEQ38 – Tired	.013	**.731**
TEQ39 – Self-conscious	-.048	**.462**

Table 1 (Continued)

Items	Positive Expectancies	Negative Expectancies
TEQ40 – Attractive	**.788**	-.077
TEQ41 – Arrogant	.261	.490
TEQ42 – Able to wear revealing clothes	**.626**	-.140
TEQ43 – Confident	**.875**	-.125
TEQ44 – More conscious to gain weight	.285	.108
TEQ45 – Optimistic	**.533**	.241
TEQ46 – Successful	.504	.281
TEQ47 – Fragile	-.032	**.615**
TEQ48 – Think they're better	.228	.428
TEQ49 – Physically fit	**.733**	-.058
TEQ50 – Sad	-.062	**.780**
TEQ51 – Cute	**.800**	-.034
TEQ52 – Get attention	**.691**	-.013
TEQ53 – Sexy	**.854**	-.159
TEQ54 – More likely to go to beach	**.617**	-.038
TEQ55 – Insecure	-.195	**.738**
TEQ56 – Advantageous	**.567**	.234
TEQ57 – Snobbish	.257	.588
TEQ58 – More selection in clothes	.482	-.138
TEQ59 – Good-looking	**.852**	-.010
TEQ60 – Positive body image	**.830**	-.132
TEQ61 – Able to fit into clothes	**.697**	-.146
TEQ62 – Have high self-esteem	**.800**	-.046
TEQ63 – Look better in swimsuit	**.787**	-.227
TEQ64 – Uncomfortable	-.223	**.762**
TEQ65 – Cool	.456	.360
TEQ66 – Conceited	.207	**.571**
TEQ67 – Feel good about themselves	**.765**	-.049
TEQ68 – Eat less	.180	.423
TEQ69 – Have a high metabolism	.215	.190
TEQ70 – Not self-conscious	.402	.225
TEQ71 – Easier to find clothes	.471	-.102
TEQ72 – A conformist	.229	**.469**
TEQ73 – Extraverted	.504	.281
TEQ74 – Feel better about themselves	**.738**	-.017
TEQ75 – Flat chested	.047	**.451**
TEQ76 – More likely to try new things	.434	.285
TEQ77 – Respected	**.580**	.206
TEQ78 – More open with body	**.717**	-.028
TEQ79 – Have a boyfriend	.484	.285
TEQ80 – Relaxed	.573	.253

Table 1 (Continued)

Items	Positive Expectancies	Negative Expectancies
TEQ81 – Smart	.172	**.516**
TEQ82 – Cocky	.273	.529
TEQ83 – Have high self-image	**.687**	.104
TEQ84 – Frail	-.065	**.714**
TEQ85 – Content	**.578**	.226
TEQ86 – Malnourished	-.204	**.763**
TEQ87 – Flirtatious	.534	.276
TEQ88 – Not self-conscious about weight	.299	.160
TEQ89 – Faster	.356	.322
TEQ90 – Noticed	**.634**	.079
TEQ91 – Try to gain weight	-.147	.480
TEQ92 – Wanted	**.636**	.141
TEQ93 – Underweight	-.206	**.746**
TEQ94 – Defined	**.506**	.182
TEQ95 – Able to eat more	.143	.302
TEQ96 – Upset	-.130	**.852**
TEQ97 – Unhealthy	-.189	**.834**
TEQ98 – Determined	.482	.351
TEQ99 – Party/ Go out more	**.616**	.170
TEQ100 – Adventurous	.493	.298
TEQ101 – Feel better in relationships	**.612**	.159
TEQ102 – Have high self-worth	**.742**	.063
TEQ103 – Sexual	**.560**	.227
TEQ104 – Emaciated	.208	**.497**
TEQ105 – Unattractive	-.353	.842
TEQ106 – Daring	.359	.452
TEQ107 – In shape	**.598**	.063
TEQ108 – Vain	.322	.520
TEQ109 – Accepted	**.648**	.138
TEQ110 – Self-confident	**.790**	.042
TEQ111 – Unappealing	-.200	**.762**

* Bolded factor loading reflects loading on the identified factor (for items retained in final version of TEQ)

Table 2

Descriptive Statistics for Measures in Study 3

Measure	N	Minimum	Maximum	Mean	*SD*
EDI - Body Dissatisfaction	644	9.00	54.00	34.05	11.58
EDI – Bulimia	652	7.00	42.00	14.04	5.53
EDI – Drive for Thinness	638	7.00	42.00	21.16	9.42
MMIS – Athletic	664	3.00	15.00	8.54	3.31
MMIS – Comparison	663	3.00	15.00	9.52	3.87
MMIS – TV/Magazine	660	6.00	30.00	17.72	6.88
MBSRQ-AE	662	7.00	35.00	23.54	6.14
SATAQ-R-Awareness	654	15.00	55.00	41.52	7.34
SATAQ-R-Internalization	664	10.00	50.00	33.34	8.93
TEQNEG	623	20.00	121.00	59.96	18.88
TEQPOS	666	56.00	390.00	229.49	64.42
TREITHIN	624	30.00	210.00	106.94	46.71
TREITOT	666	44.00	306.00	151.27	64.76

Note: EDI = Eating Disorder Inventory; MMIS = Multidimensional Media Influence Scale; MBSRQ-AE = Multidimensional Body Self-Relations Questionnaire – Appearance Evaluation Subscale; SATAQ-R = Sociocultural Attitudes Toward Appearance Questionnaire - Revised; TEQNEQ = Thinness Expectancy Questionnaire – Negative; TEQPOS = Thinness Expectancy Questionnaire – Positive; TREITHIN = Thinness and Restricting Inventory – Thinness items; TREITOT = Thinness and Restricting Inventory – Total Score

Table 3

Intercorrelations Between Expectancy, Body Image, and Eating Disturbance Variables in Study 3

	1	2	3	4	5	6	7
1. Positive Expectancies (TEQ)	--						
2. Negative Expectancies (TEQ)	.45**	--					
3. Thinness Expectancies (TREI)	.56**	.17**	--				
4. Body Dissatisfaction (EDI)	.27**	.09	.56**	--			
5. Bulimia (EDI)	.29**	.12*	.46**	.41**	--		
6. Drive for Thinness (EDI)	.34**	.04	.69**	.69**	.52**	--	
7. Appearance Satisfaction (MBSRQ)	-.26**	-.04	-.53**	-.73**	-.42**	-.58**	--

Note: * $p<.01$; ** $p<.001$

EDI = Eating Disorder Inventory; MBSRQ = Multidimensional Body Self-Relations Questionnaire – Appearance Evaluation Subscale; TEQ = Thinness Expectancy Questionnaire; TREI = Thinness and Restricting Inventory

Table 4

Intercorrelations Between Expectancy, Awareness, and Internalization Variables in Study 3

	1	2	3	4	5	6	7
1. Positive Expectancies (TEQ)	--						
2. Negative Expectancies (TEQ)	.45**	--					
3. Awareness (SATAQ-R)	.43**	.07	--				
4. MMIS – TV/Magazine	.41**	.18**	.46**	--			
5. MMIS - Athletic	.33**	.20**	.36**	.61**	--		
6. MMIS -Comparison	.33**	.11*	.48**	.81**	.51**	--	
7. MMIS – Total Scale	.42*	.18**	.50**	.96**	.76**	.89**	--

Note: * p<.01; **p<.001

Note: MMIS = Multidimensional Media Influence Scale; SATAQ-R = Sociocultural Attitudes Towards Appearance Questionnaire - Revised; TEQ = Thinness Expectancy Questionnaire;

Table 5

Summary of Hierarchical Regression Analysis for Internalization and Positive Expectancy Variables Predicting Eating Disturbance Variables Controlling for Body Mass Index in Study 3

Variable	B	SE B	β	R^2	ΔR^2
Body Dissatisfaction (N=631)					
Step 1					
BMI	1.09	.08	.42**	.18	.18***
Step 2					
MMIS-Total Score	.38	.03	.41*	.38	.20***
Step 3					
Positive Expectancies	.01	.01	.08*	.39	.01*
Bulimia (N=639)					
Step 1					
BMI	.16	.05	.13***	.02	.02**
Step 2					
MMIS-Total Score	.12	.02	.28***	.14	.12***
Step 3					
Positive Expectancies	.01	.00	.17***	.16	.02***
Drive for Thinness (N=625)					
Step 1					
BMI	.56	.07	.27***	.07	.07***
Step 2					
MMIS-Total	.38	.03	.51***	.38	.31***
Step 3					
Positive Expectancies	.02	.01	.11**	.39	.01**

Note. Overall Fs: Body Dissatisfaction, $F(3, 631) = 132.22$, $p < .001$; Bulimia, $F(3, 639) = 41.69$, $p < .001$; Drive for Thinness, $F(3, 625) = 134.05$, $p < .001$

