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BODY IMAGE DISTURBANCE IN RELATION TO SELF-PERCEPTIONS OF  
PHYSICAL ATTRACTIVENESS, SOCIAL COMPETENCE, AND  
NEED FOR APPROVAL IN COLLEGE WOMEN

by

Christine O'Connor

M.A., University of Windsor, 1995

A Dissertation

Submitted to the Faculty of Graduate Studies and Research  
through the Department of Psychology  
in Partial Fulfillment of the Requirements for  
the Degree of Doctor of Philosophy at the  
University of Windsor

Windsor, Ontario, Canada

2000



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## ABSTRACT

The present study examined the relationship between need for approval, social competence, and eating-related attitudes and behaviors. The relationship between physical attractiveness, social competence, and popularity was also explored. Fifty-five female undergraduate students, aged 18 to 25, completed the self-rated attractiveness and popularity measures twice, to determine their two week test-retest reliabilities. Both measures demonstrated adequate stability over time. In the second phase of the study, one hundred and seventy-four female undergraduate students of the same age completed the Eating Attitudes Test, the Marlowe-Crowne Scale, a self-rated physical attractiveness measure, a self-rated popularity measure, and the Texas Social Behavior Inventory. Abnormal eating-related attitudes and behaviors were detected in 13.8% of the sample. Social competence predicted a statistically significant proportion of the variance of both self-rated popularity and eating-related attitudes and behaviors. It would appear that social competence is an important factor in achieving satisfying adult relationships. The relationship between social competence and eating-related pathology, though significant, was somewhat weak. Further research is needed to more fully examine the relationship between these two constructs. Future studies may do well to examine specific aspects and desired levels of social competence, and to explore whether or not this construct may be situational in nature in its relationship to eating disorders.

## ACKNOWLEDGEMENTS

I wish to thank all the people who, in various ways, helped to make this research possible. First of all, I would like to extend my appreciation to the chair of my committee, Dr. F. Auld, whose knowledge was invaluable. I would also like to thank my committee members, Dr. W. Balance, Dr. R. Moriarty, and Dr. A. Sprague, for their helpful comments, suggestions, and support.

I am grateful to my friends, particularly Elizabeth Hall and Stephan Kennepohl, for their patience, encouragement, and moral support. Many thanks are also extended to my family for their various forms of support throughout this project.

I am grateful also to all the women who participated in this study for taking the time to share their feelings and ideas about a very personal subject.

Finally, I would like to thank the Fonds pour la Formation des Chercheurs et l'Aide à la Recherche for financial aid granted to me to pursue this research.



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## CHAPTER I

### INTRODUCTION

The origins of current body image research endeavours can be traced to the early part of the century, at which time neurologists were interested in studying the bizarre body perceptions of patients who had suffered various forms of brain damage. Pathological processes, presumably of a physiological nature, were believed to be responsible for the modified body image perceptions of these patients. Locating the part or parts of the brain responsible for normal body image became a task of paramount importance. Researchers eventually hypothesized that every person evolves an inner representation of their body, based on sensory input from various body parts that is somehow integrated to produce a complete body image or schema (Fisher, 1990).

Paul Schilder (1950) revolutionized body image research in two vital ways. First of all, he included a focus on the psychological component of body image, a hitherto overlooked aspect, thereby encouraging a multi-faceted approach to body image research. As well as studying brain-damaged patients, he also began to examine the distorted body image of schizophrenic patients, highlighting the fact that body image disturbance can be a product of either physiological or psychological problems. In fact, he eventually came to believe that the body image problems of schizophrenics were due to poor socialization and problematic object relations (Fisher, 1990). This

psychological component of body image is perhaps most clearly reflected in Schilder's definition of body image, "The image of the human body means the picture of our own body which we form in our mind, that is to say, the way in which the body appears to ourselves" (Schilder, 1950, p.11). He eventually came to insist that body image is more than a mere cognitive construction, being also a product of wishes, conscious and unconscious processes, bodily sensations, emotional attitudes, social interactions, and a "Gestalt-like" whole that is more than the sum of its parts (Fisher, 1990).

Schilder's other vital contribution to the field of body image research was that of examining body image not only as it related to pathological influences, but also as it pertained to the everyday body awareness of the average person. In fact, Schilder foreshadowed current body image research in questioning the impact of personality, social interactions, and physical attractiveness on the development of body image (Fisher, 1990).

As the body image concept evolved over time, it eventually came to include two interrelated aspects: the perceptual component pertaining to one's mental image of one's body, and the emotional component relating to the feelings about one's body that are elicited by this mental image (Cash & Brown, 1987). The emotional component was eventually further expanded upon, to include feelings of self-esteem, physical attractiveness, and effectiveness (Lerner & Karabenick, 1974). Today, body image is recognized as largely multi-

dimensional in nature (Fisher, 1990). Its scope has been broadened to include the sociocultural realm as well, in that body image development and satisfaction are posited to be irrevocably linked to the prevailing era and culture of which they are a product. Indeed, the cultural standard of beauty, against which one's body image is compared, is also deemed to be a product of the cultural milieu. Many theorists believe that our present standard of feminine beauty dates back to the 1960s and is based on a virtually unattainable thin ideal (Fallon, 1990).

#### Body Image Disturbance in Eating-Disordered Populations

Heightened interest in the body image disturbance of eating-disordered individuals can largely be traced to the landmark study of Slade and Russell (1973). The anorexics in their study evidenced greater body size overestimation than did the control group. In order to arrive at this finding, the researchers created a revolutionary technique, called the Movable Caliper Technique (MCT), to measure physical size estimates. A horizontal bar and two lights were mounted on a movable track so that participants could adjust the width between the lights to match their estimations of the width of various physical objects. The crucial goal of the study was to see whether or not the size perception difficulties of anorexics, as evident in their body size distortions, would extend to their estimation of other women's bodies, non-weight aspects of their own bodies, and even non-body physical objects.



The findings were influential in generating interest in the study of body size distortion amongst eating-disordered women. The authors found that whereas anorexics overestimated the width of their own bodies, the control group essentially did not. Furthermore, anorexics over-estimated the width of other women's bodies, though not to the same extent as they did in estimating their own body widths. However, both groups were able to accurately estimate their own heights and the widths of wooden blocks. It seemed, then, that the perceptual size distortions exhibited by the anorexic group existed only in estimating body widths, especially when this was performed in relation to their own bodies. Ben-Tovim, Whitehead, and Crisp (1979) expanded these results by demonstrating that as the body size to be estimated narrowed (i.e., as the participant herself became thinner), the accuracy of body size estimation was reduced both for anorexics and controls alike. This early clinical research on body image disturbance focussed mainly on body image distortion due to repeated findings of blatant body size overestimations in eating-disordered populations.

Casper, Halmi, Goldberg, and Davis (1979) widened the focus of body image research by examining other aspects of anorexia. They found that the anorexic women exhibiting the largest body size overestimation also displayed the most evidence of malnourishment, failure to respond to treatment, and likelihood of vomiting as a means of weight control. More recently, Garner, Garner, and Rosen (1993)

discovered that anorexic women who purged, whether or not they binged as well, were at a greater risk for a suicide attempt than those who merely restricted their food intake. Furthermore, many anorexic women, despite achieving a more healthy weight following treatment, continue to exhibit aberrant eating behaviors such as hoarding food and eating in private. In one study, such behaviors were successfully eliminated by "prescribing" the aberrant behaviors so that patients presumably quickly put an end to them because of the substantial inconvenience of carrying out these behaviors on an exclusive basis (Rosen, 1980).

Obese and bulimic women, originally studied by Bruch (1973), were also found to possess signs of a body image disturbance, as well as other distorted body perceptions, such as the misperception of various bodily sensations. In time, body image disturbance became a well-recognized hallmark of eating-disordered populations (Cattarin & Thompson, 1994). In fact, it is the very presence of body image disturbance that serves to distinguish eating disorders from other psychological or physical conditions that occasionally involve weight loss and abnormal eating patterns (Garner & Rosen, 1990; Rosen, 1990).

Later studies were expanded to examine the emotional aspect of body image disturbance (i.e., body image dissatisfaction) in addition to the perceptual one (Cash & Brown, 1987; Keeton, Cash, & Brown, 1990; Slade, 1985; Thomas & Freeman, 1990). Various assessment instruments that focus on either or both aspects of body image have

also been developed (Thompson, Penner, & Altabe, 1990). Contemporary constructs of body image disturbance tend to be multi-dimensional in character, involving perceptual, attitudinal, and behavioral features (Cash & Brown, 1987; Garfinkel & Garner, 1982). The perceptual aspect involves the way in which eating-disordered women typically view themselves as unrealistically fat and as protruding at certain body regions, such as the stomach and hips. The attitudinal component consists of dissatisfaction with one's overall body image, or a dislike of certain body parts that are deemed to be "too large" (Rosen, 1990). It may also involve the great importance of weight and shape in determining one's self-worth (Wilson & Smith, 1989).

Although little research attention has been devoted to the behavioral component of body image disturbance, Rosen maintains that it includes such aspects as wearing baggy clothes to conceal one's body, frequent weighing, and the avoidance of situations that cause concern about physical attractiveness, such as physical intimacy and even various forms of social outings. Garner, Shafer, and Rosen (1992) have included all three aspects in stressing that it is the intensity of feelings, attitudes about weight and shape, and the behaviors which some women resort to in order to achieve weight loss that serve to distinguish eating disturbances from less harmful dieting measures.

Recently, the emotional aspect of body image disturbance has been highlighted, due to repeated findings of body image dissatisfaction among eating disordered populations (Lamb, Jackson, Cassidy, &

Priest, 1993). Touyz, Beumont, Collins, McCabe, and Jupp (1984) examined both the perceptual and the emotional aspects of body image amongst a group of anorexics and controls. Though the anorexics displayed more body size overestimation than did the controls, both groups chose an ideal body size that was about 20% smaller than their actual one, thereby indicating a rather large degree of body image dissatisfaction. However, the ideal body size chosen by the anorexics was substantially thinner than that chosen by the controls, since the anorexics were already about 23% lighter in weight than the control group. More recently, Cash and Deagle (1997) conducted a meta-analysis in which they found that body image dissatisfaction measures were more useful than distortion measures in separating anorexic and bulimic groups from control groups, highlighting the fact that body image dissatisfaction is a crucial element of eating disorders.

Other studies of body image have focussed on identifying correlates and potential risk factors for the development of an eating disorder and the disturbed body image that generally accompanies it. Katzman and Wolchick (1984) found that bulimics evidence lower self-esteem, a greater degree of depression, more need for approval, and more negative body attitudes than do controls. Similar findings of low self-esteem have been located in other eating-disordered populations as well (Beren & Chrisler, 1990). Eating-disordered women also tend to have more problems dealing with emotions and to exhibit more externality in terms of locus of control measures than do

controls (Johnson & Larson, 1982; Weiss & Ebert, 1983). Furthermore, a thin ideal body size and excessive dieting and exercise appear to be risk factors for the development of bulimia (Kendler, MacLean, Neale, & Kessler, 1991). As these risk factors suggest, both the standard of thinness sought and the means used of obtaining it are extreme. Finally, it would appear that both the incidence and the prevalence of dieting and eating disorders amongst young women have increased greatly over the years (Garner & Rosen, 1990; Hsu, 1990), a phenomenon which many believe is linked to increasing pressure for thinness as the feminine ideal becomes ever thinner (Cohn & Adler, 1992).

#### Body Image Disturbance in College Populations

Early research examining body image disturbance in eating-disordered populations generally employed so-called "normal" college women as controls. These women were generally the same age as the eating-disordered women, but evidenced normal weights and displayed no overt signs of an eating disorder (i.e., they did not binge and purge). Over time, it became apparent that though these women's body images were less disturbed than those of the eating-disordered women, they still evidenced a significant degree of both body image distortion and dissatisfaction (Rosen, 1990). More recent research has continued to find that many college women who fail to meet the criteria for an eating disorder continue to exhibit significant degrees of body image disturbance, though often admittedly less than that displayed by their eating-disordered counterparts (Schmidt &

Telch, 1990).

Over time, college women became a subject of study in their own right. In fact, several studies have even shown that many of these women evidence levels of body image disturbance comparable to those of their eating-disordered peers (Ben-Tovim et al., 1979; Crisp & Kalucy, 1974; Garner, Garfinkel, Stancer, & Moldofsky, 1976). This finding has been explained by postulating that these women tend to be at an age when weight and general appearance are of special concern for them, predisposing them to dieting and other weight loss measures that often lead to eating disorders (Hsu, 1989; Hesse-Biber, 1989).

Research focussing on the emotional aspect of body image disturbance has revealed startling developmental trends of body image dissatisfaction and an intense desire to lose weight. Davies and Furnham (1986) and Eisele, Hertsgaard, and Light (1986) each found that approximately 78% of normal weight 12 to 14 year old girls indicated a desire for weight loss. Another study found that about 63% of adolescent girls were on weight-loss diets despite the fact that the majority of them were of normal weight (Rosen & Gross, 1987). As these studies indicate, both body image dissatisfaction and a desire for weight loss seem to appear at early stages in women's development, so it is perhaps not surprising that these body image disturbance features are deeply ingrained in them by the time they reach young adulthood, the typical college age.

In support of this notion, Halmi, Falk, and Schwartz (1981) found

that the majority of college women consider themselves to be overweight. Furthermore, underweight college women do not generally consider themselves to be below a healthy, normal weight (Gray, 1977). Though only 6% of one female college sample described themselves as "very fat", a full 24% wanted to be "a lot thinner" (Cohn & Adler, 1992). Dykens and Gerrard (1986), examining a group of 424 college women, found 60% to be repeat dieters, 14% to be repeat dieters with bulimic tendencies, and only 26% to be non-dieters. Adding the two dieting groups together, it was found that 74% of the sample had high levels of body image dissatisfaction. One particularly disturbing finding, during the course of another study of college students, was that 28% of a female college sample reported feeling anxious when viewing their own reflection, while a further 7% were either repulsed or reported feeling depressed. Meanwhile, only 6% of a male college sample reported feeling similarly anxious upon viewing their reflection, while 3% felt depressed (Hesse-Biber, Clayton-Matthews, & Downey, 1987).

Studies examining the perceptual aspect of body image disturbance have found similarly alarming results. Birtchnell, Dolan, and Lacey (1987) discovered that their female college sample, who were of normal weight and evidenced no apparent signs of an eating disorder, overestimated their chests by 24%, their waists by 28%, and their hips by 16%. Those with a statistically ideal body weight wanted to weigh about 8 pounds less, while the sample as a whole desired ideal body

sizes that were on average 10 pounds underweight. The authors stated that these findings were comparable to those obtained with bulimic women. Another study that examined overweight, underweight, and normal weight college women revealed that the overweight women evidenced no significant body size distortion, and rightly believed that they were larger than the other two groups. However, not only did the underweight group overestimate their body sizes, they also did not believe that they were smaller than the normal weight group. Finally, the authors reported similarly high levels of body image dissatisfaction for the normal and underweight groups, and an even greater level for the overweight women (Cash & Green, 1986). In general, it would appear that women tend to overestimate their current body size and to underestimate their ideal one (Brodie, Slade, & Rose, 1989).

Myers and Biocca (1992) attempted to pinpoint factors that contribute to body image disturbance. They found that watching as little as 30 minutes of television per day can affect one's body perception, as the unrealistically thin female bodies promoted on television eventually come to serve as many women's ideal body image, which is in most cases in stark contrast to their actual body sizes. The authors believe that through as of yet unspecified processes, this conflict eventually results in an unstable self-perceived body image and high body image dissatisfaction for many women. Following this line of thought, Irving (1990) showed slides of thin, average, and



oversize models to women with various degrees of bulimic symptoms. She found that exposure to thin models related to lower self-esteem ratings by participants, regardless of their level of bulimic symptoms. The women with the most disturbed eating patterns also reported the greatest pressure to be thin from sources including the media, their peers, and their families. Similarly, Stice and Shaw (1994) found that women exposed to "ultra-thin" models in magazine advertisements evidenced more affective distress and body image dissatisfaction than those exposed to merely "average-size" models or no models at all. Regardless of the size of models, it would appear that women who view appearance-related commercials are less satisfied with their own body shape than those who view other types of commercials (Heinberg & Thompson, 1995). In fact, Stormer and Thompson (1996) have posited that acceptance of sociocultural norms of physical attractiveness and comparison of one's own attractiveness with that of models leads to body image dissatisfaction and may in fact be a precursor to more serious eating-related pathology. Cusumano and Thompson (1997) similarly stress that it is the internalization of these societal norms of physical attractiveness, above and beyond mere exposure to them, that is the critical factor in predicting body image disturbance among young women.

Another line of research involves the examination of the different patterns of body image amongst men and women. Franzoi and Shields (1984) demonstrated that the body esteem of men appears to be

composed of factors relating to general physical attraction (i.e., composed of facial features and some aspects of physique), upper body strength, and overall physical condition, while that of women is derived from their perceptions of sexual attractiveness (i.e., composed of bodily aspects or functions associated with attractiveness, including self-evaluation of sexuality), weight, and overall physical condition. While women tended to scrutinize their bodies part-by-part, men's ratings of individual body parts were more highly correlated. Finally, women evidenced more of an awareness of their bodies and body image was more fundamental to their self-concepts than was the case for men. Similarly, being overweight seems to be more detrimental to the well-being and happiness of women than of men (Cash & Hicks, 1990), which is perhaps not surprising given the greater social pressure exerted on women to reach societal standards of thinness (Edgar, 1973).

Mable, Balance, and Galgan (1986) examined the body perception differences amongst males and females. Though the men's weights were on average 3.6% above their statistically ideal weights, they saw themselves as merely 1.6% above their ideal weights. In contrast, though the average female weight was 4.4% below the statistically ideal one, women viewed themselves as 9.7% above this ideal weight. The authors concluded that women overestimated their body sizes, while men evidenced a slight tendency to underestimate their own body sizes. However, the men appeared to be almost as dissatisfied with their

bodies as the women, desiring a larger, more muscular body shape in general. More recent research has also found that men typically tend to desire a more muscular body shape (Rolls, Fedoroff, & Guthrie, 1991). Still other studies show that women consistently overestimate their body sizes by about 15%, while men show little body size distortion (Galgan & Mable, 1986; Mable, 1985).

Other researchers have reported results that conflict with those of the above studies. Both Rolls et al. (1991) and Mintz and Betz (1986) found that women are in fact significantly more dissatisfied with their bodies than are men. Similar to other studies, the latter authors also found that women perceived themselves as being an average of 10 pounds overweight, including those who were actually underweight (i.e., a full 25% of the sample). In general, it would appear that women have a stronger desire for weight loss than do men, due to greater body image dissatisfaction, though the majority of these college women are not overweight (Berscheid, Walster, & Bohrnstedt, 1973; Cash & Hicks, 1990; Cohn & Adler, 1992; Hesse-Biber et al., 1987; Lamb et al., 1993; Pliner, Chaiken, & Flett, 1990; Rozin & Fallon, 1988).

Schotte and Stunkard (1987) reported the general incidence rate of bulimia to range from approximately 1.3% to 4%, while Schmidt and Telch (1990) found the prevalence rate of bulimia to be about 6%. However, prevalence rates of bulimia have been estimated to be even higher amongst college populations, ranging from 3.9% to 20% (Gordon,

1988; Halmi et al., 1981; Pope, Hudson, Yurgelun-Todd, & Hudson, 1984; Pyle, Mitchell, & Eckert, 1983). Studies that have failed to rely on actual clinical diagnoses, instead using instruments like the Eating Attitudes Test (Garner & Garfinkel, 1979) to identify those with abnormal eating-related attitudes and behaviors, have found strikingly consistent evidence of such pathological eating concerns amongst 11.5% to 16% of their female college samples, depending on the cutoff score chosen (Clarke & Palmer, 1983; Halmi et al., 1981; O'Connor, 1995; Raciti & Norcross, 1987; Zellner, Harner, & Adler, 1989). The consistency of these findings is especially startling in light of the fact that the above studies span the course of over a decade, during which time much effort has gone into educating the public about the risks of eating disorders in an effort to prevent their occurrence.

#### Physical Attractiveness as a Possible Weight Loss Motive

It is now generally accepted that both eating-disordered and college women evidence widespread body image dissatisfaction and an intense desire to lose weight. Early theories posited that the weight loss motive was tied to the desire to appear physically attractive. Mazur (1986) highlighted the changing standard of cultural beauty by noting that though the average height and weight of the 1983-1984 Miss USA contestants was 5'7" and 115 lbs., respectively, the average statistics for Floradora chorus line women of the early 1900s were 5'4" and 130 lbs. (i.e., they were similarly chosen for their beauty before the inception of beauty contests). Garner, Garfinkel,

Schwartz, and Thompson (1980) have similarly noted that though the average American woman had become heavier during the preceding 20 years, playboy models had become progressively taller and thinner. Wiseman, Gray, Mosimann, and Ahrens (1992), in updating the previous authors' work, found that the bust and hip sizes of playboy centerfolds continued to decrease over the 10 year period of 1979 to 1988, while their weights were found to be 13%-19% less than that assessed as healthy according to actuarial tables. Finally, Garner, Rockert, Olmsted, Johnson, and Coscina (1985) pointed out that the average Miss America pageant winner between the years of 1970 and 1980 was only in the 5th weight percentile for women aged 20 to 29 years.

Perhaps the most dramatic portrayal of how the feminine beauty ideal changes over time is Banner's (1983) descriptive examination of young American women of the 1880s. She noted that these women actually worried about being too thin, as the "buxom Venus" was the beauty ideal at the time. Some women even used padding to appear heavier, and frequent eating and weighing oneself were the norm. In more recent studies, cohort differences between women serve to highlight the importance of prevailing beauty standards and how they change over time. Lamb et al. (1993) found that college women chose thinner ideal figures than did older women (i.e., over the age of 39), and also believed that the men of their generation would prefer thinner female body sizes than those that the older women believed would be preferred by men of their own generation.

More uniform standards of beauty can be traced to the 1920s when motion pictures began portraying the ideal feminine physique to large audiences (Mazur, 1986). Many believe that the current thin ideal body size dates back to the 1960s when the former standard of beauty, as represented by voluptuous movie stars, came to be replaced by that of thin fashion models (Banner, 1983; Gordon, 1988). Throughout the 20th century, women have also become increasingly visible in the realm of sports. Some sports have strict aesthetic weight and shape standards which may place female competitors at an increased risk of developing eating disorders (Garner, Rosen, & Barry, 1998). Caucasian women are not the only ones at risk anymore, as it would appear that even women from minority groups are beginning to identify with the thin feminine ideal promoted by the media. For example, Rosen et al. (1988) found that 74% of their sample of Native American women were dieting to reduce their weight, with a full 75% of this group employing dangerous weight loss techniques.

In examining the link between physical attractiveness and eating disorders, several researchers have found physical attractiveness to be a crucial ingredient of body image satisfaction (Cash, Cash, & Butters, 1983; Cash & Green, 1986; Hesse-Biber et al., 1987). Furthermore, most women tend to view thinness as the most important ingredient of physical attractiveness (Berscheid et al., 1973; Horvath, 1981; Miller, Coffman, & Linke, 1980). In fact, many eating-disordered women feel that others evaluate them mainly on the basis of

physical features (Cooper & Fairburn, 1987). The same appears to be true of college women. One recent study found that college women who place a high value on physical attractiveness tend to be concerned about weight and dieting, and are likely to evidence at least some bulimic symptoms (Hart & Kenny, 1997). Cash and Green discovered that overweight college women felt larger and less attractive than their normal weight peers. Feingold (cited in Cash, 1990) conducted a meta-analysis of the relationship between women's physical attractiveness and men's attitudes towards them. He found the men's attitudes towards women to be largely influenced by the women's physical attributes. There was also a significant, albeit moderate, positive relationship between women's dating popularity and their looks. Others have found physical attractiveness to be predictive of more satisfying heterosexual interactions in general (Reis, Nezleck, & Wheeler, 1980; Reis et al., 1982). It has also been found that attractiveness has greater social importance for women than it does for men, perhaps due at least in part to the fact that social standards of beauty are more narrowly defined for women, so that any deviation from them is likely to result in a disadvantage for sexual relationships (Hesse-Biber et al., 1987; Kallen & Doughty, 1984; Rolls et al., 1991). This differential importance of attractiveness for men and women appears as early as the 9th grade, when boys tend to describe the ideal female in terms of looks, while girls are more likely to describe the ideal male with respect to more interpersonal

characteristics (Stiles, Gibbons, & Schnellmann, 1990).

Consistent with the above findings, Fallon and Rozin (1985) believed that body image disturbance and its accompanying drive for weight loss may be due to a woman's desire to appear more attractive to men. In exploring this hypothesis, they used the Figure Rating (FR) scale (adapted from Stunkard, Sorenson, & Schulsinger, 1983) to examine the body figure preferences of 248 male and 227 female students enrolled in introductory psychology classes. Each student was shown a set of nine same-sex figure drawings, ranging from very thin to very heavy, and then asked to choose the figure that best represented their current figure, their ideal figure, and the figure they thought would be most attractive to the opposite sex. In addition, they were shown the opposite-sex figure drawings and asked to choose the one they found to be most attractive. The authors reported no significant difference between the men's ratings of their current, ideal, and attractive male figures. In contrast, women rated their ideal figure as thinner than the one they thought men would be attracted to, which was in turn thinner than their current figure. Finally, the men actually preferred a heavier female figure than the women thought they would, while the women preferred a less muscular male figure than the men thought they would. This important study clearly called into question the hypothesis that a woman's ideal body size is the one she believes is the most attractive to men.

In an effort to address the issue of why women choose a thinner



ideal body size than the one they think men will find attractive, Cohn and Adler (1992) hypothesized that the choice of ideal body size may have a competitive aspect to it. They believed that women may desire this thin body size in an effort to obtain positive reactions from their female peers who presumably value an even thinner female body size than do their male counterparts. In partial support of this hypothesis, the authors did indeed find that the thinnest body size chosen was the one the women felt would be most valued by their female peers, highlighting the fact that they overestimated the extent to which other women value thin figures. However, this body figure was even thinner than the one chosen as their ideal body size, calling into question the notion that their choice of ideal body size was linked to the desire to obtain favourable reactions from their same-sexed peers.

Cohn et al. (1987), interested in examining how body size preferences develop over time, used Fallon and Rozin's (1985) procedure to study groups of male and female adolescents. Their findings were somewhat different, indicating that girls tended to view their current figure as only slightly, and not significantly, heavier than their ideal figure. However, the ideal figure they chose was significantly thinner than the one they thought would be most attractive to boys. Boys judged their ideal body figure to be heavier than their current one, which was in turn heavier than the one they believed the girls would find most attractive. Consistent with the

adult sample, the girls underestimated the female body size that boys actually find attractive, while the boys overestimated the male body size that girls find attractive. In contrast to the adult sample, the boys and girls expressed similar levels of body image dissatisfaction, though the desired weight change was in opposite directions. Though the current body figures chosen by the female samples in the two studies were comparable, the college women chose a thinner ideal figure, thereby expressing more body image dissatisfaction than did the adolescent girls. The authors suggested that though the self-perception of actual body size may be stable over time, the ideal figure that women strive towards appears to become thinner as they age. It would also appear that the motive for weight loss goes above and beyond the desire to appear attractive to the opposite sex.

Similar results have been obtained in studies using eating-disordered populations. For example, Leon, Lucas, Colligan, Ferdinande, and Kamp (1985) found that despite the fact the their sample of anorexics believed that they would be more attractive to men if they gained a few pounds, they nevertheless reported the desire to lose more weight. Zellner et al. (1989), alluding to the above findings and the previously mentioned high prevalence rates of eating disorders amongst college women, suggested that Fallon and Rozin's (1985) results may have been confounded by the existence of a substantial number of eating-disordered women within their college sample. If this were the case, these women would likely have

possessed distorted images of their current, ideal, and attractive body figures, which would have in turn had a profound effect on the results of the study. To examine this possibility, Zellner et al. replicated the study, but divided their sample of female college students into two groups based on the extent of eating pathology they exhibited. To do so, all subjects were required to complete the Eating Attitudes Test (EAT) developed by Garner and Garfinkel (1979). Zellner and her colleagues used a cutoff score of 28 to identify women who displayed abnormal eating-related attitudes and behaviors indicative of an eating disorder (i.e., designated as high EAT women).

All of the 33 male and 57 female undergraduate students who participated in the study first completed the FR scale in a manner similar to that utilized by Fallon and Rozin (1985). A slight modification was made in that the thinnest figure was assigned a score of 10, while the heaviest figure was assigned a score of 90. In this way, subjects could indicate their choice of a figure by choosing any whole number between 10 and 90. As in the previous study, all participants were instructed to choose same-sex figures corresponding to their current and ideal body images, as well as the one they thought would be most attractive to the opposite sex. They then chose the opposite-sex figure they found most attractive, and finally they completed the EAT.

Many of the study's findings were strikingly similar to those obtained by Fallon and Rozin (1985). For instance, the authors found

that the female figure preferred by the men was heavier than the one women thought they would prefer. Also, the male figure that the women actually found most attractive was less muscular than the one men thought they would find attractive. In addition, there were once again no significant differences between the figures men chose as representative of their current, ideal, and "most attractive to women" body shapes. With respect to the female sample, the high EAT women, who presumably possessed a high degree of abnormal eating-related behaviors and attitudes, demonstrated a pattern of results identical to those found amongst Fallon and Rozin's female sample. Their ideal figure was seen as thinner than the figure they thought men would prefer, which was in turn thinner than their current figure. In contrast, the low EAT women, who demonstrated relatively normal eating-related behaviors and attitudes, exhibited a different pattern of results. Their ideal figure was viewed as thinner than their current figure, but identical to the one they thought men would find the most attractive. In fact, both groups of women chose comparable "attractive to men" body figures, but the high EAT group chose an ideal body figure that was much thinner than the one chosen by the low EAT group. It would appear that women who possess relatively normal eating-related attitudes and behaviors may indeed desire weight loss in an effort to be attractive to men, while no such motive can be attributed to women evidencing abnormal eating-related attitudes and behaviors, who likely have a different motive in mind for wanting to

lose weight. This motive may be related to a desire to be perceived as socially competent.

#### Social Competence as a Possible Weight Loss Motive

The above-mentioned studies cast serious doubt on the notion that women desire weight loss in order to appear physically attractive to men, at least among those who evidence abnormal eating-related attitudes and behaviors. One theory that has developed out of this controversy is that these women desire weight loss to be perceived as competent.

Early on, Cooley (cited in Collier, Minton, & Reynolds, 1991) developed the concept of the "looking-glass" self, in which self-awareness was seen as arising out of interactions with others. In fact, he believed that it is through sensitivity to the opinions of others that the self-concept evolves. Mead (cited in Collier et al., 1991) also believed that self-awareness is derived from interacting with others, but stressed the importance of the role played by the pre-existing society into which an individual is born, with its intact cultural norms and social institutions. More recently, Lerner and Jovanovic (1990) have posited that body image (i.e., as one aspect of self-concept) is a product of the interaction between a person and his/her social world. Furthermore, they maintain that there is a reciprocal effect in operation, in that body image can also serve to influence one's interactions with the social world. Building on this idea, Cash (1990) has pointed out the important fact that physical

attributes are perceived immediately by others, while it usually takes longer to gain information about other aspects of people. Also, people naturally tend to sort others into various cognitive categories by way of their physical attributes. In fact, attractive people are often viewed by others as being smarter, warmer, happier, and more interesting, successful, poised and sociable than their unattractive counterparts (Eagly, Ashmore, Makhijani, & Longo, 1991). This presumably relates to the "beauty is good" stereotype in which physically attractive people are assumed to possess a plethora of positive personal characteristics. On the other hand, obesity in women (i.e., one form of unattractiveness in our society) is associated with downward social mobility (Goldblatt, Moore, & Stunkard, 1965), negative social interactions (Tiggemann & Rothblum, 1988), and public criticism (Stake & Lauer, 1987). Obese people in general are vulnerable to the impact of social stigmatization, as they are often viewed as lazy and, consequently, tend to suffer the effects of rejection (Davis-Pyles, Conger, & Conger, 1990; Miller, Rothblum, Brand, & Felicio, 1995). This rejection may, in turn, become internalized. For instance, Rosen (1981), in using a self-control treatment program with obese people, reported that these patients indicated that watching themselves eat in a mirror served as a deterrent to excessive eating, as they found the experience negative and reportedly perceived themselves as "disgusting".

Klienke and Staneski (1980) conducted a study in which they

varied the bust sizes of women in pictures. Results showed that the larger busted women were seen as less intelligent, competent, moral and modest than the smaller busted ones. In fact, Silverstein, Perdue, Peterson, Vogel, and Fantini (1986) have hypothesized that the curvaceous body commonly associated with femininity is in turn associated with work-related incompetence and a lack of intelligence. Conversely, it has been suggested that women who stress the importance of scholastic achievement and professional careers may prefer more narrow, thin bodies (Beck, Ward-Hull, & McLear, 1976). Indeed, one study found that women who believed their fathers thought they lacked intelligence desired thinner bodies than did those who did not share such a belief. The authors believed that the link between larger body sizes and a lack of perceived intelligence could be an important predisposing factor of eating disorders in women, especially amongst more educated women who desire professional careers (Silverstein et al., 1986).

Villimez, Eisenberg, and Carroll (1986) extended the above findings to children. Their study revealed that heaviness in girls was negatively correlated with teachers' ratings of their academic, athletic, and social competence, while no such effect was found amongst the boys. In a similar vein, when schoolchildren were asked to rate pictures of peers with physical handicaps and an obese child according to who was liked best, the obese child was generally chosen last (Richardson, Goodman, Hastorf, & Dornbusch, 1961). Overweight

girls have also been found to be quite socially isolated (Johnson & Connors, 1987). These findings serve to highlight the fact that the social stigmatization of obesity begins operating from a very early age, well before adulthood is reached.

Hesse-Biber et al. (1987) designed and used a 27-item self-rating measure of psychological, social, and academic competence. The psychological competence items related to positive personality characteristics like cheerfulness, originality, and a drive to achieve. The social competence items pertained to positive personal characteristics germane to social interactions, such as assertiveness, popularity, and social self-confidence. Finally, the academic competence items related to positive academic skills, such as artistic and mathematical abilities. They found body image dissatisfaction to be related to self-rated incompetence in all three realms. O'Brien (1991) found a similar correlation between body image dissatisfaction and a global rating of self-perceived incompetence in college women.

Other researchers have found body image dissatisfaction to be more related to low self-rated social competence than to a global rating of incompetence. For instance, Gibson and Thomas (1991), using the 27-item competence measure developed by Hesse-Biber and her colleagues, found body image satisfaction to be positively related to self-ratings of competence only in the social realm. Presumably, those college women who were dissatisfied with their bodies tended to feel less competent than their peers in social situations.



Interestingly, the body shape - competence relationship only held for self-ratings, not for those applied to other women, as their competence ratings did not appear to be affected by their weight.

It has been suggested that women are more likely than men to see the social benefits attached to their ideal weight (Klesges, Mizes, & Klesges, 1987). This is perhaps not surprising in light of the finding that overweight women have to be more socially competent to be judged by others as possessing similar levels of social competence as their thinner counterparts (Davis-Pyles et al., 1990). Seen in this light, it makes sense that women may desire weight loss as a means of enhancing their perceived social competence. This behavior is even more understandable, albeit misguided, when one considers that social competence appears to form a vital aspect of women's overall self-esteem (Deitrich, 1995).

There appears to be an association between poor social relationships and the development of many types of behavioral disorders in adolescents (Inderbitzen & Foster, 1992). This link is quite apparent among eating-disordered women as well. For instance, bulimic women report more social impairment and dissatisfaction with social support and relationships than do their non-eating-disordered peers (Herzog, Kriller, Lavori, & Ott, 1987). They also tend to feel more anxious and inadequate in social interactions, and to experience a greater sense of alienation from others (Jacobson & Robins, 1989; Johnson & Berndt, 1983). One study indicated that bulimic women

reported more negative social interactions, and less self-perceived social competence than did the controls. This included little confidence in their ability to form close social relationships and to function well socially. The bulimic women were also less likely to initiate social encounters, and were actually rated as less socially competent than the controls by judges who were "blind" as to their group membership. The authors noted that all of these aspects of low social competence may ultimately be risk factors for the development of bulimia (Grissett & Norvell, 1992). In a similar vein, anorexics have been found to possess more of an external locus of control than women who do not suffer from an eating disorder (Harding & Lachenmeyer, 1986). Other eating-disordered women have also demonstrated an external locus of control and low assertiveness, both of which are hallmarks of low social competence (Bruch, 1978; Williams, Chamove, & Millar, 1990; Williams et al., 1993). In fact, Garner and Rosen (1994) have gone so far as to suggest that for some eating-disordered women, who have very low social competence, self-destructive acts, such as self-mutilation, and recurrent suicidal threats may have come about as a means of soliciting concern and help from others that could not be expressed by more direct means due to low social competence. Finally, Thornton, Leo, and Alberg (1991), found an association between eating disorder symptoms and high achievement strivings in multiple roles, suggesting that though eating-disordered women may have difficulty with social interactions,

they nonetheless place a great deal of emphasis on social relationships and roles. It may be that these women are actually striving for a healthy level of social competence through the indirect route of weight loss, as this is the path that is so highly promoted by the media, who have ultimately elevated thinness above mere attractiveness in linking it to popularity and social success itself. In support of this notion, it has been found that women with high self-perceived social competence report quite low levels of body image dissatisfaction and few, if any, bulimic symptoms (Hart & Kenny, 1997).

Similar results supporting a link between the weight loss motive and a desire for social competence have been found in subclinical populations as well. In a study utilizing college women, O'Connor (1995) found that as EAT scores increased, becoming more indicative of the pathological behaviors and attitudes associated with eating disorders, the ideal body size chosen by the women tended to diverge from both their self-rated current body size and the one they thought would be most attractive to men. The current body size also became further removed from the one they thought would be most socially competent. Only the socially competent body size remained related to their choice of an ideal body size. However, as the EAT scores decreased, the four body figures tended to converge, representing a more holistic body image and greater body image satisfaction. It would appear, then, that as women evidence more pathological eating

behaviors and attitudes, they tend to choose an ideal body size consistent with their notion of the one that would be most socially competent. Other authors have provided evidence for the link between body image dissatisfaction and perceptions of low social competence, social anxiety (Cash & Brown, 1987), and the poor social relationships that often accompany it (Cash, 1990). Finally, Koff and Sangani (1997) have demonstrated that women evidencing signs of an eating-related disturbance tend to use less effective coping strategies than their more healthy peers, who rely more on strategies involving other people and gaining social support.

The above-cited evidence provides strong support for the hypothesis that women with abnormal eating-related attitudes and behaviors may desire weight loss in an effort to increase their perceived social competence. However, it is likely that factors other than a desire to improve self-perceived social competence may play a role in the genesis of eating disorders. It may be that low self-perceived social competence, coupled with a strong need for approval, are the best predictors of who will develop an eating disorder. The role of need for approval can perhaps best be explicated using an example from assertiveness research. Inderbitzen and Foster (1992) found evidence to support their notion that a group of people exist who, despite having low discomfort performing assertive behaviors, nevertheless fail to perform them. It may be that such behaviors are unimportant to these people, as are others' opinions of them in

general. We would say that such people are likely to evidence a low need for approval. Similarly, it would seem reasonable to assume that women who desire extreme weight loss to enhance their perceived social competence would necessarily possess a high need for approval in order to undertake such drastic measures. Otherwise, their level of perceived social competence would have little meaning or value to them. Early on, Bruch (1978) wrote of the high need for social approval found amongst eating-disordered women. In examining empirical evidence of the role of need for approval, Katzman and Wolchik (1984) were among the few researchers to find no significant difference between the social competence of bulimics and controls, though they did in fact discover that the bulimics evidenced a significantly higher need for approval than did the control group. Furthermore, there is evidence of a link between public self-consciousness (i.e., often found amongst those possessing a strong need for approval) and eating disturbances in women (Striegel-Moore, Silberstein, & Rodin, 1993). Similarly, women evidencing abnormal eating-related attitudes and behaviors have been shown to demonstrate a higher need for approval than their peers who do not possess these pathological eating and weight concerns, thereby highlighting the former group's strong sensitivity to the expectations and opinions of others. The authors in fact suggest that the attainment of a thin body, the goal of many eating-disordered women, may be one way of gaining approval (Pliner & Haddock, 1996). Though actually enhancing

one's social competence would perhaps appear to be the more relevant route, it is not the one endorsed by the media and society in general. With this in mind, eating disorders may be seen as understandable attempts to enhance one's perceived social competence, thereby also augmenting one's approval.

Social approval and positive social interactions are of particular importance to young women. Several authors have noted that the traditional female role places heavier importance on relationships than does the traditional male one, and that women have historically been responsible for maintaining these relationships. As well, our culture tends to stress relationships and interdependence as important for women, so that social competence understandably becomes a vital aspect of their overall self-esteem (Dietrich, 1995; Eagly et al., 1991; Gambrill & Richey, 1986). Furthermore, social relationships assume ever-increasing importance at adolescence through young adulthood (Inderbitzen & Foster, 1992). These factors may underlie two important features of eating disorders, namely that they are largely "female" disorders and that their onset is typically traced to adolescence or young adulthood.

If eating disorders are viewed as misguided attempts to improve one's social competence, then it is reasonable to expect treatment efforts to include a focus on enhancing social competence, so that the positive social interactions that are sought by these women may be achieved through the attainment of better social skills instead of

extreme weight loss. In this vein, it is well known that it is possible to teach assertiveness to people (Inderbitzen & Foster, 1992). Others have noted that even more complex social behaviors are made up of various skills that may be taught and improve with practice (Kuhlenschmidt & Conger, 1988). Masten et al. (1995) believe that improving social competence may be one important way of reducing many forms of psychopathology. Real-life support of this notion has come from Miller et al.'s (1995) study in which they reported that their sample of obese women were able to overcome the negative stigmatization associated with obesity to experience positive relationships with others. It would appear that this sample of obese women had been able to do so through the cultivation of their social competence, and indeed both self and peer ratings of their social competence indicated that it was comparable to that of their nonobese counterparts. Such findings hold promise that treating and preventing eating disorders may be achieved through a focus on enhancing actual social competence.

#### Relationships between Physical Attractiveness, Social Competence, and Popularity

The eating disorder literature is closely aligned with that examining the links between physical attractiveness, social competence, and popularity. An examination of this literature is perhaps warranted as a means of better understanding the relationship between physical attractiveness and eating disorders, since the above-

mentioned studies cast doubt on physical attractiveness as the motive for weight loss, at least amongst eating-disordered women.

There has been a great deal of research conducted on the relationships between physical attractiveness, social competence, and popularity, with many conflicting results. Considering for now only the relationship between physical attractiveness and social competence, one study found an inverse relationship between the two, though it fell short of significance. The authors also hypothesized that very attractive women would tend to be less trustful of others because they had presumably been taught that people only valued them for their looks. This relationship was indeed confirmed in the study, pointing to a specific facet of self-rated social competence, the ability to trust others, that was lower for very attractive women than for their less attractive peers (Reis et al., 1982).

Burns and Farina's (1987) research was more typical of studies in the area in that they found a positive correlation between physical attractiveness and social competence. Examining a sample of 280 college women, they found that the more attractive women reported higher levels of self-perceived social competence, and lower perceived levels of the risk of a psychological disorder both at the time of the study and seven months later. However, there was an even stronger relationship between self-rated social competence and self-reported risk of a disorder than between that of attractiveness and risk of a disorder. In pointing out that attractive people tend to be sought



out by others and to receive more positive emotional reactions from them, the authors concluded that physical attractiveness may facilitate the development of social competence. However, the relationship between the two may actually operate in the other direction, in that people with high social competence may be perceived as more physically attractive (Sarason, Sarason, Hacker, & Basham, 1985). In fact, Cann (1991) found that vignettes depicting people with high social competence led to predictions of high physical attractiveness for these people when no such information was included in the vignettes. She suggested that this finding may reflect the belief that beauty can enhance social success, again providing support for the idea that weight loss may be sought as a means of improving one's social interactions. O'Grady (1989) also found a positive correlation between objective ratings of physical attractiveness and self-rated social competence among his sample of college women. Finally, there is evidence of a positive link between objectively-rated physical attractiveness and social competence amongst children as well (Adams & Roopnarine, 1994).