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 6
Summary of Hierarchical Regression Analysis for Internalization and Negative Expectancy Variables Predicting Eating Disturbance Variables Controlling for Body Mass Index in Study 3

Variable	B	SE B	β	R^2	ΔR^2
Body Dissatisfaction (N=590)					
Step 1					
BMI	1.08	.08	.43***	.18	.18***
Step 2					
MMIS-Total Score	.41	.03	.44***	.38	.20***
Step 3					
Negative Expectancies	.01	.02	.01	.38	.00
Bulimia (N=598)					
Step 1					
BMI	.17	.05	.14***	.02	.02**
Step 2					
MMIS-Total Score	.15	.02	.34***	.14	.12***
Step 3					
Negative Expectancies	.02	.01	.06	.15	.00
Drive for Thinness (N=585)					
Step 1					
BMI	.57	.07	.28***	.08	.08***
Step 2					
MMIS-Total	.42	.03	.56***	.38	.30***
Step 3					
Negative Expectancies	-.02	.02	-.04	.38	.00

Note. Overall Fs: Body Dissatisfaction, $F(3, 590) = 119.43$, $p < .001$; Bulimia, $F(3, 598) = 33.54$, $p < .001$; Drive for Thinness, $F(3, 585) = 118.44$, $p < .001$

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 7

Fit Indices of Seven Proposed Models from Study 3

Model	X^2	*df*	p	RMSEA	ECVI	NFI	NNFI	CFI
Model 1	359.44	39	<.001	.12	.71	.89	.86	.90
Model 2 (path from posexp to eatdx)	286.13	38	<.001	.11	.58	.91	.89	.92
Model 3 (path from int to bodydiss)	266.59	37	<.001	.10	.55	.92	.89	.93
Model 4 (path from int to eatdx)	244.54	36	<.001	.10	.52	.92	.90	.93
Model 5 (path from negexp to int)	239.13	35	<.001	.10	.51	.93	.90	.94
Model 6 (path from negexp to bodydiss)	237.11	34	<.001	.10	.51	.93	.90	.94
Model 7 (path from negexp to eatdx)	231.45	33	<.001	.10	.51	.93	.90	.94