Other studies have reported somewhat different results. Eagly et al. (1991) found that physical attractiveness tends to co-vary with social skills, while Kuhlenschmidt and Conger (1988) did not find physical attractiveness to be very predictive of social skills at all, concluding that more research was needed in the area before any relationship between the two could clearly be delineated.

Body size, as one aspect of physical attractiveness, has also been examined with respect to its relationship with social competence. Kallen and Doughty (1984) reported that larger women had lower self-perceived social competence and viewed themselves as less attractive than their thinner counterparts. It may be the case that overweight women actually tend to have lower social competence due to the social extinction process in which they continually receive negative feedback from people based on weight stereotypes (Davis-Pyles et al., 1990).

Researchers have also studied the link between attractiveness and popularity. Langlois and Stephan (1981) reported that less attractive children are generally less popular with their peers, even by the age of six. Others have summarized findings indicating that attractive children and adolescents are more likely to be rated as popular by their peers than are their less attractive counterparts. This appears to be especially true of girls as they age (Adams & Roopnarine, 1994). Barocas and Karoly (1972) found that physically attractive adults tend to obtain more social reinforcement than their less attractive peers for performing the same activity, while West and Brown (1975) reported that attractive people also receive more help from others. However, a possible downside of this has been noted by Sigall and Michela (1976), in that attractive people may have difficulty knowing if others are really responding positively to their behavior as opposed to merely their looks. If the latter were indeed the case, it may actually undermine their development of true social competence over and above

mere popularity.

Herold (1979) obtained a positive correlation between objective ratings of the attractiveness of college students and their reported levels of social satisfaction, as determined by frequency of socialization and positive social interactions, both of which may be conceptualized as aspects of popularity. Reis et al. (1982) have postulated that attractive people may be sought out because they are pleasing to look at and thought of as desirable. If this is indeed the case, it once again raises the possibility that attractive people may have trouble gaining social skills because they do not have to rely on them to achieve positive social interactions, as is the case with their less attractive peers. In fact, the authors did find a positive relationship between objectively-rated physical attractiveness and self-rated satisfaction in social situations, as they had in a previous study (Reis et al., 1980). O'Grady (1989) provided additional evidence that social relationships tend to be more positive for attractive people in general. Attractiveness also appeared to be an important contributor to popularity in the form of dating frequency, while actual social skills seemed to matter less, at least in one study (Greenwald, 1977). In examining sex differences, it would appear that self-rated popularity is even more highly correlated with women's objectively-rated attractiveness than with that of men (i.e., 0.46 vs. 0.31; Walster, Aronson, Abrahams, & Rottmann, 1966). This sex difference remained in another study in

which the number of dates in the previous year served as the measure of popularity, with women evidencing a correlation of 0.61, while that for the men was 0.25 (Berscheid, Dion, Walster, & Walster, 1971).

Research that has examined the body size aspect of attractiveness has generally provided similar results, with body type serving as the best predictor of dating frequency and overall popularity, though body size tends to be less important once a relationship has been established (Kallen & Doughty, 1984). Miller et al. (1995) have summarized evidence to suggest that obese people are usually less popular than their normal weight peers, and that this is even more true in the case of women. In summary, there appears to be consistent evidence of a positive link between physical attractiveness and popularity.

There seems to be much less research on the relationship between social competence and popularity, though a few studies have demonstrated a positive relationship between the two. Reis et al. (1982) reported a positive correlation between measures of self-rated social competence and satisfaction in social interactions. It has also been found that popular children have better social skills than do their unpopular classmates (Adams & Roopnarine, 1994).

The question remains as to the relationship between these three variables of attractiveness, social competence, and popularity. Lerner and Jovanovic (1990) maintain that different people elicit different reactions from others based on their individual physical and

psychological traits. It may be that physical attractiveness and social competence are each capable of enhancing one's popularity. O'Grady (1989) maintains that relatively unattractive men can still achieve positive social relationships by developing their social competence. It would seem reasonable that the same may be true of women. In fact, Reis et al. (1982) hypothesized that less attractive women may need to develop their assertiveness skills to initiate and maintain social relationships. This was indeed confirmed in the study. Furthermore, Zakin, Blyth, and Simmons (1984) found that highly attractive girls entering puberty had lower self-esteem than relatively unattractive girls. The authors suggested that the very attractive girls tended to base their self-esteem mainly on looks, which were seen to be in jeopardy at the time of puberty with all the bodily changes that it entails. This would seem to imply that the less attractive girls based their self-esteem on other factors, one of which may have been social competence.

Reis et al. (1982) found no support for social competence as a mediating variable for physical attractiveness in its relationship to popularity. In other words, it did not appear to be the case that different levels of attractiveness led to different levels of social competence, with the latter affecting popularity. In fact, the attractive women were not more skilled in any of the social competence measures used, though they were indeed quite popular. As mentioned above, it may be that each factor itself is capable of influencing

popularity. However, it is possible that with time, attractiveness may have less influence on popularity, as other interpersonal factors become more important in achieving positive social relationships (Eagly et al., 1991). However, Reis et al.'s (1980) study did not support this notion, though it must be pointed out that they followed their college sample during the course of only one year.

One study that tried to directly assess the relationships among these three variables found that objective ratings of both physical attractiveness and social skills were able to account for a significant amount of the variance of pre-school children's popularity. If attractiveness was entered first in the regression equation, it accounted for 35% of the variance, while adding a social competence measure contributed another 8%. However, if social competence was entered first in the regression equation, it accounted for 42% of the variance, with no significant additional variance being accounted for by entering physical attractiveness afterwards. A replication using slightly different measures produced similar results. Physical attractiveness accounted for 17% of the variance in popularity when entered first into the regression, while social competence added another 7%. Social competence accounted for 21% of the variance when entered first, with attractiveness adding a further 3% (Adams & Roopnarine, 1994). Other studies have found that attractive children are generally viewed as better adjusted than their less attractive peers. In fact, there is evidence that both adults

and children expect attractive children to show more prosocial and less antisocial behavior, to be more popular, and to have better social skills than more unattractive children (Dion, 1972; Lerner & Lerner, 1977; Tompkins & Boor, 1980). Furthermore, attractive children appear to receive more positive reactions from other people, and are more likely to have their problematic behaviors attributed to situational factors than is the case with their less attractive counterparts (Dion, 1972). Conversely, behavioral observations have shown unattractive children to demonstrate more passivity and less communication with other children than their more attractive peers (Leinbach & Fagot, 1991). In a slightly different take on the above-mentioned studies, Serketich and Dumas (1997) showed photographs of dysfunctional and socially competent children to adults who were blind as to the children's group membership. The dysfunctional children were rated as less physically attractive, more aggressive, more anxious, less socially competent, and more likely to have emotional or behavioral problems than the socially competent ones.

In summary, it would appear that it is not so much social competence as popularity that is a function of physical attractiveness, though social competence also appears to be capable of influencing popularity. Eagly et al. (1991) have highlighted the fact that the media tends to link physical attractiveness with popularity and overall social success. With this in mind, it is not surprising that many young women who are dissatisfied with the quality and/or

quantity of their social interactions may feel that enhancing their physical attractiveness through weight loss is the most straightforward way to improve these interactions. However, though such means may ultimately enhance their popularity, it is unlikely that weight loss will have any significant effect on their social competence, which is more likely to be the important factor in achieving lifelong satisfying social relationships and interactions.

#### Purpose of the Present Study

Koff & Sangani (1997) have recently underscored the fact that despite the proliferation of studies examining eating-related pathology, there is still much to learn about the factors underlying these eating disorders. Furthermore, the high prevalence of eating disorders among college women, despite over a decade of educational attempts aimed at preventing their occurrence, is a cause of great concern for our society. Future attempts to treat and prevent eating disorders, if they wish to be successful, must necessarily concern themselves with the motive behind the desire to lose weight. As mentioned above, it may be that such a desire is linked to the motivation to appear socially competent and thereby gain social approval. Previous studies have examined the social competence and need for approval levels of various eating-disordered groups, and compared these ratings to those of non-eating-disordered women. The present study will endeavour to provide a more complete picture of the relationship between self-perceived social competence, need for



approval, and eating-related attitudes and behaviors.

The social competence and eating disorders literature is closely aligned with that examining the relationship between popularity and physical attractiveness. In order to fully understand how eating disorders may be misguided attempts to heighten one's perceived social competence, it is necessary to examine the relationship between self-perceived physical attractiveness, social competence, and popularity. It would appear that the physical attractiveness - popularity link is the one promoted by the media, and may ultimately be responsible for the belief that weight loss will lead to more positive social interactions. Though it would appear that popularity may indeed be enhanced by physical attractiveness, social competence is likely to be the more important variable in predicting popularity.

The fact that social competence is common to both of the above-mentioned sets of relationships underscores its presumed importance, both as a motive for weight loss among women with pathological eating-related attitudes and behaviors, and as the more important factor in determining popularity.

The aims of the current study are:

- 1) to investigate the percentage of college women evidencing abnormal eating-related attitudes and behaviors indicative of an eating disorder, and to compare it to that of previous studies. This most

general goal of the study also includes an examination of the average EAT score to determine if it is roughly comparable to that of other studies which utilized college women.

2) to explore the relationship between need for approval, self-perceived social competence, and eating-related attitudes and behaviors. More specifically, it is hypothesized that need for approval, social competence, and the interaction between the two will predict a significant proportion of the variance of the EAT scores (see Figure 1). Furthermore, several more detailed hypotheses will be examined that reflect a presumed powerful interaction effect between need for approval and social competence. First, it is assumed that a low need for approval will result in a low score on the EAT, indicating rather healthy eating-related attitudes and behaviors inconsistent with an eating disorder diagnosis (see Figure 2). This belief rests on the assumption that a woman possessing a low need for approval is not apt to desire weight loss to improve her perceived social competence, as this is unlikely to be of importance to her. Among those with a high need for approval, there will presumably be an inverse relationship between self-perceived social competence ratings and EAT scores. As social competence ratings decrease, EAT scores will likely tend to increase, becoming more indicative of pathological eating-related attitudes and behaviors associated with an eating disorder (see Figure 2). This rests on the assumption that women who

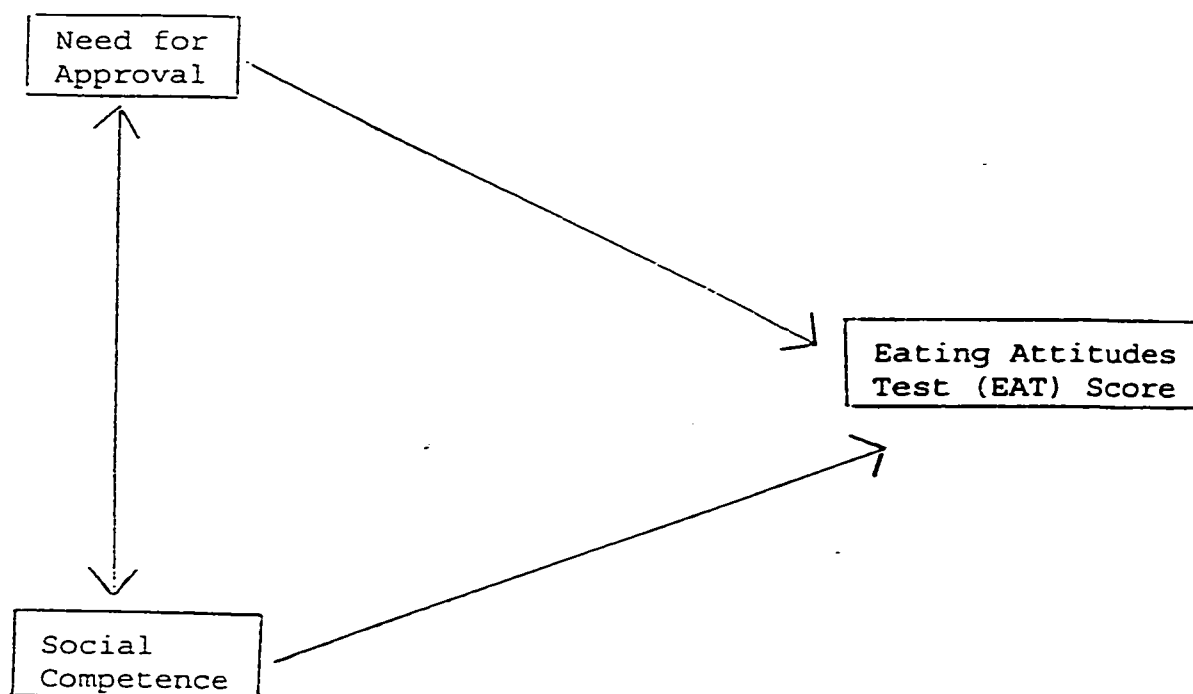


Figure 1. Hypothesized model 1: Influence of need for approval and social competence on EAT scores.

Need for Approval

x = high

o = low

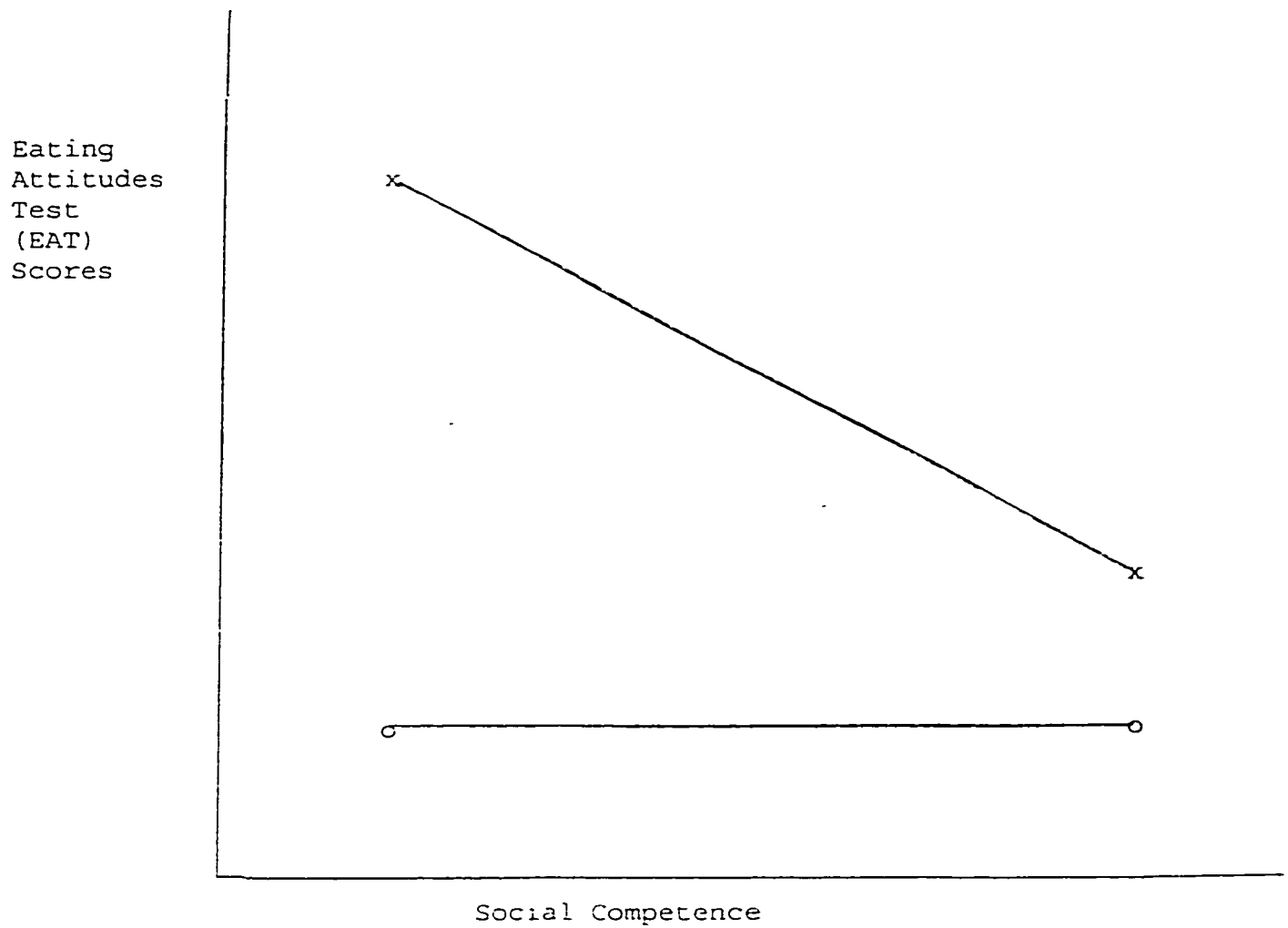


Figure 2. Hypothesized interaction between need for approval and social competence in predicting EAT scores.

feel they lack social competence, while highly valuing approval, may engage in drastic weight loss measures in an effort to improve their perceived social competence.

3) to examine the relationship between self-rated physical attractiveness, social competence, and popularity in order to clarify the conflicting results found in previous studies and to better understand the possible weight loss motives among eating-disordered women. More specifically, it is hypothesized that physical attractiveness, social competence, and the interaction between the two will predict a significant proportion of the variance of the popularity ratings, but that social competence will be a stronger predictor of popularity than will physical attractiveness (see Figure 3). Again, several more detailed hypotheses will be examined that reflect an expected strong interaction effect between physical attractiveness and social competence. Consistent with the "beauty is good" stereotype, it is hypothesized that a high level of self-rated physical attractiveness will result in a high popularity rating, regardless of social competence level (see Figure 4). Among those with lower physical attractiveness ratings, there will presumably be a positive relationship between social competence and popularity. As self-perceived social competence decreases, self-rated popularity will also likely decline, reflecting the important contribution of social competence to popularity ratings within this group (see Figure 4).

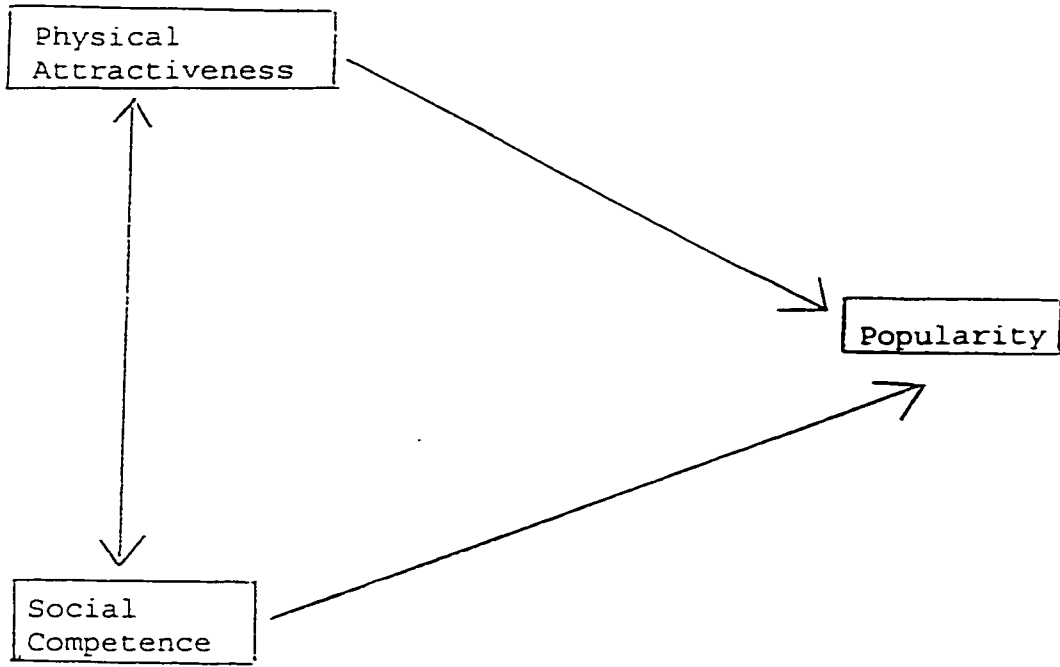


Figure 3. Hypothesized model 2: Influence of physical attractiveness and social competence on popularity.

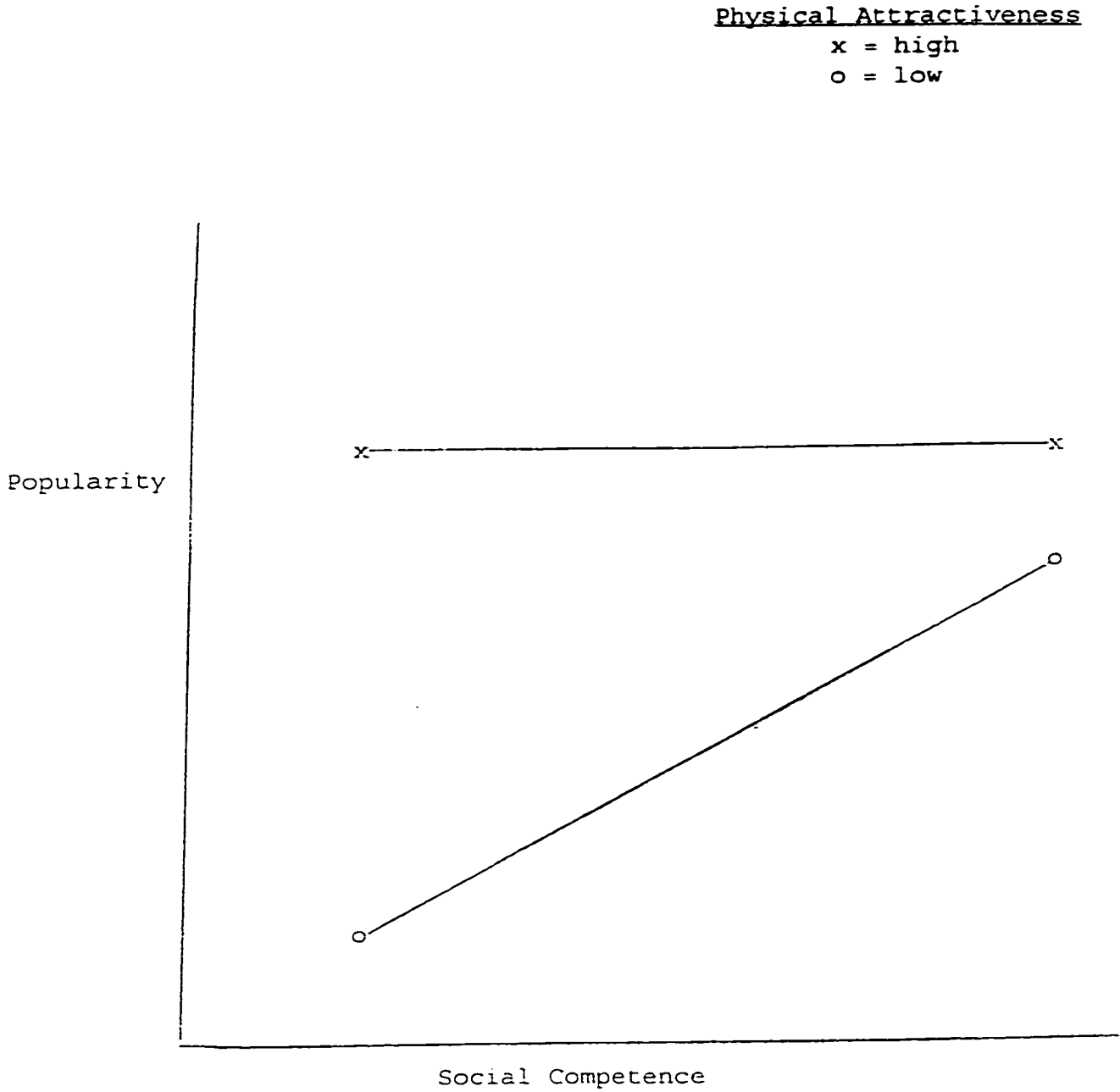


Figure 4. Hypothesized interaction between physical attractiveness and social competence in predicting popularity.