Figures

Figure 1. Overall Model

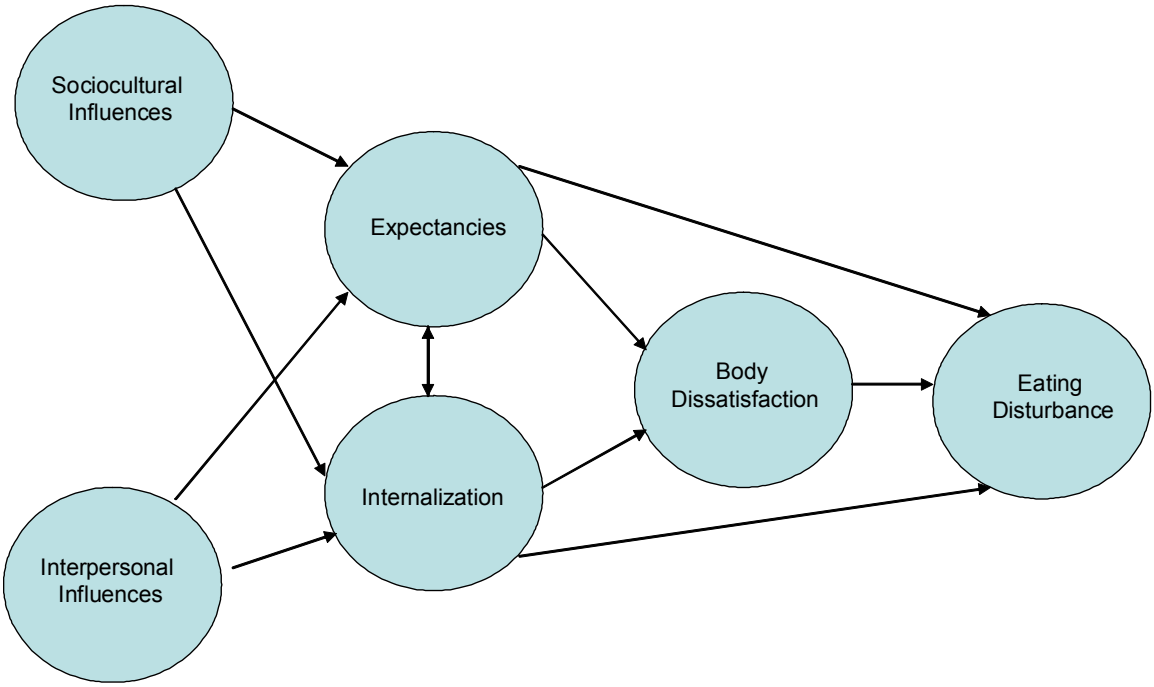


Figure 2. Model 1

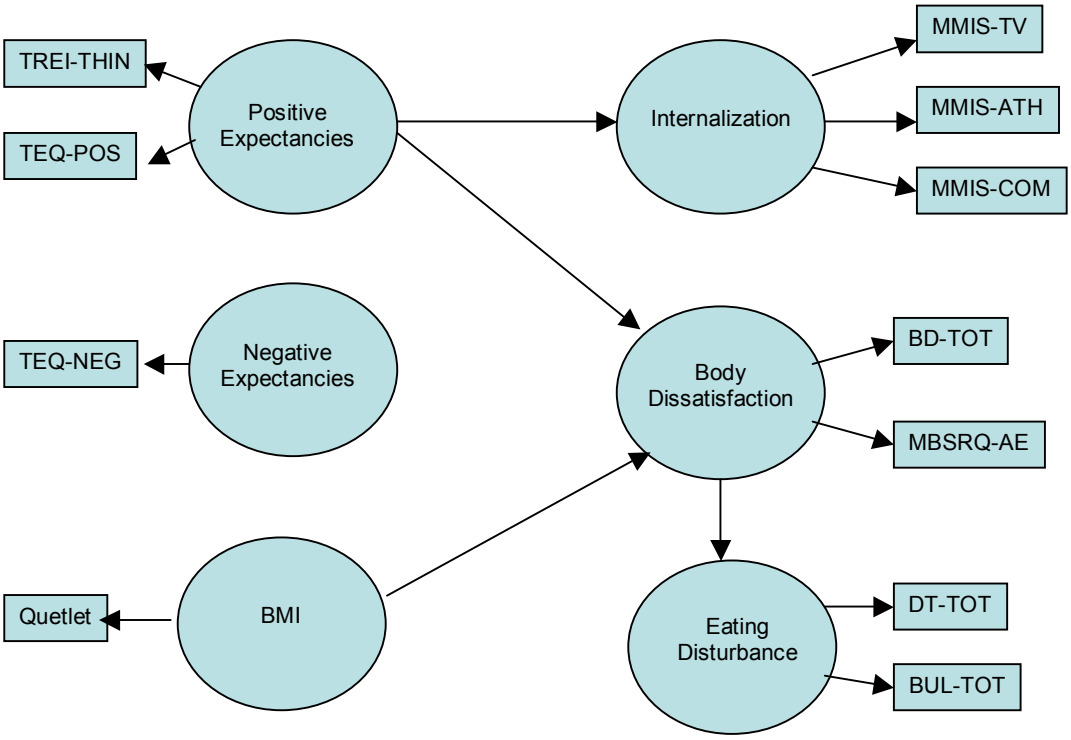


Figure 3. Model 2

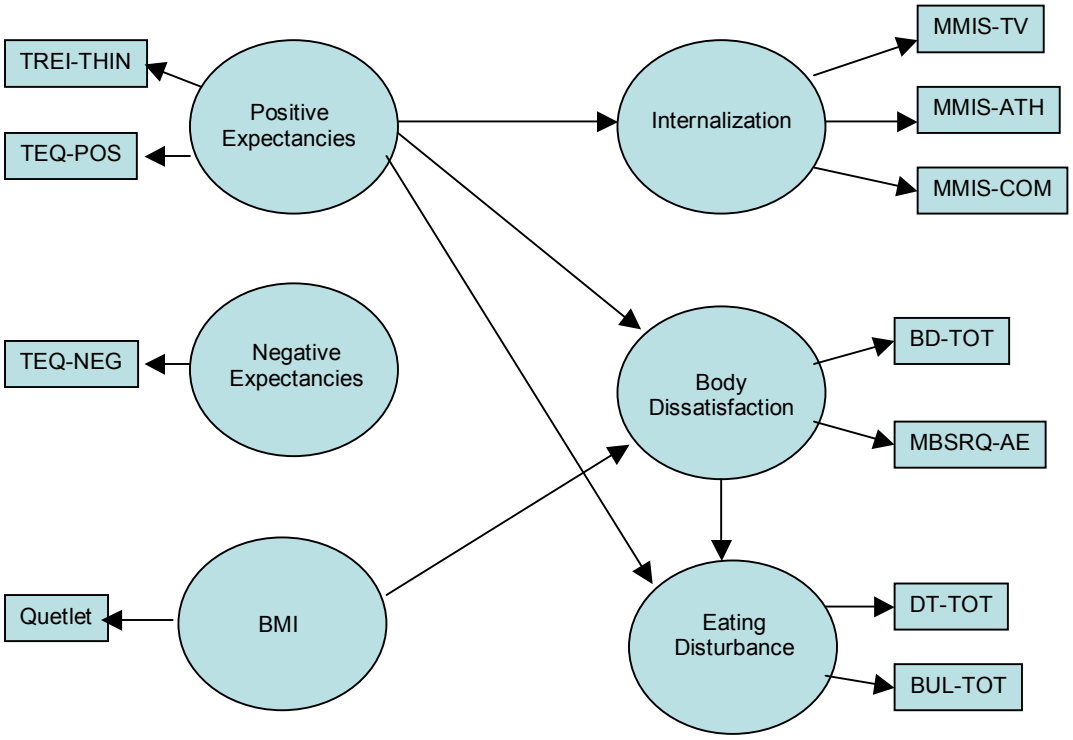


Figure 4. Model 3

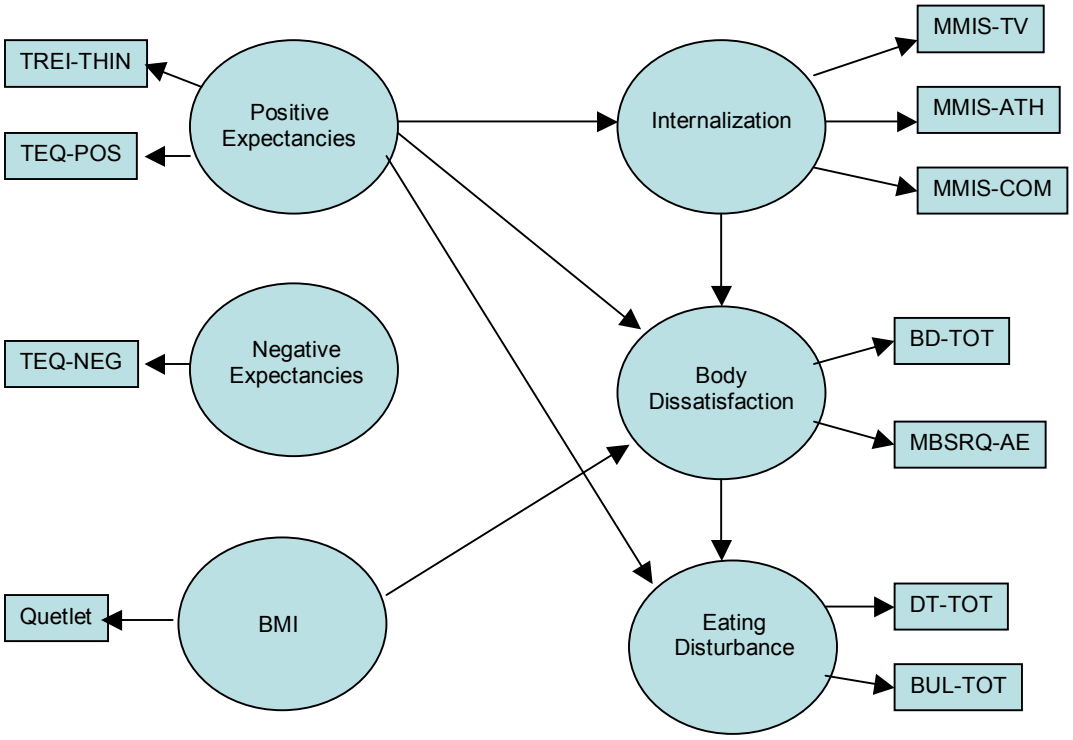


Figure 5. Model 4

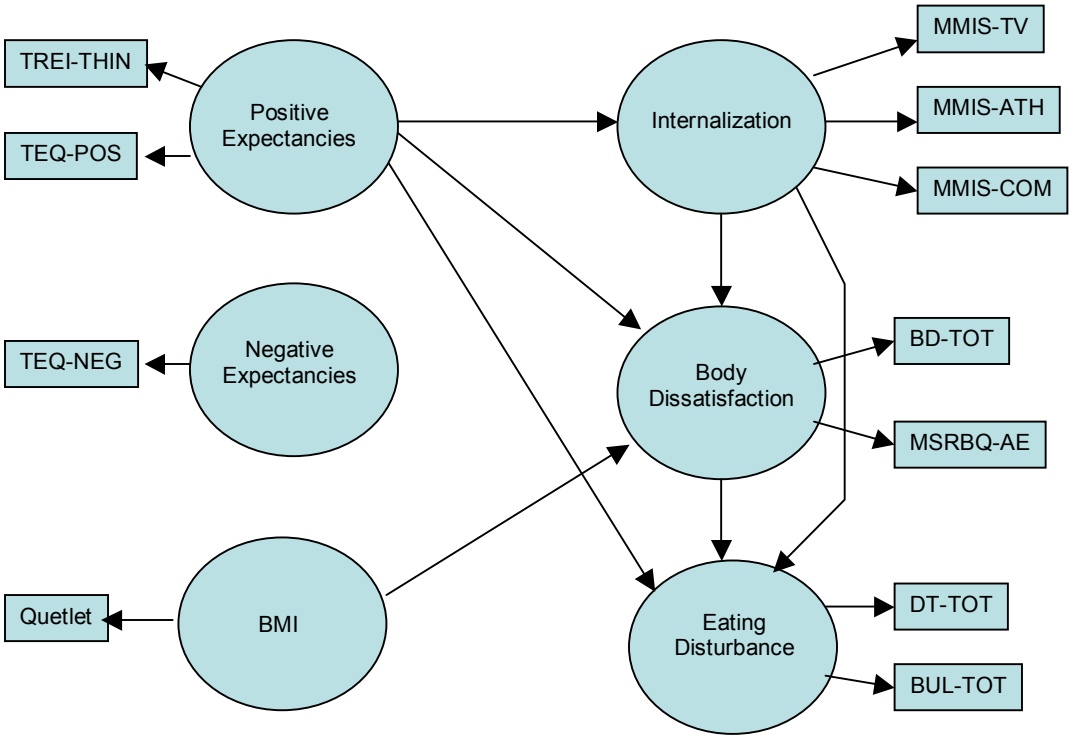


Figure 6. Model 5

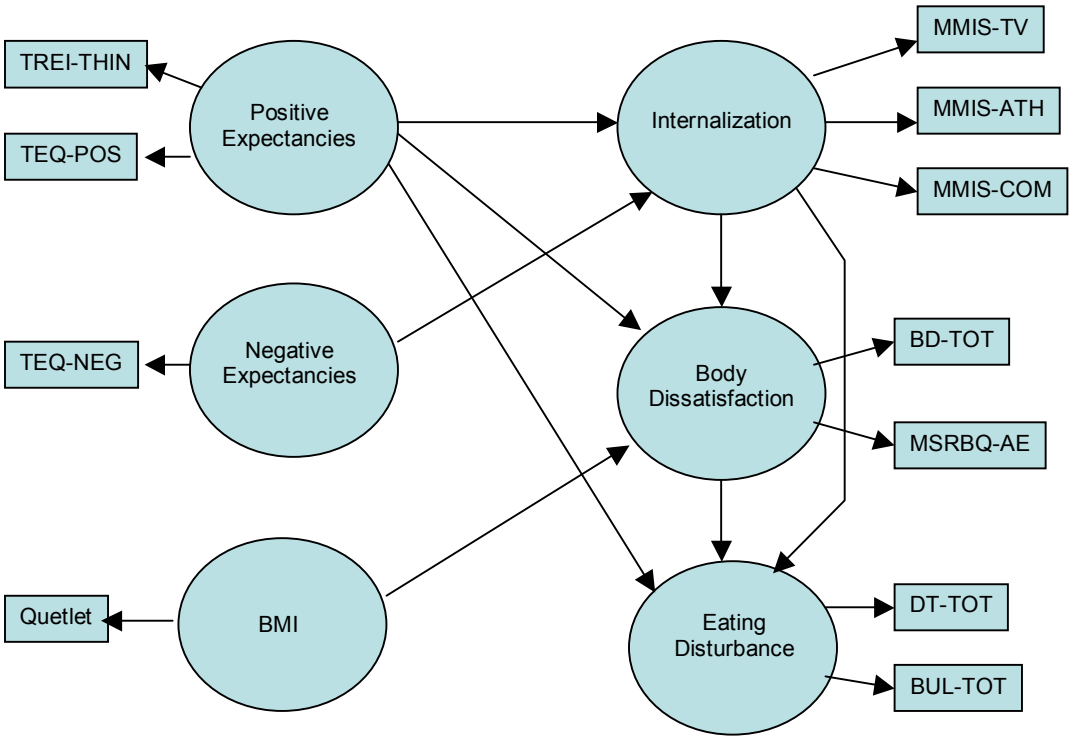


Figure 7. Model 6

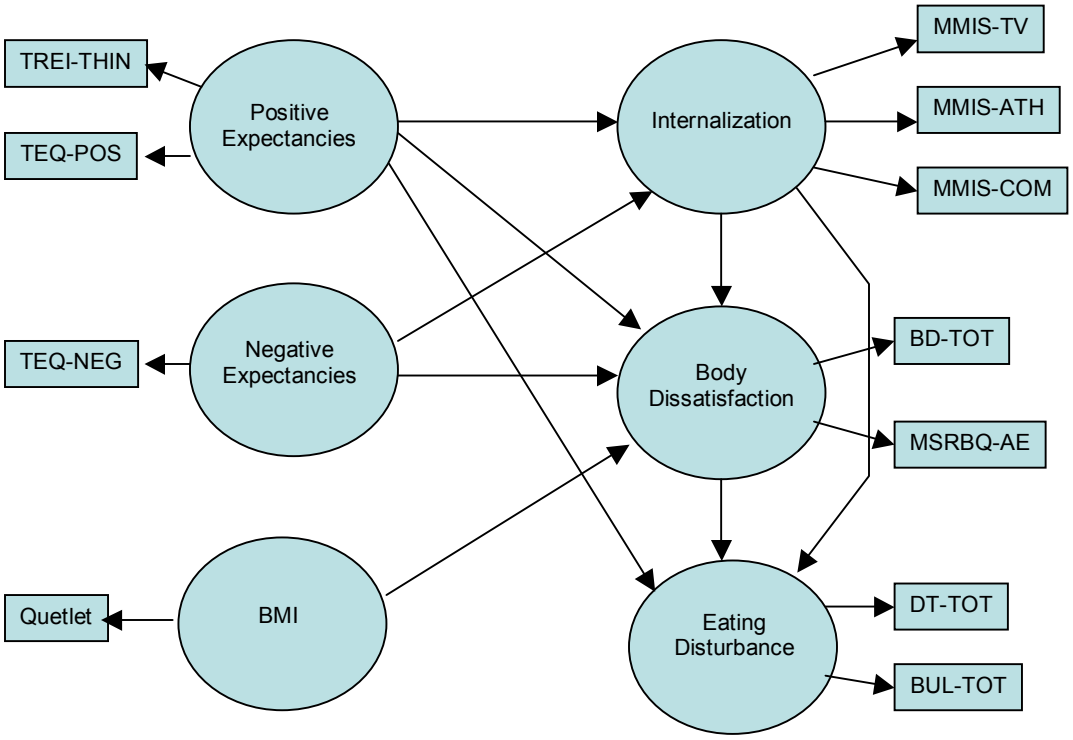
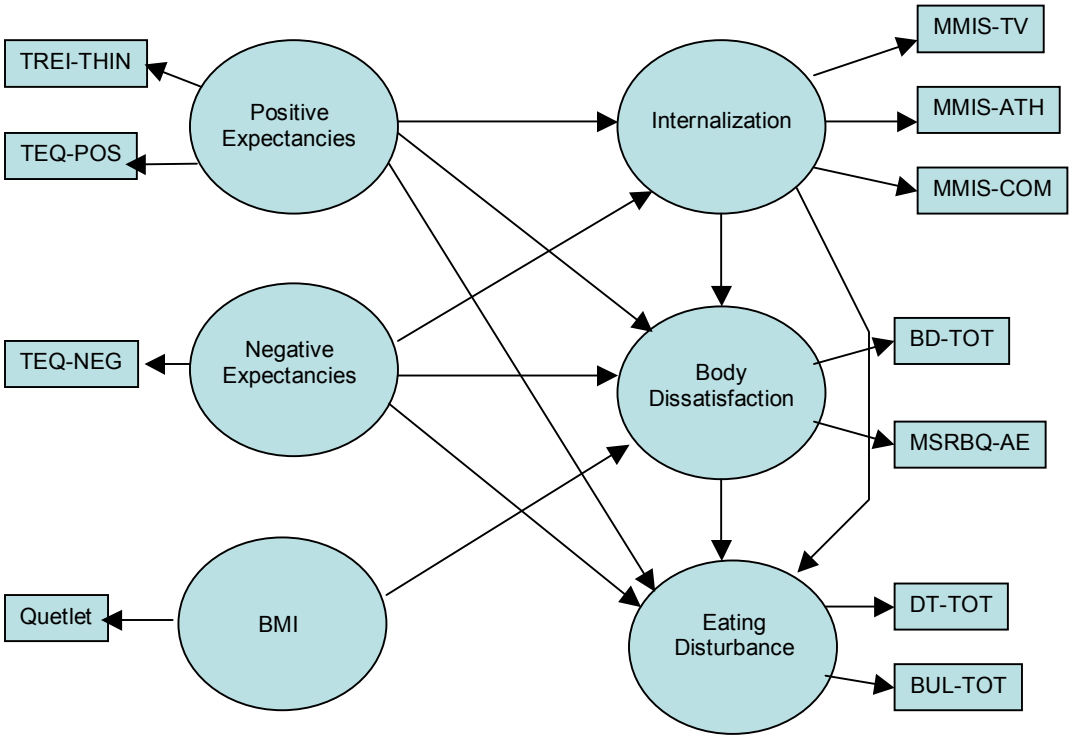


Figure 8. Model 7



Appendices

Appendix A

Initial Items of TEQ

The following pages contain words and/or phrases describing the possible consequences of being thin. For each word or phrase below, imagine it completing the sentence "BEING THIN MAKES ONE _____." Then rate how much you agree with that particular sentence.

It is important to keep in mind that there are no right or wrong answers. We are just asking you for your personal opinion regarding being thin. Please answer each item quickly according to your first impression and your own personal feelings and beliefs.

---

1 Completely Disagree	2 Mostly Disagree	3 Slightly Disagree	4 Neither Agree Nor Disagree	5 Slightly Agree	6 Mostly Agree	7 Completely Agree

"BEING THIN MAKES ONE _____."

1. Ugly	1	2	3	4	5	6	7
2. Able to wear smaller clothes	1	2	3	4	5	6	7
3. A model	1	2	3	4	5	6	7
4. Healthy	1	2	3	4	5	6	7
5. Comfortable	1	2	3	4	5	6	7
6. Unhappy	1	2	3	4	5	6	7
7. Liked by others	1	2	3	4	5	6	7
8. Secure	1	2	3	4	5	6	7
9. Small	1	2	3	4	5	6	7
10. Energetic	1	2	3	4	5	6	7
11. Agile	1	2	3	4	5	6	7
12. Vulnerable	1	2	3	4	5	6	7
13. Sociable	1	2	3	4	5	6	7
14. Want to stay thin	1	2	3	4	5	6	7
15. Athletic	1	2	3	4	5	6	7
16. A skeleton	1	2	3	4	5	6	7
17. Popular	1	2	3	4	5	6	7
18. Hungry	1	2	3	4	5	6	7
19. Envied	1	2	3	4	5	6	7
20. Outgoing	1	2	3	4	5	6	7
21. Boyish	1	2	3	4	5	6	7
22. Pretty	1	2	3	4	5	6	7
23. Look better in clothes	1	2	3	4	5	6	7

24. Skinny	1	2	3	4	5	6	7
25. Not diet	1	2	3	4	5	6	7
26. Stupid	1	2	3	4	5	6	7
27. Proud	1	2	3	4	5	6	7
28. Desirable	1	2	3	4	5	6	7
29. Depressed	1	2	3	4	5	6	7
30. Exercise	1	2	3	4	5	6	7
31. Beautiful	1	2	3	4	5	6	7
32. Flexible	1	2	3	4	5	6	7
33. Self-assured	1	2	3	4	5	6	7
34. Scrawny	1	2	3	4	5	6	7
35. Socially accepted	1	2	3	4	5	6	7
36. Happy	1	2	3	4	5	6	7
37. Active	1	2	3	4	5	6	7
38. Sick	1	2	3	4	5	6	7
39. Weigh less	1	2	3	4	5	6	7
40. Hated	1	2	3	4	5	6	7
41. Fun	1	2	3	4	5	6	
42. Better-looking	1	2	3	4	5	6	7
43. Weak	1	2	3	4	5	6	7
44. Look Tall	1	2	3	4	5	6	7
45. Satisfied	1	2	3	4	5	6	7
46. In Control**	1	2	3	4	5	6	7
47. Tired	1	2	3	4	5	6	7
48. Self-conscious	1	2	3	4	5	6	7
49. Attractive	1	2	3	4	5	6	7
50. Arrogant	1	2	3	4	5	6	7
51. Bony	1	2	3	4	5	6	7
52. Able to wear more revealing/ tight clothes	1	2	3	4	5	6	7
53. Confident	1	2	3	4	5	6	7
54. Anorexic	1	2	3	4	5	6	7
55. More conscious about gaining weight	1	2	3	4	5	6	7
56. Optimistic	1	2	3	4	5	6	7
57. Muscular	1	2	3	4	5	6	7
58. Successful	1	2	3	4	5	6	7
59. Fragile	1	2	3	4	5	6	7
60. Think they’re better than others	1	2	3	4	5	6	7
61. Physically fit	1	2	3	4	5	6	7
62. Sad	1	2	3	4	5	6	7
63. Cute	1	2	3	4	5	6	7
64. Get attention	1	2	3	4	5	6	7