## CHAPTER II

### METHOD

#### Participants

In the first phase of the study, fifty-five female undergraduate students, aged 18 to 25, were recruited from undergraduate psychology classes on a volunteer basis to examine the two week test-retest reliability of the self-rated physical attractiveness and popularity measures employed in the second phase of the study. All participants were rewarded for participation by receiving one extra credit towards their final class grade.

The mean age of the women in the first phase sample was 21.0 years (SD = 1.7). The average number of years of university education was 2.3 years (SD = 1.1). In terms of ethnicity, the sample was composed in the following manner: 61.8% Canadian of European origin, 16.4% Canadian of Asian origin, 9.1% Canadian of mixed origin, 7.3% Canadian of Middle Eastern origin, 3.6% Canadian of East Indian origin, and 1.8% Canadian of African origin. The mean reported height of the sample was 64.7 inches (SD = 2.9), while the average reported weight was 130.7 pounds (SD = 27.0).

In the second phase of the study, one hundred and seventy-four female undergraduate students, aged 18 to 25, were recruited from undergraduate psychology classes on a volunteer basis. All participants were rewarded for participation by receiving two extra credits towards their final class grade.



The mean age of the women in the second phase sample was 19.6 years (SD = 1.4). The average number of years of university education was 1.5 (SD = 0.9). In terms of ethnicity, the sample was composed in the following manner: 74.1% Canadian of European origin, 10.3% Canadian of African origin, 4.6% Canadian of Asian origin, 3.4% Canadian of East Indian origin, 3.4% Canadian of mixed origin, 2.9% Canadian of Middle Eastern origin, and 1.1% Canadian of Native North American origin. The mean reported height of the sample was 65.4 inches (SD = 2.7), while the average reported weight was 137.7 pounds (SD = 31.5). Using a cutoff score of 30 on the EAT, 13.8% of the sample showed evidence of abnormal eating-related attitudes and behaviors.

#### Measures

In the present study, the Eating Attitudes Test was utilized to measure eating-related attitudes and behaviors, while the Marlowe-Crowne Scale was used as a measure of the need for approval. Simple self-ratings of physical attractiveness and popularity were also employed. Although there is a paucity of data regarding the psychometric properties of any of the methods used to assess these two constructs, available psychometric data follows. Finally, social competence was assessed through the use of the Texas Social Behavior Inventory.

Eating Attitudes Test. The Eating Attitudes Test was constructed by Garner and Garfinkel (1979), and consists of 40 self-report items

regarding abnormal eating-related attitudes and behaviors. It is presented in a 6-point forced choice format in which participants must indicate how often each item applies to them, with choices ranging from "always" to "never". For each item, the "most symptomatic" response is either in the "always" or "never" direction, and receives a score of 3, with the two adjacent responses receiving a score of 2 and 1, respectively. The theoretical range of scores is therefore from 0 to 120. Garner, Olmsted, Bohr, and Garfinkel (1982) suggest that the items can be grouped to form three related factors: dieting (i.e., pertaining to the avoidance of highly caloric food and a preoccupation with being thinner), bingeing/food preoccupation (i.e., relating to bulimic activities and obsessive thoughts about food), and self control of eating (i.e., reflecting a rigid control of food intake and a perceived pressure from others to gain weight). The EAT is typically used when researchers are not so much concerned with diagnosing a specific eating disorder as with searching for evidence of eating-related pathological attitudes and behaviors that are indicative of eating disorders in general (Williams et al., 1993). The authors of the EAT recommend use of a cutoff score of 30 to identify those possessing abnormal eating-related attitudes and behaviors (Garner & Garfinkel, 1979), though other researchers have employed the less stringent cutoff of 28 (Zellner et al., 1989). The EAT is easy to administer and complete, making it ideal for group testing situations.

Validity studies of the EAT have most typically focussed on its criterion and convergent validity. The authors of the EAT found it to be a good predictor of group membership in their sample, which consisted of anorexic and control women. They obtained a correlation of 0.87 between total EAT score and group membership (Garner & Garfinkel, 1979). Another study found bulimic women to score significantly higher than controls on the dieting and bingeing/food preoccupation subscales, as well as on the total scale score (Gross, Rosen, Leitenberg, & Willmuth, 1986). Further evidence of the EAT's criterion validity has been provided by Raciti and Norcross (1987), who showed that the EAT identified 12% of the college women in their sample as possessing abnormal eating-related attitudes and behaviors. The authors noted that this finding was in accordance with previous estimates that between 6% and 13% of college women suffer from an eating disorder (Button & Whitehouse, 1981; Clarke & Palmer, 1983; Garner & Garfinkel, 1979; Garner & Garfinkel, 1980). Slade and Dewey (1986) found that individuals deemed to be at a high risk for the development of an eating disorder scored higher than controls on all subscales of the EAT, as well as on the total EAT score, while Mann et al. (1983) found that women with relatively high EAT scores also reported that they skipped more meals and had more unstable weights than those with lower EAT scores. Convergent validity of the EAT has been established with regard to the Eating Disorder Inventory (EDI; Garner, Olmsted & Polivy, 1983), a test commonly used to examine

various aspects of eating disorder symptomatology. Amongst a group of bulimic women, total EAT scores were found to correlate .81 with the drive for thinness subscale, .50 with the body dissatisfaction subscale, and .42 with the bulimia subscale (Gross et al., 1986). Similarly, in another study utilizing college women, total EAT scores were found to correlate .79 with the drive for thinness subscale and .66 with the total EDI score (Raciti & Norcross, 1987). Evans and Dolan (1993) reported good convergent validity between the EAT and the Body Shape Questionnaire, used to examine body disparagement. Finally, the authors of the EAT reported some evidence for its discriminant validity, showing that it was not significantly correlated with Eysenck's extroversion or neuroticism constructs (Garner & Garfinkel, 1979). Schmolling (1988) found that EAT scores were not significantly related to socioeconomic status, as did Steinhausen (1984), who also found them to be insignificantly related to age.

The EAT has demonstrated good reliability with respect to internal consistency, obtaining Cronbach alphas of .86 and .94 in two separate studies (Garner & Garfinkel, 1979; Raciti & Norcross, 1987). EAT scores also appear to possess adequate stability over time (Steinhausen, 1984), with one study citing an 18 month test-retest reliability of 0.63 (Dolan, Evans, & Lacey, 1992).

Marlowe-Crowne Scale. Although the scale was originally developed to tap socially desirable response sets (Crowne & Marlowe,

1960), later research indicated that it actually measured the more general motive of need for approval (Crowne & Marlowe, 1964). The authors had undertaken the development of their own social desirability scale due to their criticisms that a pre-existing one tended to confound social desirability with psychopathology. They instead defined social desirability as a need to obtain approval from others by responding in an appropriate or acceptable manner, maintaining a focus on ordinary personal and interpersonal behaviors (Crowne & Marlowe, 1960). Each item taps one of two types of behavior: desirable but uncommon behavior or undesirable but common behavior (Paulhus, 1991).

The scale consists of 33 "true or false" items, with 18 items keyed in the "true" direction, and 15 items in the "false" direction. A response in the keyed direction results in a score of 1 for each item, so that the theoretical range of scores is from 0 to 33, with higher scores indicating a greater need for approval. Several studies of various populations have found means ranging from 12.3 to 15.5, with females typically evidencing slightly higher scores than males (Crino, Svoboda, Rubenfeld, & White, 1983; Crowne & Marlowe, 1960; Crowne & Marlowe, 1964; Fisher, 1967; Nordholm, 1974; O'Grady, 1988; Paulhus, 1984; Tanaka-Matsumi & Kameoka, 1986). A wide range of scores is typically found (Crino et al., 1983; Nordholm, 1974).

In providing evidence for its criterion validity, Crowne and Marlowe (1964) noted that high scorers on the Marlowe-Crowne Scale are

more responsive to social reinforcement, and are more likely to inhibit aggression and to be socially influenced. Other people's evaluations of them also appear to have a greater impact on their task performance. In other studies, high scorers have been found to be more socially conforming, more easily persuaded, more defensive in perceptual defence experiments, and to give more popular responses on a word association test (Crowne & Marlowe, 1964). They have also been discovered to be more defensive on projective tests (Schwartz & Giacoman, 1972). In a multitrait-multimethod study design, Schwartz and Giacoman provided evidence of the Marlowe-Crowne Scale's convergent validity with another method of measuring social desirability. The scale correlated .67 with a social desirability measure obtained through examination of TAT stories. Support for its discriminant validity came from the finding that it failed to correlate significantly with measures of adjustment obtained through use of the MMPI, Rorschach, and TAT.

The Marlowe-Crowne Scale has consistently proven itself to be a reliable measure, with internal consistency estimates of .70 to .88 providing evidence of its homogeneity and usefulness for research purposes (Crino et al., 1983; Crowne & Marlowe, 1960; Crowne & Marlowe, 1964; Edwards, 1963; Fisher, 1967; Ganster, Hennessey, & Luthans, 1983; Nordholm, 1974; O'Grady, 1988; Paulhus, 1984; Tanaka-Matsumi & Kameoka, 1986). Need for approval scores also appear to be relatively stable over time, with a one week test-retest reliability

of .84 (Fisher, 1967), and a one month test-retest reliability of between .86 and .89 (Crowne & Marlowe, 1960; Crowne & Marlowe, 1964).

Self-Rated Physical Attractiveness. Several studies have utilized simple Likert scales to examine self-rated physical attractiveness. Mitchell and Orr (1976) used a very simple 3-point scale to assess attractiveness. College students were asked to indicate whether they thought they were physically attractive, of average attractiveness, or physically unattractive. Cash et al. (1983), wanting to provide a greater range of possible scores, employed a similar self-rated scale of physical attractiveness with 10 points. Such simple self-ratings of physical attractiveness appear to be quite valid. Zakin et al. (1984) found that a nurse's ratings of the physical attractiveness of sixth grade girls were strongly related to self-perceived attractiveness ratings on a simple 4-point scale ranging from "not at all good-looking" to "very good looking". Similarly, Cash and Soloway (1975) found a significant correlation between the self-rated physical attractiveness and partner-rated physical attractiveness scores of college students when the partner was a stranger in a social interaction. Finally, self-rated attractiveness scores have been found to be more important to overall self-esteem ratings than attractiveness scores that are obtained through the use of an "objective" judge. It would also appear that self-perception of physical attractiveness becomes more accurate as respondents pass from childhood to adolescence (Krantz, Friedberg, &

Andrews, 1985).

Based on the above evidence for the validity of self-rated physical attractiveness, the current study employed a simple 9-point Likert scale to assess the physical attractiveness of participants (see Appendix A). It ranged from "not at all attractive" (i.e., score of 1) to "very attractive" (i.e., score of 9), with an anchoring of "average attractiveness" at the mid-point (i.e., score of 5).

Due to a paucity of data regarding the stability of self-rated physical attractiveness, the two week test-retest reliability of the measure was computed using the data collected in the first phase of the current study.

Self-Rated Popularity. Most research on popularity has been undertaken with children and has therefore employed the peer-rating approach to measuring this construct. However, Zakin et al. (1984) used a simple self-rating measure of popularity with a group of early adolescent females. Respondents were asked to indicate how popular they felt they were with both boys and other girls by choosing one of 4 points on a simple Likert scale ranging from "not at all popular" to "very popular".

In an effort to provide a larger range of possible scores, the present study utilized a simple 9-point Likert scale to assess self-rated popularity (see Appendix B). The scale ranged from "not at all popular" (i.e., score of 1) to "very popular" (i.e., score of 9), with an anchoring of "more or less popular" at the midpoint (i.e., score of



5).

As there is a lack of data regarding the stability of self-rated popularity, the two week test-retest reliability of the measure was computed using the data collected in the first phase of the current study.

Texas Social Behavior Inventory. The authors developed this widely used scale as an objective measure of social self-esteem, or social competence. Utilizing a sample of over 1000 college students, they created items to assess one's degree of self-confidence with people, fear of speaking to strangers, and security in social situations. The large number of items that were constructed were reduced to 32 through the use of item and factor analyses. The final scale consists of 22 true-keyed and 10 false-keyed items based on a Likert-type format. Respondents are asked to indicate the degree to which each item is characteristic of them, with a 5-point scale ranging from "not at all characteristic of me" to "very much characteristic of me". Individual item values range from 0 to 4, so that the theoretical range of total scores is from 0 to 128, with higher scores indicating greater social competence (Helmreich, Stapp, & Ervin, 1974).

Support for the predictive validity of the Texas Social Behavior Inventory (TSBI) has come from various studies that have showed it to be effective in predicting interpersonal attraction (Ervin, cited in Helmreich & Stapp, 1974; Helmreich, Aronson, & LeFan, 1970; Kimble &

Helmreich, 1972). Evidence of its convergent validity can be found in a study in which it was shown that high TSBI scores, indicative of high social competence, were positively correlated with an internal locus of control, often viewed as one aspect of social competence (Sadowski, Woodward, Davis, & Elsbury, 1983). In addition, McIntire and Levine (1984) reported that the TSBI correlated .25 with the Ghiselli Self-Assurance Scale, .76 with a measure of performance self-esteem, .40 with a measure of academic self-esteem, .25 with a measure of athletic self-esteem, .39 with a measure of academic social self-esteem, and .23 with a measure of athletic social self-esteem. Gough (1964) found a positive relationship between the TSBI and scores on the Self-Esteem scale of the California Psychological Inventory, while the TSBI failed to correlate highly with measures of intelligence and scholastic ability. Similarly, Helmreich and Stapp failed to find a significant relationship between TSBI scores and intelligence as measured by the Scholastic Aptitude Test, providing further evidence of its discriminant validity.

Internal consistency estimates of the TSBI have provided evidence of its homogeneity, with a Cronbach alpha of .92 (McIntire & Levine, 1984). The authors of the TSBI report a test-retest reliability of .94 for college males and .93 for college females, indicating its stability over time (Helmreich et al., 1974).

Helmreich and Stapp (1974) revised the scale in an effort to create two parallel versions of it, each consisting of 16 items. The

resulting two forms demonstrated equivalent means, score distributions, factor structures, and part-whole correlations for each item. The two forms each correlated .97 with the full 32-item scale and between .87 and .89 with each other. One study that sought to determine the short form's validity for use with a British sample concluded that the instrument was indeed suitable for measuring the social competence of this population. The author reported that the mean scores obtained from her samples, ranging from 34.73 to 38.24, were comparable with those found among American samples (Keyes, 1984). She also provided some evidence of its discriminant validity in showing it to be unrelated to socioeconomic status. Finally, Keyes found that the short form of the TSBI demonstrated adequate homogeneity, with a Cronbach alpha of 0.75.

#### Procedure

In the first phase of the study, oral information about the study was read out to undergraduate psychology students during the last five minutes of class (see Appendix C). Eligible students who were interested in participating were asked to stay behind after class to complete the consent form (see Appendix D), a short demographic questionnaire (see Appendix E), and the self-rated physical attractiveness and popularity measures. After two weeks had elapsed, the same participants were again asked to complete the self-rated physical attractiveness and popularity measures after class.

In the second phase of the study, eligible participants from

undergraduate psychology classes were contacted by phone and given oral information about the study (see Appendix F). Students interested in participating in the study were instructed to attend one of the testing sessions at their convenience. Upon arrival for the testing session, participants were required to complete a consent form (see Appendix G) and a short demographic questionnaire. Subsequently, they were asked to complete the Marlowe-Crowne Scale, the self-rated popularity scale, the Texas Social Behavior Inventory, the self-rated physical attractiveness scale, and finally the Eating Attitudes Test. Before leaving, the participants were instructed not to discuss the study with their peers. They were also told that they may receive research results when the study has been completed, which was anticipated to be at some point during the 1999-2000 academic year.

## CHAPTER III

### RESULTS

This chapter contains test-retest reliability information obtained from the first phase of the study, as well as information obtained from the standard multiple regression analyses used to examine the data in the second phase. The first section deals with the two week test-retest reliabilities of the self-rated physical attractiveness and popularity measures constructed for use in the second phase of the study. The means and standard deviations of the variables used in the regression equations are presented in section two, along with their intercorrelation matrix. Section three comprises the information obtained from the regression equations used to predict eating-related attitudes and behaviors. The information resulting from the second set of regression equations, used to predict self-rated popularity, will be presented in the fourth section. The final section contains revised values for both sets of regression equations when the EAT variable has been transformed.

#### Test-Retest Reliabilities of Self-Rating Scales

The two week test-retest reliability of the self-rated physical attractiveness scale was .87 ( $p < .0001$ ), while that of the self-rated popularity scale was .80 ( $p < .0001$ ). These findings suggest that the two self-rating scales constructed for the second phase of the study are quite stable over time.

### Descriptive Statistics of Variables Used in Regression Equations

Table 1 contains the means and standard deviations of all the variables used in the regression equations that are to follow. Using a cutoff score of 30 on the EAT, 13.8% of the women in the sample were identified as possessing abnormal eating-related attitudes and behaviors.

Table 2 consists of the intercorrelation matrix of Pearson product-moment correlations between these variables. Although the Marlowe-Crowne score is not significantly related to either the Eating Attitudes Test score or the Self-Rated Popularity score, all of the other variables are significantly intercorrelated. Cohen and Cohen (1983) discuss equations that can be used to calculate whether two variables correlate with a third variable to a significantly different degree (Cohen & Cohen, 1983, pp. 56-57). Applying these equations to the variables of interest in the second aim of the study, it was found that the correlation between need for approval (MC) and EAT scores (EAT) was not significantly different than the correlation between social competence (TSBI) and EAT scores. However, applying these equations to the variables of interest in the third aim of the study led to the finding of a significant difference between the correlation of physical attractiveness (PA) with popularity scores (POP), and the correlation of social competence with popularity scores ( $t = 2.354, p < .05$ ). That is, social competence is more highly related to popularity than is physical attractiveness.

Table 1

Means and Standard Deviations of Variables Used in MR Equations

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>
EAT	15.24	13.32
MC	15.50	5.42
TSBI	84.15	20.13
POP	5.93	1.57
PA	5.98	1.57

EAT = Eating Attitudes Test score

MC = Marlowe-Crowne Scale score

TSBI = Texas Social Behavior Inventory score

POP = Self-Rated Popularity Scale score

PA = Self-Rated Physical Attractiveness Scale score

Table 2

Product-Moment Correlations between Variables in MR Equations

Variable	MC	TSBI	POP	PA
EAT	-.12	-.22**	-.17'	-.30***
MC	-----	.33***	.06	.19'
TSBI		-----	.53***	.45***
POP			-----	.37***
PA				-----

'p&lt; .05

\*\*p&lt; .005

\*\*\*p&lt; .0001



### The Prediction of Eating-Related Attitudes and Behaviors

To examine the set of hypotheses comprising the second aim of the study, a standard multiple regression analysis was conducted in which the MC score, the TSBI score, and their interaction term were used to predict EAT scores. The interaction term is the product of the two variables with its constituent elements partialled out (Cohen & Cohen, 1983, p. 305). The two predictors and their interaction term accounted for 5.0% of the variance of the EAT scores ( $R^2 = 0.050$ ,  $p < .05$ ).

Semi-partial correlation coefficients were computed for each of the predictors in an effort to examine the unique contribution of each predictor to the variance accounted for by the model, and in order to address the issue of intercorrelations between the predictors. Table 3 presents the squared semi-partial correlation coefficients of the two predictors and their interaction term, as well as correspondent  $t$  values. Only the TSBI score emerged as a significant predictor, accounting for 3.4% of the variance of the EAT scores ( $sr^2 = 0.034$ ,  $p < .05$ ).

Due to the insignificant contribution of the interaction term to the prediction of the EAT scores, further hypotheses regarding the nature of the interaction between need for approval and social competence could not be investigated. Instead, the regression analysis was again conducted, but this time covariates were also entered into the equation in an effort to reduce the error variance

Table 3

Squared Semi-Partial Correlations - Two Predictor Model of EAT

<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
MC	0.002	-0.63
TSBI	0.034	-2.46*
INT1	0.000	0.02

\*p &lt; .05

sr<sup>2</sup> = squared semi-partial correlation coefficient

INT1 = first interaction term (MC x TSBI)

and to see the corresponding effect on the interaction term. Examining Table 2, it can be seen that both POP and PA are significantly correlated with EAT. In accordance, POP and PA were entered into the regression equation as covariates. The new model, consisting of four predictors and an interaction term, accounted for 10.3% of the variance of the EAT scores ( $R^2 = 0.103$ ,  $p < .005$ ).

Semi-partial correlation coefficients were again calculated for each predictor to examine its unique contribution to the variance accounted for by the model. Table 4 displays the squared semi-partial correlation coefficients of the four predictors and the interaction term, as well as their relevant t values. With the covariates entered into the regression equation, the TSBI score is no longer a significant predictor of EAT scores, but the PA score now accounts for 4.8% of the variance of the EAT scores ( $sr^2 = 0.048$ ,  $p < .005$ ). The variance accounted for by the interaction term remains nonsignificant.

#### The Prediction of Self-Rated Popularity

In an effort to explore the set of hypotheses comprising the third aim of the study, a standard multiple regression analysis was conducted in which the PA score, the TSBI score, and their interaction term were used to predict POP scores. The two predictors and their interaction term accounted for 30.6% of the variance of the POP scores ( $R^2 = 0.306$ ,  $p < .0001$ ).

Semi-partial correlation coefficients were again calculated for each of the predictors in an effort to examine the unique contribution

Table 4

Squared Semi-Partial Correlations - Four Predictor Model of EAT

<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
POP	0.001	-0.43
PA	0.048	-2.99**
MC	0.002	-0.57
TSBI	0.003	-0.71
INT1	0.000	0.02

\*\*p &lt; .005

of each predictor to the variance accounted for by the model, and in order to address the issue of intercorrelations between the predictors. Table 5 presents the squared semi-partial correlation coefficients of the two predictors and their interaction term, as well as their correspondent t values. The TSBI score emerged as strongly predictive of POP scores, accounting for 15.3% of the variance ( $sr^2 = 0.153$ ,  $p < .0001$ ). The PA score was also significantly predictive of POP scores, accounting for 1.7% of the variance ( $sr^2 = 0.017$ ,  $p < .05$ ). The interaction term was not significantly predictive of POP scores.

Due to the insignificant contribution of the interaction term to the prediction of the POP scores, further hypotheses regarding the nature of the interaction between self-rated physical attractiveness and social competence could not be explored. Instead, the regression analysis was again conducted, but this time with the addition of covariates in an effort to reduce the error variance and to see what effect this might have on the interaction term. An examination of Table 2 shows EAT to be significantly correlated with POP. In accordance, EAT was entered into the regression equation as a covariate. The new model, consisting of three predictors and an interaction term, accounted for 30.6% of the variance of the POP scores ( $R^2 = 0.306$ ,  $p < .0001$ ).

Semi-partial correlation coefficients were once again computed to examine the unique contribution of each predictor to the variance accounted for by the model. Table 6 displays the squared semi-partial

Table 5

Squared Semi-Partial Correlations - Two Predictor Model of POP

<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
PA	0.017	2.02'
TSBI	0.153	6.11***
INT2	0.005	-1.10

'p &lt; .05

\*\*\*p &lt; .0001

INT2 = second interaction term (PA x TSBI)

Table 6

Squared Semi-Partial Correlations - Three Predictor Model of POP

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<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
EAT	0.000	-0.33
PA	0.015	1.89
TSBI	0.150	6.04***
INT2	0.005	-1.10

---

\*\*\*p &lt; .0001

correlation coefficients of the three predictors and the interaction term, along with their corresponding t values. With the covariate entered into the equation, the TSBI score remains strongly predictive of POP scores, accounting for 15.0% of the variance ( $sr^2 = 0.150$ ,  $p < .0001$ ). However, the PA score is no longer a significant predictor. The variance accounted for by the interaction term remains nonsignificant.

#### Revised Values for Regression Models with Transformation of EAT

In an effort to determine whether or not the data values for each variable were normally distributed, a normal probability graph was plotted for each of the variables of interest. The data quantiles are plotted against those of a standard normal distribution. The vertical axis represents the data values of the variable in question, while the horizontal axis is represented by the equation:  $x = z^{-1}[(r_i - 3/8)/(n+1/4)]$ , where  $r_i$  is the data value rank,  $z^{-1}$  is the inverse of the standard normal distribution, and  $n$  is the number of nonmissing data values (SAS Institute, Inc., 1985, pp. 1187-1188). Actual data values are denoted by "\*" marks, while "+" marks denote the pattern the data would be expected to follow if it was in fact normally distributed (see Figures 5-9). As can readily be seen by examining these graphs, only the EAT variable appears to depart drastically from the expected normal distribution. As such, a decision was made to use a square root transformation of the EAT variable. An examination of Table 1 reveals that the mean and standard deviation of the EAT scores is approximately



+ = normal curve pattern  
 \* = actual data pattern

Marlowe-Crowne  
 scores

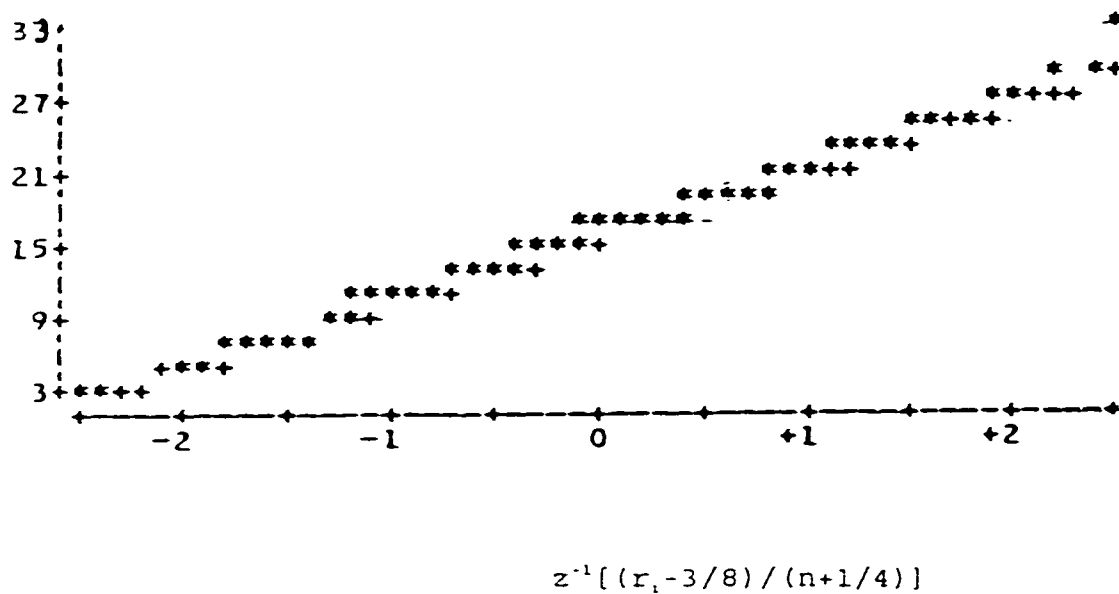


Figure 5. Normal probability plot of Marlowe-Crowne scores.

+ = normal curve pattern  
 \* = actual data pattern

Texas Social Behavior  
 Inventory scores

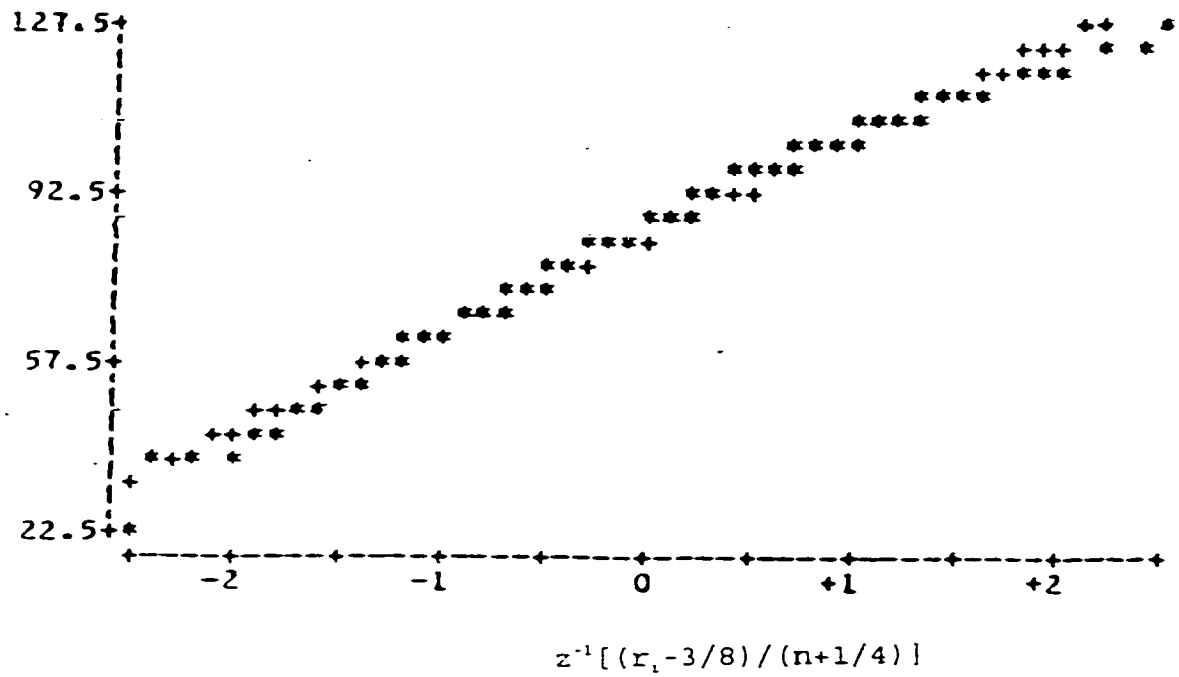


Figure 6. Normal probability plot of Texas Social Behavior Inventory scores.

+ = normal curve pattern  
 \* = actual data pattern

Eating Attitudes  
 Test scores

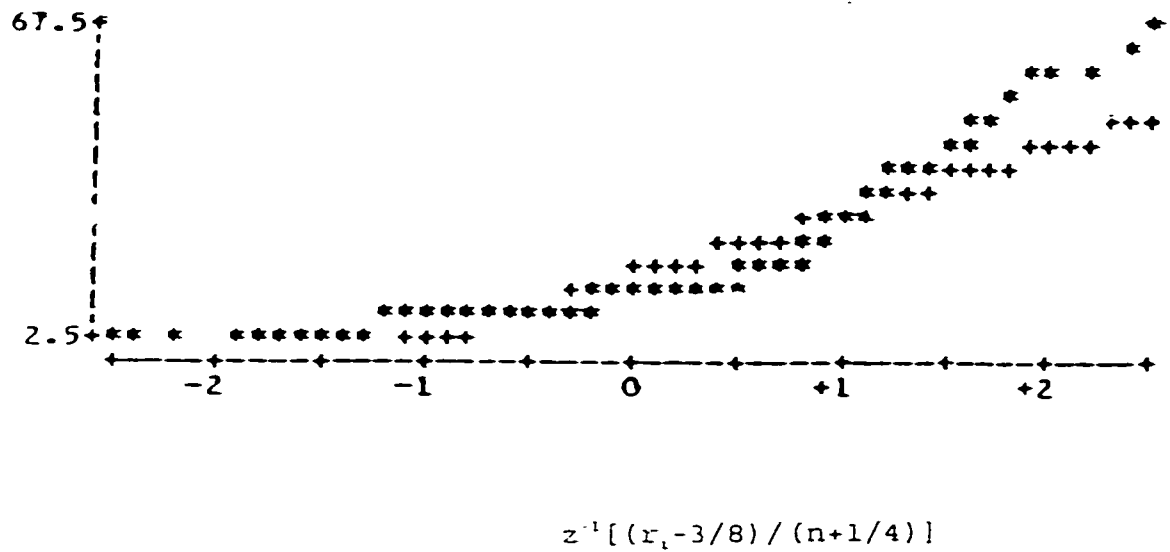


Figure 7. Normal probability plot of Eating Attitudes Test scores.

+ = normal curve pattern  
 \* = actual data pattern

Self-Rated Physical  
 Attractiveness scores

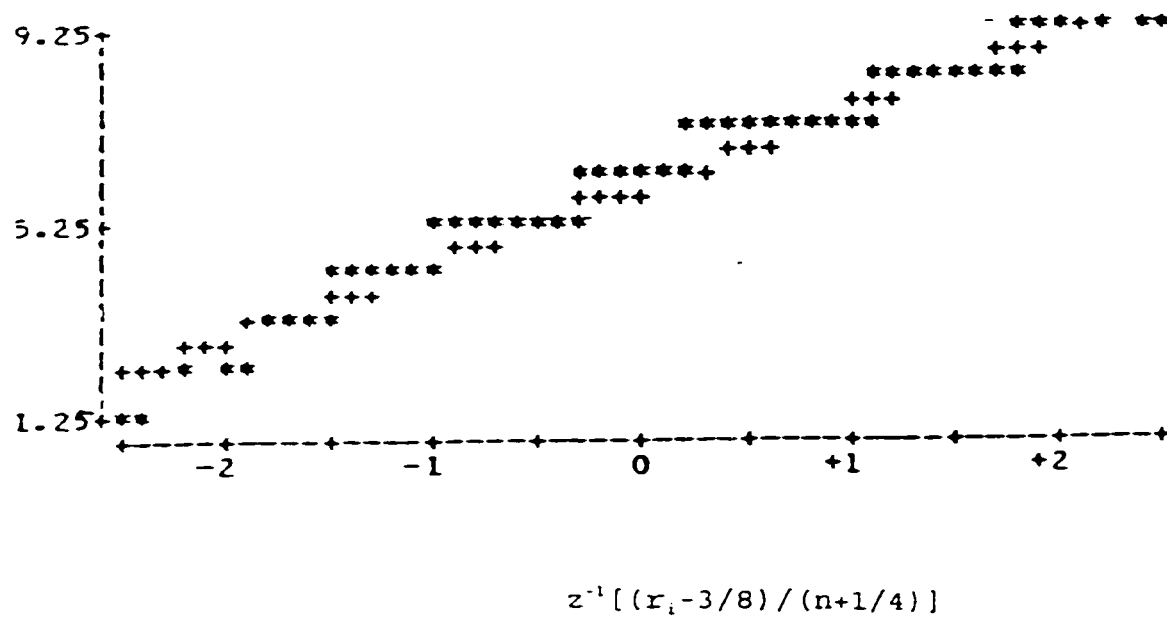


Figure 8. Normal probability plot of Self-Rated Physical Attractiveness scores.

+ = normal curve pattern  
\* = actual data pattern

Self-Rated Popularity  
scores

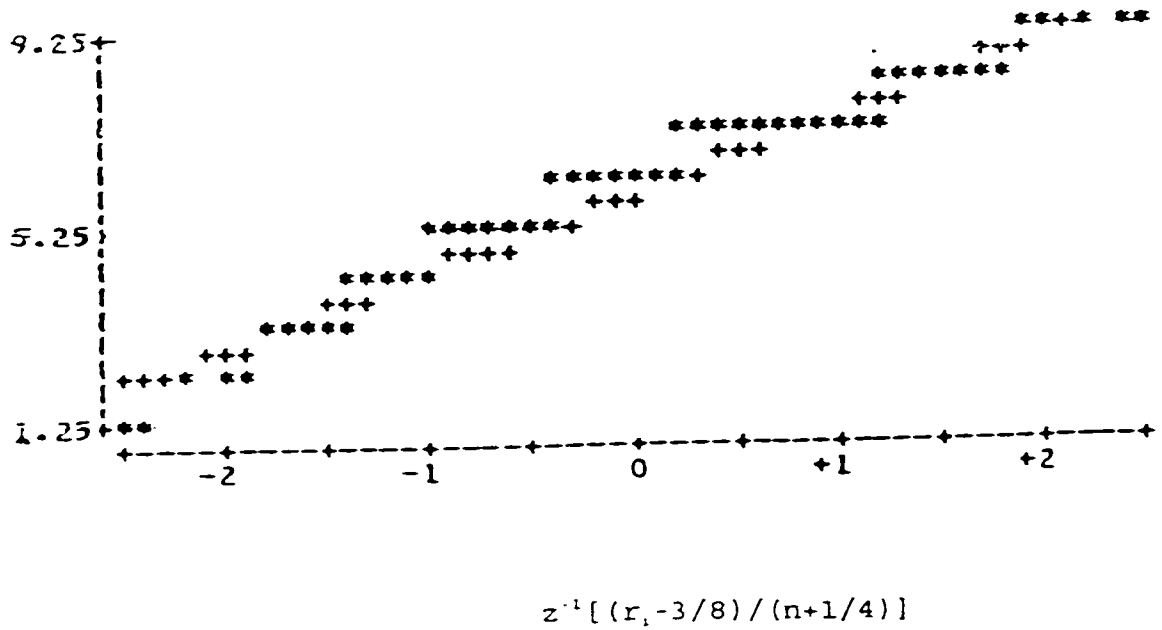


Figure 9. Normal probability plot of Self-Rated Popularity scores.

equal, suggesting a "Poisson-like" distribution, meaning that the data is positively skewed. This is not surprising in light of the fact that EAT scores measure psychopathology, so that high scores would be, by definition, a "rare event". The square root transformation is encouraged for this type of distribution (Cohen & Cohen, 1983, p.263). Figure 10 displays the normal probability graph for the new transformed variable, TRANSEAT. As can be seen, TRANSEAT scores more closely approximate a normal distribution than did simple EAT scores.

The regression equations comprising the second aim of the study were again run, with TRANSEAT as the criterion variable. The MC score, the TSBI score, and their interaction term accounted for 6.1% of the variance of the TRANSEAT scores ( $R^2 = 0.061$ ,  $p < .05$ ).

Table 7 presents the squared semi-partial correlation coefficients of the two predictors and their interaction term, as well as correspondent t values. Again, only the TSBI score emerged as a significant predictor, accounting for 3.5% of the variance of the TRANSEAT scores ( $sr^2 = 0.035$ ,  $p < .05$ ).

The same regression equation was again run, but with the addition of covariates. The four predictors and the interaction term accounted for 11.4% of the variance of the TRANSEAT scores ( $R^2 = 0.114$ ,  $p < .005$ ).

Table 8 presents the squared semi-partial correlation coefficients of the four predictors and their interaction term, as well as correspondent t values. With the covariates entered into the regression equation, the TSBI score is no longer a significant

+ = normal curve pattern  
 \* = actual data pattern

Transformed Eating Attitudes  
 Test scores (TRANSEAT)

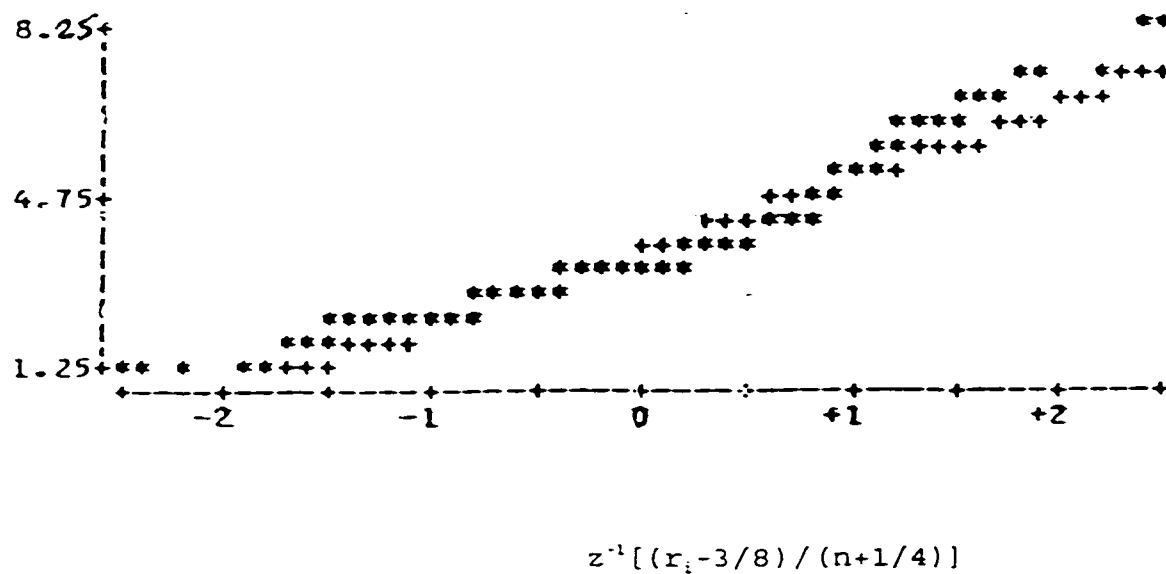


Figure 10. Normal probability plot of transformed Eating Attitudes Test scores (TRANSEAT).

Table 7

Squared Semi-Partial Correlations - Two Predictor Model of TRANSEAT

<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
MC	0.005	-0.97
TSBI	0.035	-2.53*
INT1	0.000	0.18

\*p < .05

sr<sup>2</sup> = squared semi-partial correlation coefficient

INT1 = first interaction term (MC x TSBI)



Table 8

Squared Semi-Partial Correlations - Four Predictor Model of TRANSEAT

<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
POP	0.000	-0.25
PA	0.050	-3.07**
MC	0.004	-0.89
TSBI	0.004	-0.83
INT1	0.000	0.18

\*\*p &lt; .005

predictor of TRANSEAT scores, but the PA score now accounts for 5.0% of the variance of the TRANSEAT scores ( $sr^2 = 0.050$ ,  $p < .005$ ). The variance accounted for by the interaction term remains nonsignificant.

In examining the regression equations comprising the third aim of the study, if TRANSEAT is entered into the regression as a covariate, the three predictors and the interaction term account for 30.6% of the variance of the POP scores ( $R^2 = 0.306$ ,  $p < .0001$ ).

Table 9 presents the squared semi-partial correlation coefficients of the three predictors and their interaction term, as well as correspondent t values. With the covariate entered into the regression equation, only the TSBI score remains highly predictive of POP scores, accounting for 15.1% of the variance of the POP scores ( $sr^2 = 0.151$ ,  $p < .0001$ ). The variance accounted for by the interaction term remains nonsignificant.

Overall, the transformation of the EAT variable had little effect on the various models.

Table 9

Squared Semi-Partial Correlations - Three Predictor Model of POP with Transformed Covariate

<u>Variable</u>	<u>sr<sup>2</sup></u>	<u>T value</u>
TRANSEAT	0.000	-0.07
PA	0.016	1.95
TSBI	0.151	6.05***
INT2	0.005	-1.10

\*\*\*p < .0001

## CHAPTER IV

### DISCUSSION

In presenting the discussion, I first consider the results pertinent to each of the aims of the study, then I warn about the limitations of the study and reflect on what may be useful directions for future research.