65. Sexy	1	2	3	4	5	6	7
66. More likely to go to the beach	1	2	3	4	5	6	7
67. Insecure	1	2	3	4	5	6	7
68. Advantageous**	1	2	3	4	5	6	7
69. Easy to lift	1	2	3	4	5	6	7
70. Snobbish	1	2	3	4	5	6	7
71. Have more selection in clothes	1	2	3	4	5	6	7
72. Good-looking	1	2	3	4	5	6	7
73. Not Fat	1	2	3	4	5	6	7
74. Have a positive body image	1	2	3	4	5	6	7
75. Bulimic	1	2	3	4	5	6	7
76. Need to eat	1	2	3	4	5	6	7
77. Able to fit into clothes	1	2	3	4	5	6	7
78. Have high self-esteem	1	2	3	4	5	6	7
79. Look better in a swimsuit	1	2	3	4	5	6	7
80. Uncomfortable	1	2	3	4	5	6	7
81. Cool	1	2	3	4	5	6	7
82. Conceited	1	2	3	4	5	6	7
83. Feel good about themselves	1	2	3	4	5	6	7
84. Lighter	1	2	3	4	5	6	7
85. Eat less	1	2	3	4	5	6	7
86. Have a high metabolism	1	2	3	4	5	6	7
87. Not self-conscious	1	2	3	4	5	6	7
88. Able to fit in small places	1	2	3	4	5	6	7
89. A toothpick	1	2	3	4	5	6	7
90. Easier to find clothes	1	2	3	4	5	6	7
91. A conformist	1	2	3	4	5	6	7
92. Extraverted*	1	2	3	4	5	6	7
93. A superstar	1	2	3	4	5	6	7
94. Feel better about themselves	1	2	3	4	5	6	7
95. Flat-chested	1	2	3	4	5	6	7
96. More likely to try new things	1	2	3	4	5	6	7
97. Respected	1	2	3	4	5	6	7
98. More open with their body	1	2	3	4	5	6	7
99. Have a boyfriend	1	2	3	4	5	6	7
100. Relaxed	1	2	3	4	5	6	7
101. Smart	1	2	3	4	5	6	7
102. Cocky	1	2	3	4	5	6	7
103. Have high self-image	1	2	3	4	5	6	7
104. Frail	1	2	3	4	5	6	7
105. Content	1	2	3	4	5	6	7
106. Malnourished	1	2	3	4	5	6	7
107. Flirtatious	1	2	3	4	5	6	7

108. Not self-conscious about weight	1	2	3	4	5	6	7
109. Faster	1	2	3	4	5	6	7
110. Nervous	1	2	3	4	5	6	7
111. Noticed	1	2	3	4	5	6	7
112. Try to gain weight	1	2	3	4	5	6	7
113. Slim	1	2	3	4	5	6	7
114. Wanted	1	2	3	4	5	6	7
115. Underweight	1	2	3	4	5	6	7
116. Defined	1	2	3	4	5	6	7
117. Able to eat more	1	2	3	4	5	6	7
118. Upset	1	2	3	4	5	6	7
119. Different	1	2	3	4	5	6	7
120. Disappointed	1	2	3	4	5	6	7
121. Unhealthy	1	2	3	4	5	6	7
122. Determined	1	2	3	4	5	6	7
123. Party/Go out more	1	2	3	4	5	6	7
124. Adventurous	1	2	3	4	5	6	7
125. Feel better in relationships**	1	2	3	4	5	6	7
126. Have high self-worth	1	2	3	4	5	6	7
127. Sexual	1	2	3	4	5	6	7
128. Emaciated	1	2	3	4	5	6	7
129. Unattractive	1	2	3	4	5	6	7
130. Daring	1	2	3	4	5	6	7
131. In Shape	1	2	3	4	5	6	7
132. Vain	1	2	3	4	5	6	7
133. Accepted	1	2	3	4	5	6	7
134. Self-Confident	1	2	3	4	5	6	7
135. A cheerleader	1	2	3	4	5	6	7
136. Unappealing	1	2	3	4	5	6	7
137. Lanky	1	2	3	4	5	6	7

Appendix B

TEQ – After Expert Review

The following pages contain words and/or phrases describing the possible consequences of being thin. For each word or phrase below, imagine it completing the sentence "BEING THIN MAKES ONE _____." Then rate how much you agree with that particular sentence.

It is important to keep in mind that there are no right or wrong answers. We are just asking you for your personal opinion regarding being thin. Please answer each item quickly according to your first impression and your own personal feelings and beliefs.

---

1 Completely Disagree	2 Mostly Disagree	3 Slightly Disagree	4 Neither Agree Nor Disagree	5 Slightly Agree	6 Mostly Agree	7 Completely Agree

"BEING THIN MAKES ONE _____."

1. Ugly	1	2	3	4	5	6	7
2. Able to wear smaller clothes	1	2	3	4	5	6	7
3. Healthy	1	2	3	4	5	6	7
4. Comfortable	1	2	3	4	5	6	7
5. Unhappy	1	2	3	4	5	6	7
6. Liked by others	1	2	3	4	5	6	7
7. Secure	1	2	3	4	5	6	7
8. Energetic	1	2	3	4	5	6	7
9. Agile	1	2	3	4	5	6	7
10. Vulnerable	1	2	3	4	5	6	7
11. Sociable	1	2	3	4	5	6	7
12. Want to stay thin	1	2	3	4	5	6	7
13. Athletic	1	2	3	4	5	6	7
14. Popular	1	2	3	4	5	6	7
15. Hungry	1	2	3	4	5	6	7
16. Envied	1	2	3	4	5	6	7
17. Outgoing	1	2	3	4	5	6	7
18. Boyish	1	2	3	4	5	6	7
19. Pretty	1	2	3	4	5	6	7
20. Look better in clothes	1	2	3	4	5	6	7
21. Proud	1	2	3	4	5	6	7
22. Desirable	1	2	3	4	5	6	7
23. Depressed	1	2	3	4	5	6	7

24. Exercise	1	2	3	4	5	6	7
25. Beautiful	1	2	3	4	5	6	7
26. Flexible	1	2	3	4	5	6	7
27. Self-assured	1	2	3	4	5	6	7
28. Socially accepted	1	2	3	4	5	6	7
29. Happy	1	2	3	4	5	6	7
30. Active	1	2	3	4	5	6	7
31. Hated	1	2	3	4	5	6	7
32. Fun	1	2	3	4	5	6	7
33. Better-looking	1	2	3	4	5	6	7
34. Weak	1	2	3	4	5	6	7
35. Look Tall	1	2	3	4	5	6	7
36. Satisfied	1	2	3	4	5	6	7
37. In Control	1	2	3	4	5	6	7
38. Tired	1	2	3	4	5	6	7
39. Self-conscious	1	2	3	4	5	6	7
40. Attractive	1	2	3	4	5	6	7
41. Arrogant	1	2	3	4	5	6	7
42. Able to wear more revealing/ tight clothes	1	2	3	4	5	6	7
43. Confident	1	2	3	4	5	6	7
44. More conscious about gaining weight	1	2	3	4	5	6	7
45. Optimistic	1	2	3	4	5	6	7
46. Successful	1	2	3	4	5	6	7
47. Fragile	1	2	3	4	5	6	7
48. Think they're better than others	1	2	3	4	5	6	7
49. Physically fit	1	2	3	4	5	6	7
50. Sad	1	2	3	4	5	6	7
51. Cute	1	2	3	4	5	6	7
52. Get attention	1	2	3	4	5	6	7
53. Sexy	1	2	3	4	5	6	7
54. More likely to go to the beach	1	2	3	4	5	6	7
55. Insecure	1	2	3	4	5	6	7
56. Advantageous	1	2	3	4	5	6	7
57. Snobbish	1	2	3	4	5	6	7
58. Have more selection in clothes	1	2	3	4	5	6	7
59. Good-looking	1	2	3	4	5	6	7
60. Have a positive body image	1	2	3	4	5	6	7
61. Able to fit into clothes	1	2	3	4	5	6	7
62. Have high self-esteem	1	2	3	4	5	6	7
63. Look better in a swimsuit	1	2	3	4	5	6	7
64. Uncomfortable	1	2	3	4	5	6	7