#### Extent of Eating-Related Pathology in a Sample of College Women

Using a cutoff score of 30 on the Eating Attitudes Test (EAT), the author in the present study identified 13.8% of the participants as having abnormal eating-related attitudes and behaviors. This finding is consistent with what Halmi et al. (1981) found; in their study, 13% of a female college sample had eating behaviors and concerns that were consistent with a diagnosis of bulimia. Other researchers, too, reported rates of abnormal eating-related attitudes and behaviors in the same range. For instance, the developers of the EAT, using a cutoff score of 30, reported that 13% of their sample of female college students displayed abnormal eating-related attitudes and behaviors. They reported a mean EAT score of 15.6 (Garner & Garfinkel, 1979); the current study found a mean of 15.2. Similarly, Raciti and Norcross (1987), also using the EAT with a cutoff score of 30, reported abnormal eating behaviors and weight concerns in 12% of their female college sample, and an average EAT score of 16.7. In a previous study by the present author, using the same cutoff score, 11.6% of her female college sample showed signs of pathological

eating-related attitudes and behaviors; the average EAT score was 15.9 (O'Connor, 1995). In another study Schmolling (1988) reported that 18.7% of the female college sample scored at or above a cutoff of 30. The mean EAT score was 18.1. Schmolling's percentage and mean are somewhat higher than those in the previous studies. Clarke and Palmer's (1983) findings are more typical: 11.5% of their sample scored above the same cutoff of 30 on the EAT. Finally, Zellner et al. (1989), using a more lenient cutoff score of 28, identified 16% of their female college sample as having abnormal eating-related concerns. In the present study, 16.7% of the participants had scores of 28 or higher.

#### Predicting Eating-Related Attitudes and Behaviors

It was originally hypothesized that need for approval, social competence, and the interaction between these variables would predict the EAT score, doing so with statistical significance. In fact, these variables accounted for only 5% of the variance in EAT scores, which just reaches statistical significance at the conventional (5%) level. Though the interaction between need for approval and social competence did not uniquely predict the EAT score, this finding should not be taken to mean that need for approval and social competence do not jointly act to affect EAT scores; it means, rather, that they work together in a linearly additive fashion.

One possible reason the predictive value of this model is not higher may be that the model worked rather poorly in a sample that had

only a few women (i.e., 13.8% of the sample) who reported abnormal eating-related attitudes and behaviors. Because a multiple regression averages across groups, having so few extreme values of EAT limits the possible predictive power of the model. Accordingly, the reader should keep in mind the dimensional nature of multiple regression models as we examine the findings now to be reported; the findings come from a sample of college women in general rather than from a group including large numbers of eating-disordered patients.

When we focus on the variable "need for approval", we find that it did not predict EAT scores. Yet previous studies had led the author to expect that the need for approval would be predictive. Katzman and Wolchik (1984), for example, found that bulimic women had a greater need for approval than women who were not eating-disordered. Attempting to explain the discrepant findings, one can argue that the present study utilized an undiagnosed group of university women, whereas Katzman and Wolchik compared a clinical with a control group. However, the findings of Pliner and Haddock (1996) put this explanation in doubt. Using as participants a group of undiagnosed university women, Pliner and Haddock found that those with a high EAT score, indicative of pathological eating-related concerns, had a significantly higher need for approval than low EAT participants. Making the situation even less clear are the findings of yet another study. Mukai, Kambara, and Sasaki (1998) reported results consistent with that of the current study; need for social approval did not

predict eating disorders among the American women in their sample.

The author suggests another, quite different explanation for the discrepant findings. It is that the Marlowe-Crowne scale, a widely accepted measure of the need for approval -- the measure used in the present study -- may not measure the same thing as what was measured in the other studies that purportedly measured "need for approval". Katzman and Wolchik (1984) measured "need for approval" with a subscale of the Jones (1968) Survey of Beliefs and Feelings (cited in Katzman & Wolchik, 1984). The Jones subscale is a rather obscure measure, based on Ellis' concept of irrational belief systems. Pliner and Haddock (1996), on the other hand, operationally defined "high need for approval" as the participant's submitting to unrealistic task goals set by the experimenter. Finally, Mukai et al. (1998) used the revised Martin-Larsen Approval Motivation Scale (Martin, 1984), which, unlike the Marlowe-Crowne scale, lacks a firm body of research establishing its psychometric soundness. Accordingly, the differing results may derive from differences among the measures of "need for approval".

One may also offer an explanation of the discrepant results by proposing that the Marlowe-Crowne scale expresses social desirability. As previously mentioned, the scale was originally developed in order to provide a psychopathology-free measure of social desirability (Crowne & Marlowe, 1960). However, a person who admits to abnormal eating-related attitudes and behaviors is, in doing so, acknowledging

pathology. Therefore we would expect a negative correlation between the Marlowe-Crowne and the EAT, as was found in the current study.

The basic hypothesis of the present study is that women pursue extreme weight loss strategies in an effort to enhance their social competence. Accordingly, the author expected that those who had a greater need for social approval would be more likely to resort to these extreme strategies. As I reflect on what the eating-disordered woman is striving for, it occurs to me that though social situations, and therefore social competence, may be important to her, it may not be approval that she seeks from others by improving her social competence, but rather **respect** or the feeling that her needs are being met in her social relationships.

Similarly, I have reflected on the importance of the appearance of one's body to one's self-esteem, and on how this fits into the development of eating disorders. Previous research has shown that body image investment (i.e., how important body shape/weight is to one's self-esteem) is associated with eating disorders (Cash & Labarge, 1996; Cash & Szymanski, 1995; Garfinkel, 1992; Szymanski & Cash, 1995; Wilson & Smith, 1989). Indeed, in comparing eating disorders to body dysmorphic disorder, Rosen and Ramirez (1998) have suggested that the greatest body image problem in both groups of women is their immense preoccupation with their appearance and its interference with their functioning. Body image investment may turn out to be what is crucial, in conjunction with social competence, for



predicting eating-disordered behavior. Neither body image investment, nor the feeling that one is respected and is having one's needs met in social relationships, is measured by the items of the Marlowe-Crowne scale, so far as I can see. Rather, the items in this scale seem to describe a "people-pleasing" attitude.

Seeking in yet another way to explain why I did not find what I expected to find, I suggest that the approval that eating-disordered women want is more aptly described as approval conferred by the self rather than approval granted by others (i.e., accordingly, what is measured by the Marlowe-Crowne scale would be less relevant). If this is so, eating-disordered women would presumably resort to extreme weight loss strategies in an effort to satisfy their own standards of social competence, rather than from a concern about what others think of them. That eating-disordered women need to feel very competent socially, in order to satisfy their internal standards of approval, fits with the body of literature suggesting that eating-disordered women have perfectionistic standards (Bruch, 1973; Bruch, 1978; Garner et al., 1983) and much higher self-expectations than do controls (Katzman & Wolchik, 1984). However, it is unlikely that high achievement strivings or perfectionism alone can account for eating disorders. In fact, Hart and Kenny (1997) found that having high achievement goals, along with a secure parental attachment, is positively associated with high social competence (i.e., self-perceived social confidence, feelings of personal effectiveness, and

interpersonal trust) and is negatively associated with body image dissatisfaction and bulimic symptoms. Thus parental attachment may be important to consider when doing future studies that examine perfectionistic tendencies among eating-disordered women.

Moving on to the important variable "social competence", the reader is reminded that the current study found that social competence significantly but weakly predicted EAT scores. Social competence accounted for less than 4% of the variance of EAT scores. Moreover, when covariates were entered into the prediction equation, the unique variance accounted for by social competence fell well short of significance. This finding is surprising in light of the preponderance of previous studies showing that eating-disordered women demonstrate lower social competence than do women in control groups (Bruch, 1978; Grissett & Norvell, 1992; Harding & Lachenmeyer, 1986; Jacobson & Robins, 1989; Johnson & Berndt, 1983; Johnson & Larson, 1982; Weiss & Ebert, 1983; Williams et al., 1990; Williams et al., 1993). Again, the fact that the present study used an undiagnosed sample of college women may account for the discrepancy. However, other studies that utilized college women, rather than comparing clinical and control groups, have found that those with body image dissatisfaction (i.e., a hallmark of abnormal eating-related attitudes and behaviors) have lower self-perceived social competence than their peers (Cash & Brown, 1987; Gibson & Thomas, 1991; Hesse-Biber et al., 1987).

One way of accounting for the discrepant findings is to argue that social competence is a global construct that has been measured in many ways. Therefore, the argument runs, the Texas Social Behavior Inventory (TSBI) utilized in the present study, though it is a well-established measure of social competence, may not have assessed exactly the same thing as other measures used in previous studies. For instance, Gibson and Thomas (1991) used the social competence subscale of a 27-item global competence scale constructed by Hesse-Biber et al. (1987). The scale items asked the participants whether they felt assertive, popular, and self-confident in social situations. I chose the TSBI for the current study because this test, like the scale Gibson and Thomas used, includes items that seem to "tap" assertiveness and social self-confidence, though not popularity (i.e., because most researchers consider popularity to be a separate construct, to be measured separately). The authors of another of the studies cited above used a simple self-report measure of social competence, called the Social Competence Questionnaire (Grissett & Norvell, 1992). This test comprised items assessing the degree of discomfort in various social situations. However, the authors had gathered little psychometric data demonstrating the test's efficacy. Though comfort level in social situations is likely related to social competence, it is only one facet of social competence -- social ease. Researchers in the past have not used social ease as the sole measure of social competence.

In a previous study, the present author found a significant relationship between social competence concerns and pathological eating-related attitudes and behaviors (O'Connor, 1995). However, she did not use a direct measure of social competence. Instead, she asked participants to choose the body figures that best depicted each of the following body sizes: (a) current, (b) ideal, (c) attractive, and (d) socially competent. Among those whose EAT scores expressed problematic concerns about eating, the ideal body size was related to the one they believed would be their most socially competent body size. This finding demonstrates a link between motives for weight loss and the desire for social competence, but the author did not assess actual levels of social competence (i.e., which, of course, the author did in the current study).

Other studies mentioned above have measured various aspects of social competence, rather than measuring social competence globally using a scale like the TSBI. For instance, an external locus of control and low assertiveness have both been found among eating-disordered women (Bruch, 1978; Harding & Lachenmeyer, 1986; Johnson & Larson, 1982; Weiss & Ebert, 1983; Williams et al., 1990; Williams et al., 1993). A mistrust of others, as well as feelings of alienation and anxiety, have also been found among bulimic women (Jacobson & Robins, 1989; Johnson & Berndt, 1983). It may be that some components of social competence are predictive of eating-related attitudes and behaviors, while others are not. Or perhaps social competence levels

are situational. For instance, self-perceived levels of social competence may differ depending on whether social situations involve interactions with the same or with the opposite sex, or on whether they involve work-related or leisure time interactions.

Another way of accounting for the discrepant findings is to argue that although women with abnormal eating-related attitudes and behaviors may feel socially competent as this is measured by the TSBI, they do not feel socially competent as this feeling is judged against an internal standard of social competence. Though socially competent in terms of judgments on the TSBI, they may feel that they lack a perfect job or perfect relationship. Sensing this shortcoming, they are driven to improve their social competence; and thus they are motivated to lose weight to an extreme and unrealistic degree, striving to attain the perfection portrayed in the media. The old adage "You can never be too thin, or thin enough" may be augmented by another, "You can never be socially competent enough", with the two assuming a vital link. This relates to the previous discussion of the perfectionism of eating-disordered women.

A variable that was not included in the hypotheses, but used as a covariate in the data analyses, "self-rated physical attractiveness", proved fairly predictive of eating-related attitudes and behaviors. When entered as a covariate, it accounted for about 5% of the variance of EAT scores, though the revised model accounted for just over 10% of the variance. One is tempted to revert to the hypothesis (i.e.,

formerly in fashion) that eating-disordered women want to lose weight in order to appear physically attractive to men. Such a hypothesis would be consistent with the literature that has tracked the ever-thinner standards of beauty adopted by our culture over time (Banner, 1983; Garner et al., 1980; Garner et al., 1985; Gordon, 1988; Lamb et al., 1993; Mazur, 1986), and with the research that shows links between physical attractiveness and body image satisfaction (Cash et al., 1983; Cash & Green, 1986; Hesse-Biber et al., 1987), and between physical attractiveness, thinness, and eating disorders (Berscheid et al., 1973; Cooper & Fairburn, 1987; Horvath, 1981; Miller et al., 1980). It also is consistent with studies demonstrating relationships between physical attractiveness and satisfying heterosexual interactions (Reis et al., 1980; Reis et al., 1982), and between physical attractiveness, dating popularity, and overall positive reactions from men (Feingold, cited in Cash, 1990). However, this hypothesis fails to account for the findings in many studies that women who have pathological concerns about weight and eating consistently choose ideal body figures thinner than the figures they think men will find most attractive (Cohn et al., 1987; Fallon & Rozin, 1985; Leon et al., 1985; O'Connor, 1995; Zellner et al., 1989). In fact, their ideal body figure is not even consistent with what they assume is valued by other women, which is even thinner than the ideal (Cohn & Adler, 1992). Instead, it would seem that women are trying to satisfy their own internal standard of physical attractiveness (i.e.,

an internal standard at least partly dictated by the media, and one that falls somewhere between that assumed to be valued by men and that valued by other women).

It seems, then, that the best interpretation of the finding that self-rated physical attractiveness is predictive of eating-related attitudes and behaviors is that this finding is but another instance of the well-established link between body image dissatisfaction and eating-related pathology (Cattarin & Thompson, 1994; Katzman & Wolchik, 1984; Koff & Sangani, 1997; Lamb et al., 1993; Mildred, Paxton, & Wertheim, 1995; Mukai et al., 1998; O'Connor, 1995; Touyz et al., 1984). The self-rating scale used in the present study involved asking participants to rate how attractive they considered themselves to be, on a continuum ranging from 1 to 9. Thus low self-rated physical attractiveness is consistent with body image dissatisfaction, because both are value judgments about the self rather than data based on an objective standard of attractiveness. Such a negative judgment about her attractiveness may indeed predispose a woman to the development of an eating disorder.

Recent research suggests that there may be a process leading to this negative value judgment, a process that can be divided into several steps. Stormer and Thompson (1996) suggested that the first step is an acceptance of the cultural norms of physical attractiveness, and the second is a comparison of one's own attractiveness with that of society's more attractive models. The

comparison inevitably produces a negative value judgment about one's own body. The final step is eating disturbance, along with body image dissatisfaction. Perfectionistic standards likely come into play in this process. In support of this, a recent meta-analysis found that eating-disordered women do tend to have much greater discrepancies than do controls between their current body image and their ideal body image, which suggests that eating-disordered women have more rigorous standards for thinness (Cash & Deagle, 1997).

The hypothesized multi-step process, however, fails to account for what these women hope that weight loss and the resultant greater self-judged physical attractiveness will accomplish for them in the end, if not greater physical attractiveness to men or praise from female counterparts. In effect, this hypothesis leaves us back at the beginning: We do not know whether weight loss is simply a route to satisfying internal standards of beauty and social competence. The hypothesis does not preclude a process in which women predisposed to eating disorders believe that by reaching an internal standard of attractiveness they will fulfil the "beauty is good" stereotype (Eagly et al., 1991), and their dissatisfaction in various areas of life will presumably "melt away". Such an alternative explanation fits with the important role of physical attractiveness adduced by Cash (1990), who pointed out that physical attributes are immediately perceived by others, whereas other personal attributes take longer to find out about. The alternative explanation also fits with media presentations



linking physical attractiveness to popularity and positive social interactions in general (Eagly et al., 1991). Social interactions, relationships, and competence will all presumably improve as a result of weight loss if the "beauty is good" stereotype is believed to be true. The present study would not be likely to discover such a process motivating weight loss, however, because I did not probe for a hypothetical, ideal social competence level that eating-disordered women may be striving to achieve.

#### Predicting Self-Rated Popularity

It was hypothesized that self-rated physical attractiveness, social competence, and the interaction between these variables would predict the self-rated popularity scores, doing so with statistical significance. In fact, these hypothesized predictors -- physical attractiveness and social competence -- did account for almost 31% of the variance of the popularity scores (i.e., a highly significant result). However, even when covariates were introduced into the analysis, the interaction term did not significantly account for the variance in popularity. This does not mean that physical attractiveness and social competence do not jointly act to affect popularity scores; it means, rather, that they work together in a linearly additive fashion.

Considering now only the variable "physical attractiveness", the author found that it accounted for a small (i.e., just under 2%), though statistically significant, portion of the variance of

popularity scores. At first this finding seems surprising because many studies attest to a strong link between physical attractiveness and popularity. Several of these studies, of course, examined these variables only among children (Adams & Roopnarine, 1994; Langlois & Stephan, 1981). However, even studies that used adult samples found quite consistent evidence of a link between attractiveness and popularity (Barocas & Karoly, 1972; Berscheid et al., 1971; Greenwald, 1977; Herold, 1979; O'Grady, 1989; Reis et al., 1980; Walster et al., 1966; West & Brown, 1975). In order to understand the results of the current study, we must look at the vital role played by social competence.

Though few studies have examined the link between social competence and popularity, those that have done so have found a positive link between the two, both among children (Adams & Roopnarine, 1994) and among adults (Reis et al., 1982). In the present study, social competence accounted for just over 15% of the variance of the popularity scores (i.e., a highly significant result). Even when covariates were included, the unique variance accounted for by social competence remained high -- 15%.

Only a few studies used both physical attractiveness and social competence to predict popularity. One such study found social competence to be the more important predictor of the two among children; this finding was replicated in a subsequent phase of the study (Adams & Roopnarine, 1994). It is likely, then, that both

variables have some impact on popularity, and that there is some overlap in their influence on popularity. Studies examining the relationship between physical attractiveness and social competence have indeed found a positive association between them (Adams & Roopnarine, 1994; Burns & Farina, 1987; Cann, 1991; O'Grady, 1989). However, it is likely that social competence becomes increasingly important as the person develops and increasingly important over the course of any given relationship. From a developmental perspective, social competence assumes increasing importance at adolescence through young adulthood, as social relationships become an ever-greater focus of time (Inderbitzen & Foster, 1992). Some authors have proposed, too, that social competence is increasingly important over the course of any relationship (Eagly et al., 1991; Kallen & Doughty, 1984). Intuitively I would expect physical attractiveness to be important initially, in that others tend to seek out and to respond favourably to attractive people (Barocas & Karoly, 1972; Reis et al., 1982; West & Brown, 1975). However, with time, actual social skills may be more important than physical attractiveness in maintaining and deepening a relationship, and thus in the long run may play a more important role in determining popularity. Seen in this light, the current study's findings are not so surprising. Perhaps physical attractiveness would have emerged as a stronger predictor of popularity if social competence had not also been used as a predictor; there is likely much overlapping variance. Nevertheless, I found that social competence

strongly predicts popularity, a finding that supports social competence as the more important variable in the long run, especially in adult relationships.

#### Limitations of Current Study and Directions for Future Research

Despite extensive research and educational efforts during the past 15 years aimed at preventing eating disorders among young women, prevalence rates of abnormal eating-related attitudes and behaviors remain high among college women. If we are to prevent and treat these disorders effectively, we need to understand, thoroughly, the motives for extreme weight loss.

In the present study, social competence emerged as an important predictor in the models testing both hypotheses. These findings were obtained in a general, unselected sample of university women. It would be well to replicate these findings using an ANOVA design that contrasts clinical and control groups. In such a design, the impact of the variables may be shown more clearly because the effects will not be lost in a sea of average, mostly normal, participants.

The somewhat weak findings in the first set of hypotheses of the present study -- which used the TSBI as a global measure of social competence -- might be sharpened by using in future studies measures that are sensitive to various aspects of social competence, such as assertiveness or the ability to trust others. These more specific aspects of social competence may be more predictive of eating-related pathology. Furthermore, social competence may be situation-specific,

its strength depending on the nature of the social situation. Perhaps self-perceived deficits in social competence will be predictive in some situations but not in others. Finally, because the TSBI is concerned only with self-perceived social competence, one might do better to choose measures that assess actual and desired levels of social competence. Such a strategy would permit us to discover whether women undertaking extreme weight loss strategies are doing so in order to attain an internal standard of desired social competence.

Abandoning the Marlowe-Crowne measure of need for approval (i.e., a measure that emphasizes approval **from others**) and adopting a measure of need for approval that emphasizes approval **from oneself** may ultimately turn out to be a more effective approach.

Another theme for future research is the role of body image investment as a potential factor contributing to eating disorders among women with low social competence.

Because the findings of the present study showed (i.e., as previous studies had shown) that body image dissatisfaction is highly predictive of eating-related pathology, it would be reasonable to probe how the media fosters body image dissatisfaction. Finding ways to increase the satisfaction of young women with their body images may be a substantial contribution to preventing and treating eating disorders. The present study also showed that social competence is associated with eating-related pathology; accordingly, finding ways to enhance women's sense of social competence would be useful. At the

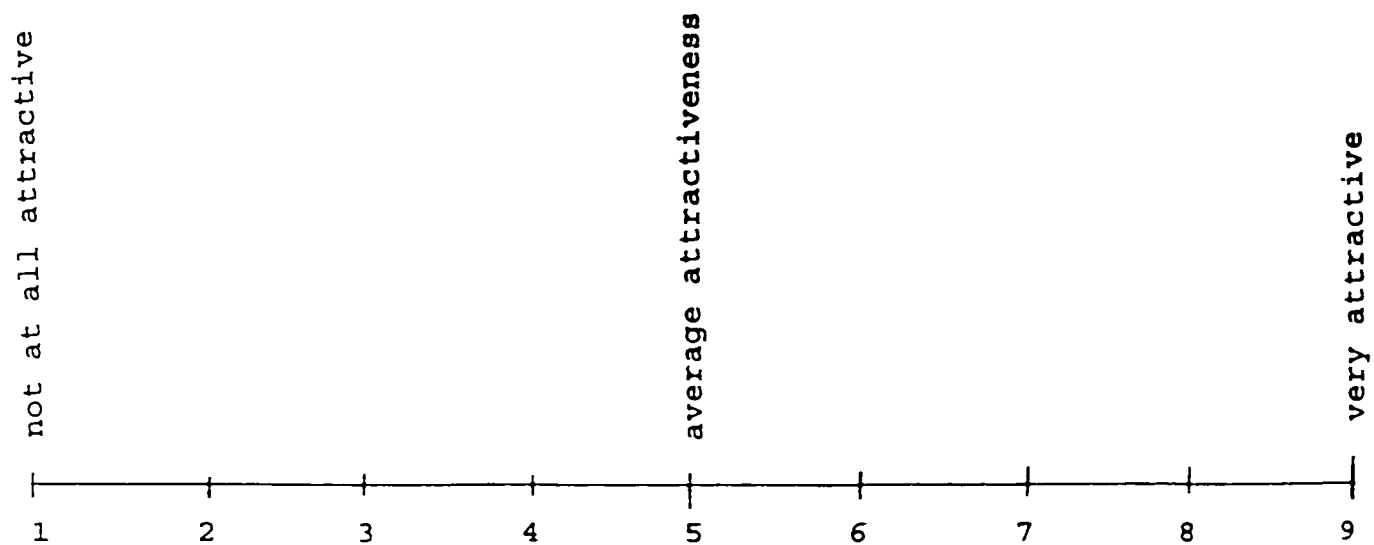
very least, educational programs aimed at young women should explain to them the importance of social competence -- over and above mere physical attractiveness -- in establishing and maintaining more satisfying relationships. Such programs should also help young women to improve their social skills and enhance their sense of social competence, when these are needed. Previous authors have also suggested that one may need to mobilize young women's coping skills as an important facet of treating their eating disorders (Koff & Sangani, 1997).

Finally, the author has provided initial evidence of the efficacy and reliability of the two self-rating scales used in the present study. The fact that they correlated only minimally with the Marlowe-Crowne scale provides some evidence of their discriminant validity because it suggests that they are not saturated with social desirability bias. Future studies could further establish their reliability and validity. There is a great need in the realm of body image disturbance research for such simple, time-efficient measures of self-rated physical attractiveness and popularity.

APPENDIX A

SELF-RATED PHYSICAL ATTRACTIVENESS SCALE

PLEASE INDICATE HOW **PHYSICALLY ATTRACTIVE** YOU CONSIDER YOURSELF TO BE BY CIRCLING THE RELEVANT POINT (ANY NUMBER FROM 1 TO 9) ON THE SCALE BELOW.

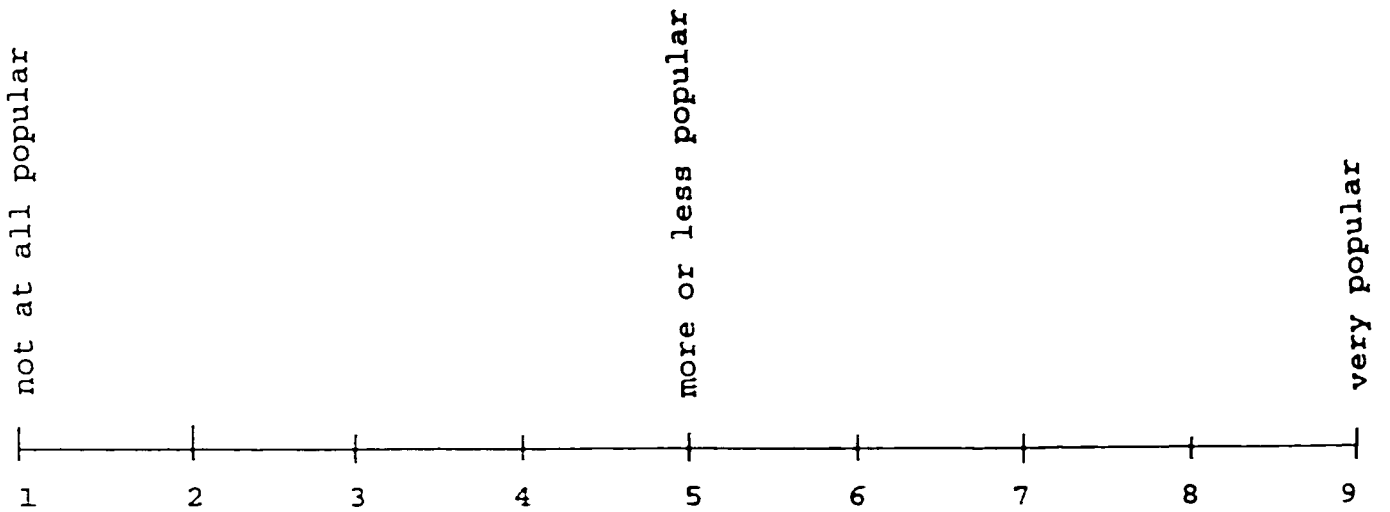




APPENDIX B

SELF-RATED POPULARITY SCALE

PLEASE INDICATE HOW POPULAR YOU CONSIDER YOURSELF TO BE BY  
CIRCLING THE RELEVANT POINT (ANY NUMBER FROM 1 TO 9) ON THE SCALE  
BELOW.



APPENDIX C

FIRST PHASE ORAL RECRUITMENT INFORMATION

## ORAL INFORMATION ABOUT STUDY

(to be read out during the last 5 minutes of class)

My name is Christine O'Connor, and I am a Ph.D. student in the Clinical Psychology graduate program at the University of Windsor. I am currently conducting research examining the suitability of two new self-appraisal measures for studies involving university women. These measures are related to self-perceptions of physical attractiveness and popularity. I am looking for women, between the ages of 18 and 25, to participate in this study. The study will take place on two separate occasions. On the first occasion, those interested will be asked to complete a short demographic questionnaire and two self-appraisal measures, which should take about 10 minutes. Two weeks later, on the second occasion, participants will be asked to again complete the two self-appraisal measures. The total testing time for the two occasions combined is estimated to be about 20 minutes. Participants will receive one bonus point towards their final grade in this psychology course. Those interested may stay behind after class to complete the measures, and I will return in two weeks' time to collect the second half of the data.

APPENDIX D

FIRST PHASE CONSENT FORM

### Participant Information and Instructions

My name is Christine O'Connor. I am a Ph.D. student enrolled in the Clinical Psychology graduate program at the University of Windsor. As part of my program requirements, I am conducting research, under the supervision of Dr. F. Auld, examining the suitability of two new self-appraisal measures for use in studies involving university women. These measures pertain to the self-perception of physical attractiveness and popularity. If you agree to participate in this research, you will be asked to fill out these two measures on two separate occasions. You will also be asked to complete a short demographic questionnaire on the first occasion only. Please read the instructions carefully, and complete the measures as honestly as you can. There are no right or wrong answers.

The measures will take about ten minutes to complete on each occasion, for a total of approximately twenty minutes. You will receive 1 credit towards your final grade in this psychology course as compensation for your time. Your participation is entirely voluntary, and you are free to withdraw from the study at any time without explanation or penalty. At any point before, during, or after you complete the measures, I will be pleased to answer any questions you may have about the study. It is expected that the study will be completed by September of 1998, at which time the findings will be made available to you upon request, by speaking to one of the secretaries in the Psychology Department who will provide you with a written summary of the overall results.

If in completing these measures, personal concerns arise, please do not hesitate to contact me or my supervisor, Dr. F. Auld, at the University of Windsor Psychology Department, at 253-4232, extension 2215. This study has been reviewed by the Department of Psychology Ethics Committee. Any ethical concerns you may have about the research may be addressed to Dr. S. Voelker, Chair of the Psychology Department Ethics Committee, at 253-4232, extension 2249.

### Consent to Participate

I have read and understood the above information, and I agree to participate in the research procedures as outlined. I understand that my responses to the measures will be kept completely confidential, identified only by a research code number. I know that I am to retain a copy of the above information for my own records.

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

APPENDIX E

DEMOGRAPHIC QUESTIONNAIRE

**DEMOGRAPHIC QUESTIONNAIRE**

Please answer the following questions.

1. **Age:** \_\_\_\_\_
  
2. **Height (in feet or centimetres):** \_\_\_\_\_
  
3. **Weight (in pounds or kilograms):** \_\_\_\_\_
  
4. **Total number of years of university education:** \_\_\_\_\_
  
5. **Ethnic group (please circle one):**
  - a) Canadian of European origin
  - b) Canadian of African origin
  - c) Canadian of Asian origin
  - d) Canadian of East Indian origin
  - e) Canadian of Middle Eastern origin
  - f) Canadian of Native North American origin
  - g) Canadian of Hispanic origin
  - h) Other (please specify): \_\_\_\_\_



APPENDIX F

SECOND PHASE ORAL RECRUITMENT INFORMATION

## ORAL INFORMATION ABOUT STUDY

(To be given over the phone)

My name is Christine O'Connor, and I am a Ph.D. student in the Clinical Psychology graduate program at the University of Windsor. I'm currently conducting research examining eating-related attitudes and behaviors amongst university women. My study will also investigate the relationships amongst self-perceptions of popularity, physical attractiveness, need for approval, and social competence. I'm looking for women, between the ages of 18 and 25, to participate in this study. Participants will be asked to complete questionnaires related to the above topics, a task requiring approximately one and a half hours. They will receive 2 course credits towards their final grade in this psychology course. If you are interested, I have a list of various testing sessions, along with the date, time and location of each, and will try to fit you into one of these sessions.

APPENDIX G

SECOND PHASE CONSENT FORM

Participant Information and Instructions

My name is Christine O'Connor. I am a Ph.D. student enrolled in the Clinical Psychology graduate program at the University of Windsor. As part of my program requirements, I am conducting research, under the supervision of Dr. F. Auld, investigating eating-related attitudes and behaviors amongst university women. I am also examining the relationships amongst self-perceptions of physical attractiveness, popularity, need for approval, and social competence. If you agree to participate in this research, you will be asked to fill out some questionnaires related to these topics. You will also be asked to complete a short demographic questionnaire. Please read all instructions carefully, and complete the questionnaires as honestly as you can. There are no right or wrong answers.

The questionnaires will take about one and a half hours to complete. You will receive 2 course credits towards your final grade in this psychology course as compensation for your time. Your participation is entirely voluntary, and you are free to withdraw from the study at any time without explanation or penalty. At any point before, during, or after you complete the measures, I will be pleased to answer any questions you may have about the study. Once the study has been completed, which is anticipated to be at some point during the course of the 1999-2000 academic year, the findings will be made available to you upon request, by speaking to one of the secretaries in the Psychology Department who will provide you with a written summary of the overall results.

If in completing these questionnaires, personal concerns arise, please do not hesitate to contact me or my supervisor, Dr. F. Auld, at the University of Windsor Psychology Department, at 253-4232, extension 2215. This study has been reviewed by the Department of Psychology Ethics Committee. Any ethical concerns you may have about the research may be addressed to Dr. S. Voelker, Chair of the Psychology Department Ethics Committee, at 253-4232, extension 2249.

Consent to Participate

I have read and understood the above information, and I agree to participate in the research procedures as outlined. I understand that my responses to the measures will be kept completely confidential, identified only by a research code number. I know that I am to retain a copy of the above information for my own records.

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

## REFERENCES

- Adams, G.R., & Roopnarine, J.L. (1994). Physical attractiveness, social skills, and same-sex peer popularity. Journal of Group Psychotherapy, Psychodrama and Sociometry, 47, 15-35.
- Banner, L.W. (1983). American beauty. New York, NY: Knopf.
- Barocas, R., & Karoly, P. (1972). Effects of physical appearance on social responsiveness. Psychological Reports, 31, 495-500.
- Beck, S.B., Ward-Hull, C.L., & McLearn, P.M. (1976). Variables related to women's somatic preferences of the male and female body. Journal of Personality and Social Psychology, 34, 1200-1210.
- Ben-Tovim, D.I., Whitehead, J., & Crisp, A.H. (1979). A controlled study of the perception of body width in anorexia nervosa. Journal of Psychosomatic Research, 23, 267-272.
- Beren, S.E., & Chrisler, J.C. (1990). Gender role, need for approval, childishness, and self-esteem: Markers of disordered eating?. Research Communications in Psychology, Psychiatry, and Behavior, 15, 183-198.
- Berscheid, E., Dion, K.K., Walster, E., & Walster, G.W. (1971). Physical attractiveness and dating choice: A test of the matching hypothesis. Journal of Experimental Social Psychology, 7, 173-189.
- Berscheid, E., Walster, E., & Bohrnstedt, G. (1973, November). The happy American body: A survey report. Psychology Today, 7(6), 119-131.

Birtchnell, S.A., Dolan, B.M., & Lacey, J.H. (1987). Body image distortion in non-eating-disordered women. International Journal of Eating Disorders, 6, 385-391.

Brodie, D.A., Slade, P.D., & Rose, H. (1989). Reliability measures in distorting body image. Perceptual and Motor Skills, 69, 723-732.

Bruch, H. (1973). Eating disorders. New York, NY: Basic Books.

Bruch, H. (1978). The golden cage: The enigma of anorexia nervosa. Cambridge, MA: Harvard University Press.

Burns, G.L., & Farina, A. (1987). Physical attractiveness and self-perception of mental disorder. Journal of Abnormal Psychology, 96, 161-163.

Button, E.J., & Whitehouse, A. (1981). Subclinical anorexia nervosa. Psychological Medicine, 11, 509-516.

Cann, A. (1991). Stereotypes about physical and social characteristics based on social and professional competence information. Journal of Social Psychology, 131, 225-231.

Cash, T.F. (1990). The psychology of physical appearance: Aesthetics, attributes, and images. In T.F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 51-79). New York, NY: Guilford Press.

Cash, T.F., & Brown, T.A. (1987). Body image in anorexia nervosa and bulimia nervosa. Behavior Modification, 11, 487-521.

Cash, T.F., Cash, D.W., & Butters, J.W. (1983). "Mirror, mirror, on the wall...?": Contrast effects and self-evaluations of physical attractiveness. Personality and Social Psychology Bulletin, 9, 351-358.

Cash, T.F., & Deagle, E.A. (1997). The nature and extent of body-image disturbances in anorexia nervosa and bulimia nervosa: A meta-analysis. International Journal of Eating Disorders, 22, 107-125.

Cash, T.F., & Green, G.K. (1986). Body weight and body image among college women: Perception, cognition, and affect. Journal of Personality Assessment, 50, 290-301.

Cash, T.F., & Hicks, K.L. (1990). Being fat versus thinking fat: Relationships with body image, eating behaviors, and well-being. Cognitive Therapy and Research, 14, 327-341.

Cash, T.F., & Labarge, A.S. (1996). Development of the Appearance Schemas Inventory: A new cognitive body-image assessment. Cognitive Therapy and Research, 20, 37-50.

Cash, T.F., & Soloway, D. (1975). Self-disclosure correlates of physical attractiveness: An exploratory study. Psychological Reports, 36, 579-586.

Cash, T.F., & Szymanski, M.L. (1995). The development and validation of the Body-Image Ideals Questionnaire. Journal of Personality Assessment, 64, 466-477.

- Casper, R.C., Halmi, K.A., Goldberg, S.C., & Davis, J.M. (1979). Disturbances in body image estimation as related to other characteristics in outcome in anorexia nervosa. British Journal of Psychiatry, 134, 60-66.
- Cattarin, J., & Thompson, J.K. (1994). A three year longitudinal study of body image and eating disturbance in adolescent females. Eating Disorders: The Journal of Prevention and Treatment, 2, 114-125.
- Clarke, M.G., & Palmer, R.L. (1983). Eating attitudes and neurotic symptoms in university students. British Journal of Psychiatry, 142, 299-304.
- Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Cohn, L.D., & Adler, N.E. (1992). Female and male perceptions of ideal body shapes. Psychology of Women Quarterly, 16, 69-79.
- Cohn, L.D., Adler, N.E., Irwin, C.E., Millstein, S.G., Kegeles, S.M., & Stone, G. (1987). Body-figure preferences in male and female adolescents. Journal of Abnormal Psychology, 96, 276-279.
- Collier, G., Minton, H.L., & Reynolds, G. (1991). Currents of thought in American social psychology. New York, NY: Oxford University Press.



Cooper, Z., & Fairburn, C.G. (1987). The Eating Disorder Examination: A semi-structured interview for the assessment of the specific psychopathology of eating disorders. International Journal of Eating Disorders, 6, 1-8.

Crino, M.D., Svoboda, M., Rubenfeld, S., & White, M.C. (1983). Data on the Marlowe-Crowne and Edwards Social Desirability Scales. Psychological Reports, 53, 963-968.

Crisp, A., & Kalucy, R. (1974). Aspects of the perceptual disorder in anorexia nervosa. British Journal of Medical Psychology, 47, 349-361.

Crowne, D.P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.

Crowne, D.P., & Marlowe, D. (1964). The approval motive. New York, NY: Wiley and Sons.

Cusumano, D.L., & Thompson, J.K. (1997). Body image and body shape ideals in magazines: Exposure, awareness, and internalization. Sex Roles, 37, 701-721.

Davies, E., & Furnham, A. (1986). The dieting and body shape concerns of adolescent females. Journal of Child Psychology and Psychiatry, 27, 417-428.

Davis-Pyles, B., Conger, J.C., & Conger, A.J. (1990). The impact of deviant weight on social competence ratings. Behavioral Assessment, 12, 443-455.

Deitrich, D. (1995). Gender differences in self-handicapping: Regardless of academic or social competence implications. Social Behavior and Personality, 2, 403-410.

Dion, K.K. (1972). Physical attractiveness and evaluation of children's transgressions. Journal of Personality and Social Psychology, 24, 207-213.

Dolan, B., Evans, C., & Lacey, J.H. (1992). The natural history of disordered eating behavior and attitudes in adult women. International Journal of Eating Disorders, 12, 241-248.

Dykens, E.M., & Gerrard, M.G. (1986). Psychological profiles of purging bulimics, repeat dieters, and controls. Journal of Consulting and Clinical Psychology, 54, 283-288.

Eagly, A.H., Ashmore, R.D., Makhijani, M.G., & Longo, L.C. (1991). What is beautiful is good, but...: A meta-analytic review of research on the physical attractiveness stereotype. Psychological Bulletin, 110, 109-128.

Edgar, P. (1973). Media she. Melbourne, IA: Heinemann.

Edwards, A.L. (1963). A factor analysis of experimental social desirability and response set scales. Journal of Applied Psychology, 47, 308-316.

Eisele, J., Hertsgaard, D., & Light, H.K. (1986). Factors related to eating disorders in young adolescent girls. Adolescence, 21, 283-290.

Evans, C., & Dolan, B. (1993). Body Shape Questionnaire: Derivation of shortened "alternative forms." International Journal of Eating Disorders, 13, 315-321.

Fallon, A. (1990). Culture in the mirror: Sociocultural determinants of body image. In T.F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 80-109). New York, NY: Guilford Press.

Fallon, A.E., & Rozin, P. (1985). Sex differences in perceptions of desirable body shape. Journal of Abnormal Psychology, 94, 102-105.

Fisher, G. (1967). Normative and reliability data for the standard and the cross-validated Marlowe-Crowne Social Desirability Scale. Psychological Reports, 20, 174.

Fisher, S. (1990). The evolution of psychological concepts about the body. In T.F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 3-20). New York, NY: Guilford Press.

Franzoi, S.L., & Shields, S.A. (1984). The Body Esteem Scale: multidimensional structure and sex differences in a college population. Journal of Personality Assessment, 48, 173-178.

Galgan, R.J., & Mable, H.M. (1986). Body satisfaction in college women: A survey of facial and body size components. College Student Journal, 20, 326-328.

Gambrill, E.D., & Richey, C.A. (1986). Criteria used to define and evaluate socially competent behavior among women. Psychology of Women Quarterly, 10, 183-196.

Ganster, D.C., Hennessey, H.W., & Luthans, F. (1983). Social desirability response effects: Three alternative models. Academy of Management Journal, 26, 321-331.

Garfinkel, P.E. (1992). Evidence in support of attitudes to shape and weight as a diagnostic criterion of bulimia nervosa. International Journal of Eating Disorders, 11, 321-325.

Garfinkel, P.E., & Garner, D.M. (1982). Anorexia nervosa: A multidimensional perspective. New York, NY: Brunner/Mazel.

Garner, D.M., & Garfinkel, P.E. (1979). The Eating Attitudes Test: An index of the symptoms of anorexia nervosa. Psychological Medicine, 9, 273-279.

Garner, D.M., & Garfinkel, P.E. (1980). Sociocultural factors in the development of anorexia nervosa. Psychological Medicine, 10, 647-656.

Garner, D.M., Garfinkel, P.E., Schwartz, D., & Thompson, M. (1980). Cultural expectations of thinness of women. Psychological Reports, 47, 483-491.

Garner, D.M., Garfinkel, P.E., Stancer, H.C., & Moldofsky, H. (1976). Body image disturbances in anorexia nervosa and obesity. Psychosomatic Medicine, 38, 327-336.

Garner, D.M., Garner, M.V., & Rosen, L.W. (1993). Anorexia nervosa "restricters" who purge: Implications for subtyping anorexia nervosa. International Journal of Eating Disorders, 13, 171-185.

Garner, D.M., Olmsted, M.P., Bohr, Y., & Garfinkel, P.E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. Psychological Medicine, 12, 871-878.

Garner, D.M., Olmsted, M.P., & Polivy, J. (1983). Development and validation of a multidimensional Eating Disorder Inventory for anorexia nervosa and bulimia. International Journal of Eating Disorders, 2, 15-34.

Garner, D.M., Rockert, W., Olmsted, M.P., Johnson, C.L., & Coscina, D.V. (1985). Psychoeducational principles in the treatment of bulimia and anorexia nervosa. In D.M. Garner & P.E. Garfinkel (Eds.), Handbook of psychotherapy for anorexia nervosa and bulimia (pp. 513-572). New York, NY: Guilford Press.

Garner, D.M., & Rosen, L.W. (1990). Anorexia nervosa and bulimia nervosa. In A.S. Ballack et al. (Eds.), Handbook of behavior modification and therapy, 2nd edition (pp. 805-817). New York, NY: Plenum Press.

Garner, D.M., & Rosen, L.W. (1994). Eating disorders. In M. Hersen, R.T. Ammerman, & L.A. Sisson (Eds.), Handbook of aggressive and destructive behavior in psychiatric patients (pp. 409-428). New York, NY: Plenum Press.

Garner, D.M., Rosen, L.W., & Barry, D. (1998). Eating disorders among athletes: Research and recommendations. Sports Psychiatry, 7, 839-857.

Garner, D.M., Shafer, C.L., & Rosen, L.W. (1992). Critical appraisal of the DSM-III-R diagnostic criteria for eating disorders. In S.R. Hooper, G.W. Hynd, et al. (Eds.), Child psychopathology: Diagnostic criteria and clinical assessment (pp. 261-303). Hillsdale, NJ: Lawrence Erlbaum and Associates, Inc.