65. Cool	1	2	3	4	5	6	7
66. Conceited	1	2	3	4	5	6	7
67. Feel good about themselves	1	2	3	4	5	6	7
68. Eat less	1	2	3	4	5	6	7
69. Have a high metabolism	1	2	3	4	5	6	7
70. Not self-conscious	1	2	3	4	5	6	7
71. Easier to find clothes	1	2	3	4	5	6	7
72. A conformist	1	2	3	4	5	6	7
73. Extraverted	1	2	3	4	5	6	7
74. Feel better about themselves	1	2	3	4	5	6	7
75. Flat-chested	1	2	3	4	5	6	7
76. More likely to try new things	1	2	3	4	5	6	7
77. Respected	1	2	3	4	5	6	7
78. More open with their body	1	2	3	4	5	6	7
79. Have a boyfriend	1	2	3	4	5	6	7
80. Relaxed	1	2	3	4	5	6	7
81. Smart	1	2	3	4	5	6	7
82. Cocky	1	2	3	4	5	6	7
83. Have high self-image	1	2	3	4	5	6	7
84. Frail	1	2	3	4	5	6	7
85. Content	1	2	3	4	5	6	7
86. Malnourished	1	2	3	4	5	6	7
87. Flirtatious	1	2	3	4	5	6	7
88. Not self-conscious about weight	1	2	3	4	5	6	7
89. Faster	1	2	3	4	5	6	7
90. Noticed	1	2	3	4	5	6	7
91. Try to gain weight	1	2	3	4	5	6	7
92. Wanted	1	2	3	4	5	6	7
93. Underweight	1	2	3	4	5	6	7
94. Defined	1	2	3	4	5	6	7
95. Able to eat more	1	2	3	4	5	6	7
96. Upset	1	2	3	4	5	6	7
97. Unhealthy	1	2	3	4	5	6	7
98. Determined	1	2	3	4	5	6	7
99. Party/Go out more	1	2	3	4	5	6	7
100. Adventurous	1	2	3	4	5	6	7
101. Feel better in relationships	1	2	3	4	5	6	7
102. Have high self-worth	1	2	3	4	5	6	7
103. Sexual	1	2	3	4	5	6	7
104. Emaciated	1	2	3	4	5	6	7
105. Unattractive	1	2	3	4	5	6	7
106. Daring	1	2	3	4	5	6	7
107. In Shape	1	2	3	4	5	6	7

108.	Vain	1	2	3	4	5	6	7
109.	Accepted	1	2	3	4	5	6	7
110.	Self-Confident	1	2	3	4	5	6	7
111.	Unappealing	1	2	3	4	5	6	7

Appendix C

Social Sciences/Behavioral
Adult Informed Consent

University of South Florida

Information for People Who Take Part in Research Studies

The following information is being presented to help you decide whether or not you want to be a part of a minimal risk research study. Please read carefully. If you do not understand anything, ask the Person in Charge of the Study.

Title of Study:	College Students' Beliefs Regarding Weight and Body Shape
Principal Investigator:	Vicky Phares, Ph.D.
Person in Charge of the Study:	Ari R. Steinberg, M.A.
Co-Investigator(s):	Ari R. Steinberg, M.A.
Study Location(s):	University of South Florida Undergraduate Classrooms

You are being asked to participate because this is an important first attempt at identifying college students' ideas, opinions, and beliefs regarding weight, body shape, and physical appearance. Your participation may help to provide preliminary information and knowledge in this research area.

General Information about the Research Study

The purpose of this research study is to investigate the range of ideas and assumptions that college males and females have regarding particular aspects of physical appearance. Subjects will be asked their own views regarding their own as well as others physical appearances.

Plan of Study

The major portion of this study is the completion of two brief questionnaires: a questionnaire regarding aspects of physical appearance and a demographics questionnaire. The study will take approximately 15-20 minutes to complete

Benefits of Being a Part of this Research Study

By taking part in this research study, you may increase our overall knowledge of how individuals differ in their beliefs concerning physical appearance.

Risks of Being a Part of this Research Study

There are no known risks associated with this study.

Confidentiality of Your Records

Your privacy and research records will be kept confidential to the extent of the law. No identifying information will be collected during the study. Code numbers will identify all of the data. In addition, only the primary investigators will have access to the data (which will be kept in a locked cabinet). Authorized research investigators, agents of the Department of Health and

Human Services and the USF Institutional Review Board may inspect your records from this research project. The results of the study may be published in grouped form. In other words, the published results will not include your name or any other information that will identify you.

Payment for Participation

You will not be paid for your participation in this study. However, you will receive one experimental extra credit point for your participation from the USF psychology department.

Volunteering to Be Part of this Research Study

Your decision to participate in this research study is completely voluntary. You are free to participate in this research study or to withdraw at any time. If you choose not to participate, or if you withdraw, there will be no penalty or loss of benefits that you are entitled to receive.

Questions and Contacts

If you have any questions about this research study, contact Ari R. Steinberg at (813) 974-7007.

If you have questions about your rights as a person who is taking part in a research study, you may contact a member of the Division of Research Compliance of the University of South Florida at 813-974-5638.

Your Consent—By signing this form I agree that:

I have fully read or have had read and explained to me in my native language this informed consent form describing a research project.

I have had the opportunity to question one of the persons in charge of this research and have received satisfactory answers.

I understand that I am being asked to participate in research. I understand the risks and benefits, and I freely give my consent to participate in the research project outlined in this form, under the conditions indicated in it.

I have been given a signed copy of this informed consent form, which is mine to keep.

Signature of Participant	Printed Name of Participant	Date

Investigator Statement

I have carefully explained to the subject the nature of the above protocol. I hereby certify that to the best of my knowledge the subject signing this consent form understands the nature, demands, risks and benefits involved in participating in this study and that a medical problem or language or educational barrier has not precluded a clear understanding of the subject's involvement in this study.

Signature of Investigator	Printed Name of Investigator

Institutional Approval of Study and Informed Consent

This research project/study and informed consent form were reviewed and approved by the University of South Florida Institutional Review Board for the protection of human subjects. This approval is valid until the date provided below. The board may be contacted at (813) 974-5638.

Appendix D

General Information Sheet

Please answer **all** of the following questions:

1. Age _____

2. Gender: (1) Male
(2) Female

3. Ethnicity: (1) African-American, Black (4) Hispanic
(2) Asian-American (5) Other: _____
(3) Caucasian, White

4. Marital Status: (1) Single
(2) Married
(3) Divorced

5. Year at USF: _____

6. Height _____ feet _____ inches

7. Weight _____ lbs.

8. What is your "ideal" weight? _____ lbs.

9. Do you currently want to lose weight? (1)Yes (2) No (3) Don't Know

10. Do you think you are: (1) Very underweight (4) A little overweight
(2) A little underweight (5) Very overweight
(3) About the right weight

11. Have you ever gone on a diet to lose weight? (1) Yes (2) No (3) Don't Know

12. If you have dieted in the past, how old were you when you first started to diet?
_____ yrs.

13. How often have you gone on a diet to lose weight in the past year?

(1) Never
(2) 1 or 2 times
(3) 3 to 5 times
(4) 6 to 10 times
(5) 11 or more times

14. Do you exercise regularly? (1) Yes (2) No (3) Don't Know

15. If you do exercise regularly, how often do you exercise during the week?

    (1) 1-2 days a week
    (2) 3-4 days a week
    (3) 5-6 days a week
    (4) 7 days a week

Appendix E

Deleted Items	Reason for Deletion
TEQ1 – Ugly	Loading on negative factor <.45
TEQ2-Able to wear smaller clothes	Low loadings on both factors
TEQ4 – Comfortable	High loading on second factor
TEQ5 – Unhappy	High loading on second factor
TEQ10 – Vulnerable	Loading on negative factor < .45
TEQ15 – Hungry	Low loadings on both factors
TEQ20 – Look better in clothes	High loading on second factor
TEQ31 – Hated	Loading on negative factor < .45
TEQ35 – Look tall	Loading on negative factor < .45
TEQ41 – Arrogant	High loading on second factor
TEQ44 – More conscious about gaining weight	Low loadings on both factors
TEQ46 – Successful	High loading on second factor
TEQ48 – Think they're better than others	Loading on negative factor < .45
TEQ57 – Snobbish	High loading on second factor
TEQ58 – Have more selection in clothes	Item-total correlation < .40
TEQ65 – Cool	High loading on second factor
TEQ68 – Eat less	Loading on negative factor < .45
TEQ69 – Have a high metabolism	Low loadings on both factors
TEQ70 – Not self-conscious	Loading on positive factor < .45
TEQ71 – Easier to find clothes	Item-total correlation < .40
TEQ73 – Extraverted	High loading on second factor
TEQ76 – More likely to try new things	Loading on positive factor < .45
TEQ79 – Have a boyfriend	High loading on second factor
TEQ80 – Relaxed	High loading on second factor
TEQ82 – Cocky	High loading on second factor
TEQ87 – Flirtatious	High loading on second factor
TEQ88 – Not self-conscious about gaining weight	Low loadings on both factors
TEQ89 – Faster	Low loadings on both factors
TEQ91 – Try to gain weight	Item-total correlation < .40
TEQ95 – Able to eat more	Low loading on both factors
TEQ98 – Determined	High loading on second factor
TEQ100 – Adventurous	High loading on second factor
TEQ105 – Unattractive	High loading on second factor
TEQ106 – Daring	High loading on second factor
TEQ108 – Vain	High loading on second factor

Appendix F

TEQ

The following pages contain words and/or phrases describing the possible consequences of being thin. For each word or phrase below, imagine it completing the sentence "BEING THIN MAKES ONE _____." Then rate how much you agree with that particular sentence.

It is important to keep in mind that there are no right or wrong answers. We are just asking you for your personal opinion regarding being thin. Please answer each item quickly according to your first impression and your own personal feelings and beliefs.

---

1 Completely Disagree	2 Mostly Disagree	3 Slightly Disagree	4 Neither Agree Nor Disagree	5 Slightly Agree	6 Mostly Agree	7 Completely Agree

"BEING THIN MAKES ONE _____."

1. A conformist	1	2	3	4	5	6	7
2. Able to fit into clothes	1	2	3	4	5	6	7
3. Able to wear revealing /tight clothes	1	2	3	4	5	6	7
4. Accepted	1	2	3	4	5	6	7
5. Active	1	2	3	4	5	6	7
6. Advantageous	1	2	3	4	5	6	7
7. Agile	1	2	3	4	5	6	7
8. Athletic	1	2	3	4	5	6	7
9. Attractive	1	2	3	4	5	6	7
10. Beautiful	1	2	3	4	5	6	7
11. Better-looking	1	2	3	4	5	6	7
12. Boyish	1	2	3	4	5	6	7
13. Conceited	1	2	3	4	5	6	7
14. Confident	1	2	3	4	5	6	7
15. Content	1	2	3	4	5	6	7
16. Cute	1	2	3	4	5	6	7
17. Defined	1	2	3	4	5	6	7
18. Depressed	1	2	3	4	5	6	7
19. Desirable	1	2	3	4	5	6	7
20. Emaciated	1	2	3	4	5	6	7
21. Energetic	1	2	3	4	5	6	7

22. Envied	1	2	3	4	5	6	7
23. Exercise	1	2	3	4	5	6	7
24. Feel better about themselves	1	2	3	4	5	6	7
25. Feel better in relationships	1	2	3	4	5	6	7
26. Feel good about themselves	1	2	3	4	5	6	7
27. Flat-chested	1	2	3	4	5	6	7
28. Flexible	1	2	3	4	5	6	7
29. Fragile	1	2	3	4	5	6	7
30. Frail	1	2	3	4	5	6	7
31. Fun	1	2	3	4	5	6	7
32. Get attention	1	2	3	4	5	6	7
33. Good-looking	1	2	3	4	5	6	7
34. Happy	1	2	3	4	5	6	7
35. Have a positive body image	1	2	3	4	5	6	7
36. Have high self-esteem	1	2	3	4	5	6	7
37. Have high self-image	1	2	3	4	5	6	7
38. Have high self-worth	1	2	3	4	5	6	7
39. Healthy	1	2	3	4	5	6	7
40. In Control	1	2	3	4	5	6	7
41. In Shape	1	2	3	4	5	6	7
42. Insecure	1	2	3	4	5	6	7
43. Liked by others	1	2	3	4	5	6	7
44. Look better in a swimsuit	1	2	3	4	5	6	7
45. Malnourished	1	2	3	4	5	6	7
46. More likely to go to the beach	1	2	3	4	5	6	7
47. More open with their body	1	2	3	4	5	6	7
48. Noticed	1	2	3	4	5	6	7
49. Optimistic	1	2	3	4	5	6	7
50. Outgoing	1	2	3	4	5	6	7
51. Party/Go out more	1	2	3	4	5	6	7
52. Physically fit	1	2	3	4	5	6	7
53. Popular	1	2	3	4	5	6	7
54. Pretty	1	2	3	4	5	6	7
55. Proud	1	2	3	4	5	6	7
56. Respected	1	2	3	4	5	6	7
57. Sad	1	2	3	4	5	6	7
58. Satisfied	1	2	3	4	5	6	7
59. Secure	1	2	3	4	5	6	7
60. Self-assured	1	2	3	4	5	6	7
61. Self-Confident	1	2	3	4	5	6	7
62. Self-conscious	1	2	3	4	5	6	7
63. Sexual	1	2	3	4	5	6	7

64. Sexy	1	2	3	4	5	6	7
65. Smart	1	2	3	4	5	6	7
66. Sociable	1	2	3	4	5	6	7
67. Socially accepted	1	2	3	4	5	6	7
68. Tired	1	2	3	4	5	6	7
69. Unappealing	1	2	3	4	5	6	7
70. Uncomfortable	1	2	3	4	5	6	7
71. Underweight	1	2	3	4	5	6	7
72. Unhealthy	1	2	3	4	5	6	7
73. Upset	1	2	3	4	5	6	7
74. Want to stay thin	1	2	3	4	5	6	7
75. Wanted	1	2	3	4	5	6	7
76. Weak	1	2	3	4	5	6	7

Appendix G

TREI

When you respond to items about being thin, use your own definition of what being thin would be for you, regardless of whether or not you currently consider yourself to be so. If you feel thin now, respond in terms of what you think goes with being thin; not about being thinner than you are. There are also items that refer to "limiting what you eat." By this phrase we mean (1) any single occasion where you purposefully made the choice to stop yourself from eating more, or (2) dieting successfully for any length of time. If you do not restrict what you eat, answer according to what you believe would be the case if you were to restrict. There are no right or wrong answers. Circle only one response for each item. Do not leave any items blank.

1	2	3	4	5	6	7
Completely Disagree	Mostly Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Mostly Agree	Completely Agree

1. I would feel like I could conquer things more easily if I were thin.	1	2	3	4	5	6	7
2. I would be more self-reliant and independent if I felt thin.	1	2	3	4	5	6	7
3. I fell great when I limit the amount I eat.	1	2	3	4	5	6	7
4. I would be more attractive if I were thin.	1	2	3	4	5	6	7
5. I would feel better about myself if I were thin.	1	2	3	4	5	6	7
6. My family would be more proud of me if I were thin.	1	2	3	4	5	6	7
7. When I limit what I eat, others respect me.	1	2	3	4	5	6	7
8. My problems would appear less troublesome if I were thin.	1	2	3	4	5	6	7
9. When I limit what I eat, others notice me more.	1	2	3	4	5	6	7
10. Restricting what I eat makes me feel good about myself.	1	2	3	4	5	6	7
11. I would be more attractive to the opposite sex if I were thin.	1	2	3	4	5	6	7
12. When I limit what I eat, I am more assertive.	1	2	3	4	5	6	7
13. I would feel stronger if I were thin.	1	2	3	4	5	6	7
14. If I were thin, I would gain more attention from friends.	1	2	3	4	5	6	7
15. I would feel less stressed, in general, if I were thin.	1	2	3	4	5	6	7
16. When I limit what I eat, I feel more capable and competent.	1	2	3	4	5	6	7
17. I would be happy if I were thin.	1	2	3	4	5	6	7

18. I would handle myself better in social situations if I were thin.	1	2	3	4	5	6	7
19. I feel more enthusiastic about doing other things after I've limited what I've eaten.	1	2	3	4	5	6	7
20. When I limit what I eat, I am more attractive.	1	2	3	4	5	6	7
21. I would feel more capable and competent if I were thin.	1	2	3	4	5	6	7
22. I would be more physically attractive to others if I were thin.	1	2	3	4	5	6	7
23. If I were thin, there would be one less thin to worry about.	1	2	3	4	5	6	7
24. When I stick to a strict diet, I feel more in control of my life.	1	2	3	4	5	6	7
25. My family would complement me more if I were thin.	1	2	3	4	5	6	7
26. If I were thin, I would feel like a disciplined person.	1	2	3	4	5	6	7
27. I would feel more like an adult if I were thin.	1	2	3	4	5	6	7
28. If I were thin, I'd do better in school or at my job.	1	2	3	4	5	6	7
29. If I were thin, I would feel more worthwhile.	1	2	3	4	5	6	7
30. It is emotionally uplifting to limit the amount of food I eat.	1	2	3	4	5	6	7
31. I feel less guilty when I limit what I eat.	1	2	3	4	5	6	7
32. Others would think more highly of me if I were thin.	1	2	3	4	5	6	7
33. I would feel like I could do whatever I wanted to if I were thin.	1	2	3	4	5	6	7
34. I would cope better with failures at work or school if I were thin.	1	2	3	4	5	6	7
35. My self-image would improve if I were thin.	1	2	3	4	5	6	7
36. Even though others may try to control my life, limiting what I eat gives me one area where I feel in control.	1	2	3	4	5	6	7
37. I would feel more attractive if I were thin.	1	2	3	4	5	6	7
38. It would show my parents that I am in control, if I were thin.	1	2	3	4	5	6	7
39. People think more highly of me when I restrict what I eat.	1	2	3	4	5	6	7
40. I would fit in more if I were thin.	1	2	3	4	5	6	7
41. It increases my self-esteem to limit what I eat.	1	2	3	4	5	6	7

42. If I were thin, it would improve my appearance.	1	2	3	4	5	6	7
43. Being thin would be a boost to my self-esteem.	1	2	3	4	5	6	7
44. Being thin would improve everything in my life.	1	2	3	4	5	6	7

Appendix H

EDI

The items below ask about your attitudes, feelings, and behavior. Some of the items relate to food or eating. Other items ask about your feelings about yourself. For each item, decide if the item is true about you. Circle the letter that corresponds to your rating.