Gibson, S.G., & Thomas, C.D. (1991). Self-rated competence, current weight, and body image among college women. Psychological Reports, 69, 336-338.

Goldblatt, P.B., Moore, M.E., & Stunkard, A.J. (1965). Social factors in obesity. Journal of the American Medical Association, 192, 97-102.

Gordon, R.A. (1988). A sociocultural interpretation of the current epidemic of eating disorders. In B.J. Binder, B.F. Chaitin, & R.S. Goldstein (Eds.), The eating disorders: Medical and psychological basis of diagnosis and treatment. New York, NY: PMA Publishing Company.

Gough, H.G. (1964). California Personality Inventory: Manual. Palo Alto, CA: Consulting Psychologists Press.

Gray, S. (1977). Social aspects of body image: Perception of normalcy of weight and affect of college undergraduates. Perceptual and Motor Skills, 45, 1035-1040.

Greenwald, D. (1977). The behavioral assessment of differences in social skill and social anxiety in female college students.

Behavior Therapy, 8, 925-937.

Grissett, N.I., & Norvell, N.K. (1992). Perceived social support, social skills, and quality of relationships in bulimic women.

Journal of Consulting and Clinical Psychology, 60, 293-299.

Gross, J., Rosen, J.C., Leitenberg, H., & Willmuth, M.E. (1986). Validity of the Eating Attitudes Test and the Eating Disorder

Inventory in bulimia nervosa. Journal of Consulting and Clinical Psychology, 54, 875-876.

Halmi, K.A., Falk, J.R., & Schwartz, E. (1981). Binge-eating and vomiting: A survey of a college population. Psychological Medicine,

11, 697-706.

Harding, T.P., & Lachenmeyer, J.R. (1986). Family interaction patterns and locus of control as predictors of the presence and

severity of anorexia nervosa. Journal of Clinical Psychology, 42, 440-448.

Hart, K., & Kenny, M.E. (1997). Adherence to the super woman ideal and eating disorder symptoms among college women. Sex Roles,

36, 461-478.

Heinberg, L.J., & Thompson, J.K. (1995). Body image and televised images of thinness and attractiveness: A controlled

laboratory investigation. Journal of Social and Clinical Psychology, 14, 1-14.

Helmreich, R., Aronson, E., & LeFan, J. (1970). To err is humanizing-sometimes: Effects of self-esteem, competence and a pratfall on interpersonal attraction. Journal of Personality and Social Psychology, 16, 269-278.

Helmreich, R., & Stapp, J. (1974). Short forms of the Texas Social Behavior Inventory (TSBI), an objective measure of self-esteem. Bulletin of the Psychonomic Society, 4(5A), 473-475.

Helmreich, R., Stapp, J., & Ervin, C. (1974). The Texas Social Behavior Inventory (TSBI): An objective measure of self-esteem or social competence. JSAS Catalog of Selected Documents in Psychology, 4, 79.

Herold, E.S. (1979). Variables influencing the dating adjustment of university students. Journal of Youth and Adolescence, 8, 73-79.

Herzog, D.B., Keller, M.B., Lavori, P.W., & Ott, I.L. (1987). Social impairment in bulimia. International Journal of Eating Disorders, 6, 741-747.

Hesse-Biber, S. (1989). Eating patterns and disorders in a college population: Are college women's eating problems a new phenomenon?. Sex Roles, 20, 71-89.

Hesse-Biber, S., Clayton-Matthews, A., & Downey, J.A. (1987). The differential importance of weight and body-image among college men and women. Genetic, Social, and General Psychology Monographs, 113, 511-528.



Horvath, T. (1981). Physical attractiveness: The influence of selected torso parameters. Archives of Sexual Behavior, 10, 21-24.

Hsu, L.K.G. (1989). The gender gap in eating disorders: Why are the eating disorders more common among women?. Clinical Psychology Review, 9, 393-407.

Hsu, L.K.G. (1990). Eating disorders. New York, NY: The Guilford Press.

Inderbitzen, H.M., & Foster, S.L. (1992). The Teenage Inventory of Social Skills: Development, reliability, and validity. Psychological Assessment, 4, 451-459.

Irving, L.M. (1990). Mirror images: Effects of the standard of beauty on the self- and body-esteem of women exhibiting varying levels of bulimic symptoms. Journal of Social and Clinical Psychology, 9, 230-242.

Jacobson, R.J., & Robins, C.J. (1989). Social dependency and social support in bulimic and nonbulimic women. International Journal of Eating Disorders, 8, 665-670.

Johnson, C., & Berndt, D.J. (1983). Preliminary investigation of bulimia and life adjustment. American Journal of Psychiatry, 140, 774-777.

Johnson, C.L., & Connors, M.E. (1987). The etiology and treatment of bulimia nervosa. New York, NY: Basic Books.

Johnson, C., & Larson, R. (1982). Bulimia: An analysis of moods and behavior. Psychosomatic Medicine, 44, 341-351.

Kallen, D.J., & Doughty, A. (1984). The relationship of weight, the self perception of weight and self esteem with courtship behavior. Marriage and Family Review, 7(1-2), 93-114.

Katzman, M.A., & Wolchik, S.A. (1984). Bulimia and binge eating in college women: A comparison of personality and behavioral characteristics. Journal of Consulting and Clinical Psychology, 52, 423-428.

Keeton, W.P., Cash, T.F., & Brown, T.A. (1990). Body image or body images?: Comparative multidimensional assessment among college students. Journal of Personality Assessment, 54, 213-230.

Kendler, K.S., MacLean, C., Neale, M., & Kessler, R.C. (1991). The genetic epidemiology of bulimia nervosa. American Journal of Psychiatry, 148, 1627-1637.

Keyes, S. (1984). Gender stereotypes and personal adjustment: Employing the PAQ, TSBI and GHQ with samples of British adolescents. British Journal of Social Psychology, 23, 173-180.

Kimble, C., & Helmreich, R. (1972). Self-esteem and the need for social approval. Psychonomic Science, 26, 339-342.

Klesges, L.M., Mizes, J.S., & Klesges, R.C. (1987). Self-help dieting strategies in college males and females. International Journal of Eating Disorders, 6, 409-417.

Klienke, C.L., & Staneski, R.A. (1980). First impressions of female bust size. Journal of Social Psychology, 110, 123-134.

Koff, E., & Sangani, P. (1997). Effects of coping style and negative body image on eating disturbance. International Journal of Eating Disorders, 22, 51-56.

Krantz, M., Friedberg, J., & Andrews, D. (1985). Physical attractiveness and popularity: The mediating role of self-perception. Journal of Psychology, 119, 219-223.

Kuhlen Schmidt, S., & Conger, J.C. (1988). Behavioral components of social competence in females. Sex Roles, 18, 107-112.

Lamb, C.S., Jackson, L.A., Cassiday, P.B., & Priest, D.J. (1993). Body figure preferences of men and women: A comparison of two generations. Sex Roles, 28, 345-358.

Langlois, J.H., & Stephan, C.W. (1981). Beauty and the beast: The role of physical attractiveness in the development of peer relations and social behavior. In Brehm, Kassin, & Gibbons (Eds.), Developmental social psychology (pp. 152-168). New York, NY: Oxford University Press.

Leinbach, M.D., & Fagot, B.I. (1991). Attractiveness in young children: Sex-differentiated reactions of adults. Sex Roles, 25, 269-284.

Leon, G., Lucas, A., Colligan, R., Ferdinande, R., & Kamp, J. (1985). Sexual, body image, and personality attitudes in anorexia nervosa. Journal of Abnormal Child Psychology, 13, 245-258.

Lerner, R.M., & Jovanovic, J. (1990). The role of body image in psychosocial development across the life span: A developmental contextual perspective. In T.F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 110-127). New York, NY: Guilford Press.

Lerner, R.M., & Karabenick, S.A. (1974). Physical attractiveness, body attitudes and self-concept in late adolescents. Journal of Youth and Adolescence, 3, 307-316.

Lerner, R.M., & Lerner, J.V. (1977). Effects of age, sex, and physical attractiveness on child-peer relations, academic performance, and elementary school adjustment. Developmental Psychology, 13, 585-590.

Mable, H.M. (1985). Body image dissatisfaction and body image distortion in a non-clinical population. Unpublished Master's thesis, University of Windsor, Windsor, Ontario.

Mable, H.M., Balance, W.D.G., & Galgan, R.J. (1986). Body image distortion and dissatisfaction in university students. Perceptual and Motor Skills, 63, 907-911.

Mann, A.H., Wakeling, A., Wood, K., Monck, E., Dobbs, R., & Szmukler, G. (1983). Screening for abnormal eating attitudes and psychiatric morbidity in an unselected population of 15-year-old schoolgirls. Psychological Medicine, 13, 573-580.

Martin, H.J. (1984). A revised measure of approval motivation and its relationship to social desirability. Journal of Personality Assessment, 48, 508-519.

Masten, A.S., Coatsworth, J.D., Neemann, J., Gest, S.D., Tellegen, A., & Garnezy, N. (1995). The structure and coherence of competence from childhood through adolescence. Child Development, 66, 1635-1659.

Mazur, A. (1986). U.S. trends in feminine beauty and overadaptation. The Journal of Sex Research, 22, 281-303.

McIntire, S.A., & Levine, E.L. (1984). An empirical investigation of self-esteem as a composite construct. Journal of Vocational Behavior, 25, 290-303.

Mildred, H., Paxton, S.J., & Wertheim, E.H. (1995). Risk factors for eating disorders in Greek- and Anglo-Australian adolescent girls. International Journal of Eating Disorders, 17, 91-96.

Miller, T.M., Coffman, J.G., & Linke, R.A. (1980). Survey on body image, weight, and diet of college students. Journal of the American Dietetic Association, 77, 561-566.

Miller, C.T., Rothblum, E.D., Brand, P.A., & Felicio, D.M. (1995). Do obese women have poorer social relationships than nonobese women? Reports by self, friends, and coworkers. Journal of Personality, 63, 65-85.

Mintz, L.B., & Betz, N.E. (1986). Sex differences in the nature, realism, and correlates of body image. Sex Roles, 15, 185-195.

Mitchell, K.R., & Orr, F.E. (1976). Heterosexual social competence, anxiety, avoidance and self-judged physical attractiveness. Perceptual and Motor Skills, 43, 553-554.

Mukai, T., Kambara, A., & Sasaki, Y. (1998). Body dissatisfaction, need for social approval, and eating disturbances among Japanese and American college women. Sex Roles, 39, 751-763.

Myers, P.N., & Biocca, F.A. (1992). The elastic body image: The effect of television advertising and programming on body image distortions in young women. Journal of Communication, 42, 108-133.

Nordholm, L.A. (1974). A note on the reliability and validity of the Marlowe-Crowne Scale of social desirability. Journal of Social Psychology, 93, 139-140.

O'Brien, E.J. (1991). Sex differences in components of self-esteem. Psychological Reports, 68, 241-242.

O'Connor, C.L. (1995). Body image disturbance in relation to attributions of physical attractiveness and social competence in college women. Unpublished Master's thesis, University of Windsor, Windsor, Ontario.

O'Grady, K.E. (1988). The Marlowe-Crowne and Edwards Social Desirability Scales: A psychometric perspective. Multivariate Behavioral Research, 23, 87-101.

O'Grady, K.E. (1989). Physical attractiveness, need for approval, social self-esteem, and maladjustment. Journal of Social and Clinical Psychology, 8, 62-69.

Paulhus, D.L. (1984). Two-component models of socially desirable responding. Journal of Personality and Social Psychology, 46, 598-609.

Paulhus, D.L. (1991). Measurement and control of response bias. In J.P. Robinson, P.R. Shaver, & L.S. Wrightsman (Eds.), Measures of personality and social psychological attitudes (pp. 17- 59). New York, NY: Academic Press, Inc.

Pliner, P., Chaiken, S., & Flett, G.L. (1990). Gender differences in concern with body weight and physical appearance over the life span. Personality and Social Psychology Bulletin, 16, 263-273.

Pliner, P., & Haddock, G. (1996). Perfectionism in weight-concerned and -unconcerned women: An experimental approach. International Journal of Eating Disorders, 19, 381-389.

Pope, H.G., Hudson, J.I., Yurgelun-Todd, D., & Hudson, M.S. (1984). Prevalence of anorexia nervosa and bulimia in three student populations. International Journal of Eating Disorders, 3, 45-51.

Pyle, R., Mitchell, J., & Eckert, E. (1983). The incidence of bulimia in freshman college students. International Journal of Eating Disorders, 2, 75-85.

Raciti, M.C., & Norcross, J.C. (1987). The EAT and EDI: Screening, interrelationships, and psychometrics. International Journal of Eating Disorders, 6, 579-586.

Reis, H.T., Nezlek, J., & Wheeler, L. (1980). Physical attractiveness in social interaction. Journal of Personality and Social Psychology, 38, 604-617.

Reis, H.T., Wheeler, L., Spiegel, N., Kernis, M., Nezleck, J., & Perri, M. (1982). Physical attractiveness in social interaction, II: Why does appearance affect social experience?. Journal of Personality and Social Psychology, 43, 979-996.

Richardson, S.A., Goodman, N., Hastorf., & Dornbusch, S.M. (1961). Cultural uniformity in reaction to physical disabilities. American Sociological Review, 90, 44-51.

Rolls, B.J., Fedoroff, I.C., & Guthrie, J.F. (1991). Gender differences in eating behavior and body weight regulation. Health Psychology, 10, 133-142.

Rosen, J.C. (1990). Body-image disturbances in eating disorders. In T.F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 190-214). New York, NY: Guilford Press.

Rosen, J.C., & Gross, J. (1987). Prevalence of weight reducing and weight gaining in adolescent girls and boys. Health Psychology, 6, 131-147.

Rosen, J.C., & Ramirez, E. (1998). A comparison of eating disorders and body dysmorphic disorder on body image and psychological adjustment. Journal of Psychosomatic Research, 44, 441-449.



Rosen, L.W. (1980). Modification of secretive or ritualized eating behavior in anorexia nervosa. Journal of Behaviour Therapy and Experimental Psychiatry, 11, 101-104.

Rosen, L.W. (1981). Self-control program in the treatment of obesity. Journal of Behaviour Therapy and Experimental Psychiatry, 12, 163-166.

Rosen, L.W., Shafer, C.L., Dummer, G.M., Cross, L.K., Deuman, G.W., & Malmberg, S.R. (1988). Prevalence of pathogenic weight-control behaviors among Native American women and girls. International Journal of Eating Disorders, 7, 807-811.

Rozin, P., & Fallon, A.E. (1988). Body image, attitudes to weight and misperceptions of figure preferences of the opposite sex: A comparison of men and women in two generations. Journal of Abnormal Psychology, 97, 342-345.

Sadowski, C.J., Woodward, H.R., Davis, S.F., & Elsbury, D.L. (1983). Sex differences in adjustment correlates of locus of control dimensions. Journal of Personality Assessment, 47, 627-631.

Sarason, B.R., Sarason, I.G., Hacker, T.A., & Basham, R.B. (1985). Concomitants of social support: Social skills, physical attractiveness, and gender. Journal of Personality and Social Psychology, 49, 469-480.

SAS Institute, Inc. (1985). SAS user's guide: Basics, version 5 edition. Cary, NC: SAS Institute, Inc.

- Schilder, P. (1950). The image and appearance of the human body. New York, NY: International Universities Press.
- Schmidt, N.B., & Telch, M.J. (1990). Prevalence of personality disorders among bulimics, nonbulimic binge eaters, and normal controls. Journal of Psychopathology and Behavioral Assessment, 12, 169-185.
- Schmolling, P. (1988). Eating Attitudes Test scores in relation to weight, socioeconomic status, and family stability. Psychological Reports, 63, 295-298.
- Schotte, D.E., & Stunkard, A.J. (1987). Bulimia vs bulimic behaviors on a college campus. Journal of the American Medical Association, 258, 1213-1215.
- Schwartz, S., & Giacomani, S. (1972). Convergent and discriminant validity of three measures of adjustment and three measures of social desirability. Journal of Consulting and Clinical Psychology, 39, 239-242.
- Serketich, W.J., & Dumas, J.E. (1997). Adults' Perceptions of the behavior of competent and dysfunctional children based on the children's physical appearance. Behavior Modification, 21, 457-469.
- Sigall, H., & Michela, J. (1976). I'll bet you say that to all the girls: Physical attractiveness and reactions to praise. Journal of Personality, 44, 611-626.

Silverstein, B., Perdue, L., Peterson, B., Vogel, L., & Fantini, D.A. (1986). Possible causes of the thin standard of bodily attractiveness for women. International Journal of Eating Disorders, 5, 907-916.

Slade, P. (1985). A review of body-image studies in anorexia nervosa and bulimia nervosa. Journal of Psychiatric Research, 19, 255-265.

Slade, P.D., & Dewey, M.E. (1986). Development and preliminary validation of SCANS: A screening instrument for identifying individuals at risk of developing anorexia and bulimia nervosa. International Journal of Eating Disorders, 5, 517-538.

Slade, P.D., & Russell, G.F.M. (1973). Awareness of body dimensions in anorexia nervosa: Cross-sectional and longitudinal studies. Psychological Medicine, 3, 188-199.

Stake, J., & Lauer, M.L. (1987). The consequences of being overweight: A controlled study of gender differences. Sex Roles, 17, 31-47.

Steinhausen, H.C. (1984). Transcultural comparison of eating attitudes in young females and anorectic patients [CD-ROM]. Archiv fur Psychiatrie und Nervenkrankheiten, 234, 198-201. Abstract from: SilverPlatter File: PsychINFO Item: 72-23038.

Stice, E., & Shaw, H.E. (1994). Adverse effects of the media portrayed thin-ideal on women and linkages to bulimic symptomatology. Journal of Social and Clinical Psychology, 13, 288-308.

Stiles, D.A., Gibbons, J.L., & Schnellmann, J. (1990). Opposite-sex ideal in the U.S.A. and Mexico as perceived by young adolescents. Journal of Cross-Cultural Psychology, 21, 180-199.

Stormer, S.M., & Thompson, J.K. (1996). Explanations of body image disturbance: A test of maturational status, negative verbal commentary, social comparison, and sociocultural hypotheses. International Journal of Eating Disorders, 19, 193-202.

Striegel-Moore, R.H., Silberstein, L.R., & Rodin, J. (1993). The social self in bulimia nervosa: public self-consciousness, social anxiety, and perceived fraudulence. Journal of Abnormal Psychology, 102, 297-303.

Stunkard, A., Sorensen, T., & Schulsinger, F. (1983). Use of the Danish Adoption Register for the study of obesity and thinness. In S. Kety (Ed.), The genetics of neurological and psychiatric disorders (pp. 115-120). New York: Raven Press.

Szymanski, M.L., & Cash, T.F. (1995). Body-image disturbances and self-discrepancy theory: Expansion of the Body-Image Ideals Questionnaire. Journal of Social and Clinical Psychology, 14, 134-146.

Tanaka-Matsumi, J., & Kameoka, V.A. (1986). Reliabilities and concurrent validities of popular self-report measures of depression, anxiety, and social desirability. Journal of Consulting and Clinical Psychology, 54, 328-333.

Thomas, C.D., & Freeman, R.J. (1990). The Body Esteem Scale: Construct validity of the female subscales. Journal of Personality Assessment, 54, 204-212.

Thompson, J.K., Penner, L.A., & Altabe, M.N. (1990). Procedures, problems, and progress in the assessment of body images. In T.F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 21-48). New York, NY: Guilford Press.

Thorton, B., Leo, R., Alberg, K. (1991). Gender role typing and the superwoman ideal, and the potential for eating disorders. Sex Roles, 25, 469-484.

Tiggemann, M., & Rothblum, E.D. (1988). Gender differences in social consequences of perceived overweight in the United States and Australia. Sex Roles, 18, 75-86.

Tompkins, R.C., & Boor, M. (1980). Effects of students' physical attractiveness and name popularity on student teachers' perceptions of social and academic attributes. Journal of Psychology, 106, 37-42.

Touyz, S., Beumont, P., Collins, J., McCabe, M., & Jupp, J. (1984). Body shape perception and its disturbance in anorexia nervosa. British Journal of Psychiatry, 144, 167-171.

Villimez, C., Eisenberg, N., & Carroll, J.L. (1986). Sex differences in the relation of children's height and weight to academic performance and others' attribution of competence. Sex Roles, 15, 667-681.

Walster, E., Aronson, V., Abrahams, D., & Rottmann, L. (1966). Importance of physical attractiveness in dating behavior. Journal of Personality and Social Psychology, 4, 508-516.

Weiss, S.R., & Ebert, M.H. (1983). Psychological and behavioral characteristics of normal-weight bulimics and normal-weight controls. Psychosomatic Medicine, 45, 293-303.

West, S.G., & Brown, T.J. (1975). Physical attractiveness, the severity of the emergency, and helping: A field experiment and interpersonal simulation. Journal of Experimental Social Psychology, 11, 531-538.

Williams, G.J., Chamove, A.S., & Millar, H.R. (1990). Eating disorders, perceived control, assertiveness and hostility. British Journal of Clinical Psychology, 29, 327-335.

Williams, G.J., Power, K.G., Millar, H.R., Freeman, C.P., Yellowlees, A., Dowds, T., Walker, M., Campsie, L., MacPherson, F., & Jackson, M.A. (1993). Comparison of eating disorders and other dietary/weight groups on measures of perceived control, assertiveness, self-esteem, and self-directed hostility. International Journal of Eating Disorders, 14, 27-32.

Wilson, G.T., & Smith, D. (1989). Assessment of bulimia nervosa: An evaluation of the Eating Disorders Examination. International Journal of Eating Disorders, 8, 173-179.

Wiseman, C.V., Gray, J.J., Mosimann, J.E., & Ahrens, A.H. (1992). Cultural expectations of thinness in women: An update. International Journal of Eating Disorders, 11, 85-89.

Zakin, D.F., Blyth, D.A., & Simmons, R.G. (1984). Physical attractiveness as a mediator of the impact of early pubertal changes for girls. Journal of Youth and Adolescence, 13, 439-450.

Zellner, D.A., Harner, D.E., & Adler, R.L. (1989). Effects of eating abnormalities and gender on perceptions of desirable body shape. Journal of Abnormal Psychology, 98, 93-96.

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