Respond to all of the items, making sure that you circle the letter for the rating that is true about you.

Always	Usually	Often	Sometimes	Rarely	Never
A	U	O	S	R	N

1. I eat sweets and carbohydrates without feeling nervous.	A	U	O	S	R	N
2. I think that my stomach is too big.	A	U	O	S	R	N
3. I eat when I am upset.	A	U	O	S	R	N
4. I think about dieting.	A	U	O	S	R	N
5. I think that my thighs are too large.	A	U	O	S	R	N
6. I stuff myself with food.	A	U	O	S	R	N
7. I feel extremely guilty after overeating.	A	U	O	S	R	N
8. I think that my stomach is just the right size.	A	U	O	S	R	N
9. I have gone on eating binges where I felt that I could not stop.	A	U	O	S	R	N
10. I feel satisfied with the shape of my body.	A	U	O	S	R	N
11. I think about bingeing(overeating).	A	U	O	S	R	N
12. I am terrified of gaining weight.	A	U	O	S	R	N
13. I like the shape of my buttocks.	A	U	O	S	R	N
14. I eat moderately in front of others and stuff myself when they're gone.	A	U	O	S	R	N
15. I exaggerate or magnify the importance of weight.	A	U	O	S	R	N
16. I think my hips are too big.	A	U	O	S	R	N
17. I have the thought of trying to vomit in order to lose weight.	A	U	O	S	R	N
18. I think that my thighs are just the right size.	A	U	O	S	R	N
19. I am preoccupied with the desire to be thinner.	A	U	O	S	R	N
20. I eat or drink in secrecy.	A	U	O	S	R	N
21. I think my buttocks are too large.	A	U	O	S	R	N
22. If I gain a pound, I worry that I will keep gaining.	A	U	O	S	R	N
23. I think that my hips are just the right size.	A	U	O	S	R	N

Appendix I

MBSRQ-AE

Instructions: Using the scale below, please circle the number that best matches your agreement with the following statements.

1 Definitely Disagree	2 Mostly Disagree	3 Neither Agree Nor Disagree	4 Mostly Agree	5 Definitely Agree

1. My body is sexually appealing.	1	2	3	4	5
2. I like my looks just the way they are.	1	2	3	4	5
3. Most people would consider me good-looking.	1	2	3	4	5
4. I like the way I look without my clothes.	1	2	3	4	5
5. I like the way my clothes fit me.	1	2	3	4	5
6. I dislike my physique.	1	2	3	4	5
7. I'm physically unattractive.	1	2	3	4	5

Appendix J

SATAQ-R

Please read each of the following items, and circle the number that best reflects your agreement with the statement.

Completely Disagree 1	2	Neither Agree Nor Disagree 3	4	Completely Agree 5

1. I would like my body to look like the women who appear in TV shows and movies.	1	2	3	4	5
2. I believe that clothes look better on women that are in good physical shape.	1	2	3	4	5
3. Music videos that show women who are in good physical shape make me wish that I were in better physical shape.	1	2	3	4	5
4. I do not wish to look like the female models who appear in magazines.	1	2	3	4	5
5. I tend to compare my body to TV and movie stars.	1	2	3	4	5
6. In our society, fat people are regarded as attractive.	1	2	3	4	5
7. Photographs of physically fit women make me wish that I had better muscle tone.	1	2	3	4	5
8. Attractiveness is very important if you want to get ahead in our culture.	1	2	3	4	5
9. It's important for people to look attractive if they want to succeed in today's culture.	1	2	3	4	5
10. Most people believe that a toned and physically fit body improves how you look.	1	2	3	4	5
11. People think the more attractive you are, the better you look in clothes.	1	2	3	4	5
12. In today's society, it's not important to always look attractive.	1	2	3	4	5

13. I wish I looked like the women pictured in magazines who model underwear.	1	2	3	4	5
14. I often read magazines and compare my appearance to the female models.	1	2	3	4	5
15. People with well-proportioned bodies look better in clothes.	1	2	3	4	5
16. A physically fit woman is admired for her looks more than someone who is not fit or toned.	1	2	3	4	5
17. How I look does not affect my mood in social situations.	1	2	3	4	5
18. People find individuals who are in shape more attractive than individuals who are not in shape.	1	2	3	4	5
19. In our culture, someone with a well-built body has a better chance of obtaining success.	1	2	3	4	5
20. I often find myself comparing my physique to that of athletes pictured in magazines.	1	2	3	4	5
21. I do not compare my appearance to people I consider very attractive.	1	2	3	4	5

Appendix K

MMIS

Please read each of the following items, and circle the number that best reflects your agreement with the statement.

Completely Disagree 1	2	Neither Agree Nor Disagree 3	4	Completely Agree 5

1.	I would like my body to look like the people who are on TV.	1	2	3	4	5
2.	I wish I looked as athletic as the people in magazines.	1	2	3	4	5
3.	I try to look like the people in music videos.	1	2	3	4	5
4.	I compare my body to the bodies of people who appear in magazines.	1	2	3	4	5
5.	I would like my body to look like the people who are in movies.	1	2	3	4	5
6.	I try to look like sports athletes.	1	2	3	4	5
7.	I compare my body to the bodies of TV and movie stars.	1	2	3	4	5
8.	I wish I looked like the models in music videos.	1	2	3	4	5
9.	I would like my body to look like the models who appear in magazines.	1	2	3	4	5
10.	I wish I looked as athletic as sports stars.	1	2	3	4	5
11.	I try to look like the people on TV.	1	2	3	4	5
12.	I compare my appearance to the appearance of TV and movie stars.	1	2	3	4	5

Appendix L

Debriefing Statement

The present study is an initial attempt to examine women's thoughts, ideas, and beliefs regarding their bodies and physical appearance. Previous research has shown that there are well-established norms regarding physical appearance and attractiveness. More specifically, research has provided support for the idea that physically attractive individuals are characterized by positive qualities (e.g., friendly, intelligent, outgoing), while unattractive individuals are often assumed to possess negative qualities (e.g., lazy, unhealthy, lonely). Overall, the purpose of the present study is to identify female college students' beliefs and attitudes regarding physical appearance. The following references will provide additional information regarding the ideas and issues examined in this study:

Cobb, J.C., Cohen, R., Houston, D.A., & Rubin, E.C. (1998). Children's self-concepts and peer relationships: Relating appearance self-discrepancies and peer perceptions of social behaviors. *Child Study Journal*, *28*, 291-308.

Garcia, S.D. (1998). Appearance anxiety, health practices, metaperspectives, and self-perception of physical attractiveness. *Journal of Social Behavior & Personality*, *13*, 307-318.

Green, R.J., & Ashmore, R.D. (1998). Taking and developing pictures in the head: Assessing the physical stereotypes of eight gender types. *Journal of Applied Social Psychology*, *28*, 1609-1636.

Zebrowitz, L.A., Collins, M.A., & Dutta, R. (1998). The relationship between appearance and personality across the lifespan. *Personality & Social Psychology Bulletin*, *24*, 736-749.

About the Author

Ari R. Steinberg received her B.A. in Psychology and Sociology from Wellesley College in 1992. Following graduation, she worked for three years as a research assistant at the Aphasia Research Center at the Boston VA Medical Center. The area of research focused on communication and interpersonal deficits in right hemisphere brain damaged stroke patients. She entered the Clinical Psychology Program at the University of South Florida in 1995. During her graduate training, she co-authored a number of paper presentations for national conferences and received the Stephanie Gilbert Award for Research in Women's Issues for her master's thesis. She earned her M.A. in April, 1999 and recently completed her Ph.D. in March, 2004.

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