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THE RELATIONSHIPS AMONG BODY SATISFACTION, SELF-ESTEEM,
AND SOCIAL SUPPORT IN UNDERGRADUATE MEN AND WOMEN

by

Sarah Murray Hodson

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Health, Physical Education, and Recreation

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Logan, Utah

1999

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ABSTRACT

The Relationships Among Body Satisfaction, Self-Esteem,
and Social Support in Undergraduate Men and Women

by

Sarah Murray Hodson, Master of Science

Utah State University, 1998

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Department: Health, Physical Education and Recreation

Significant levels of body dissatisfaction exist among college women. Research has also shown levels of body dissatisfaction among college men. Numerous studies have been conducted to investigate the relationship between body dissatisfaction and self-esteem as well as the relationship between self-esteem and social support. Past research, however, has neglected to determine if a relationship exists between body dissatisfaction and social support.

This study sought to determine if this relationship exists for college men and women. The present study was also developed to test the relationships that have been found between social support and self-esteem as well as between self-esteem and body dissatisfaction.

Significant correlations were found for all relationships investigated in the present study for both men and women. Strong relationships were found between self-

esteem and body dissatisfaction for both men and women. Significant relationships were found between self-esteem and social support in both men and women. Significant, yet smaller, relationships were also found between social support and body dissatisfaction for both men and women.

These relationships shed light on the complex issue of body dissatisfaction. Health educators should be aware of the relationship that was found between social support and body dissatisfaction in college men and women, and use this information to increase the effectiveness of intervention programs aimed at decreasing levels of body dissatisfaction.

(125 pages)

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Sarah Murray Hodson

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CHAPTER 1

INTRODUCTION

Background of the Problem

Body image is a multidimensional construct that includes components such as body image distortion, body image disturbances, body dissatisfaction, and body satisfaction. For the purpose of this study, the concepts of body satisfaction and body dissatisfaction will be discussed. Body dissatisfaction results when a person is dissatisfied with his/her overall body size and appearance (Galgan & Mable, 1986). In recent years research has shown significant levels of body dissatisfaction in college women (Cash & Henry, 1995; Heilbrun & Friedberg, 1990).

Body dissatisfaction is often associated with eating disorders and chronic dieting (Geissler, Kelly, & Saklofske, 1994; Heilbrun & Friedberg, 1990). Heilbrun and Friedberg (1990) found that women who were thin enough to ignore or discontinue dieting were motivated to continue dieting because of body image distortions. Research has also shown that underweight women are more likely than overweight women to overestimate their body size (Cash & Green, 1986; Galgan & Mable, 1989). Galgan and Mable (1986) found that women who were 4-5% below the midpoints for their weight perceived themselves to be about 10% overweight, generating a 15% discrepancy between actual and perceived weight.

Body dissatisfaction has been shown to be associated with chronic dieting as well as eating disorders (Cash & Henry, 1995; Heilbrun & Frieberg, 1990; Koenig &

Wasserman, 1995; McAllister & Caltabiano, 1994; Mintz & Betz, 1986, 1988). Geissler et al. (1994) found that college women with body dissatisfaction were at greater risk for bulimic symptomology. Findings such as these are alarming because of the association between eating disorders and numerous health problems as well as incidences of premature death. As many as 18% of deaths in patients with anorexia nervosa are caused by complications from the disorder, and almost half involve suicide (Insel, Roth, Rollins, & Petersen, 1997). Bulimia nervosa is also a concern because of the health problems that it presents. Although less often associated with premature death or suicide, bulimia nervosa is associated with excessive preoccupation with food and increased depression (Insel et al., 1997).

Body dissatisfaction has also been correlated with low levels of self-esteem (Abell & Ricahrds, 1996; Grilo, Wilfley, Brownell, & Rodin, 1994; McAllister & Caltabiano, 1994). McAllister and Caltabiano (1994) found that women who scored higher on an appearance evaluation scale had higher levels of self-esteem. This same study also found that women with a high self-esteem were more likely to be satisfied with their current weight.

Social support has also been found to be correlated with self-esteem. Studies show that self-esteem is significantly related to both parent and peer support (Hoffman, Levy-Shiff, & Ushpiz, 1993). That is, interactions with significant others appear to be a crucial part of developing self-esteem (Lackovic-Grgin, Dekovic, & Opacic, 1994). This apparently strong relationship between social support and self-esteem helps to build a theoretical link between social support and body dissatisfaction through self-esteem.

Purpose of the Study

Little research has been conducted to determine if a relationship exists between perceived social support and body satisfaction. Murray, Touyz, and Beumont (1995) looked at relationships with family, friends, and acquaintances as possible sources of social pressure regarding body shape and weight. This study focused on pressure from family, friends, and acquaintances, and the extent and nature of the pressure and its influence on eating behavior and body satisfaction. It did not, however, focus on the effects of supportive relationships on body satisfaction or dissatisfaction. Therefore, research needs to be conducted in this area in order to enhance early intervention strategies. The purpose of this study is to determine if there is a correlational relationship between body satisfaction and perceived social support (see Figure 1). If a relationship is found, health educators will be better able to address the issue of body dissatisfaction by incorporating social support into prevention programs and therefore decreasing instances of detrimental effects of body dissatisfaction, such as eating disorders and a low self-esteem.

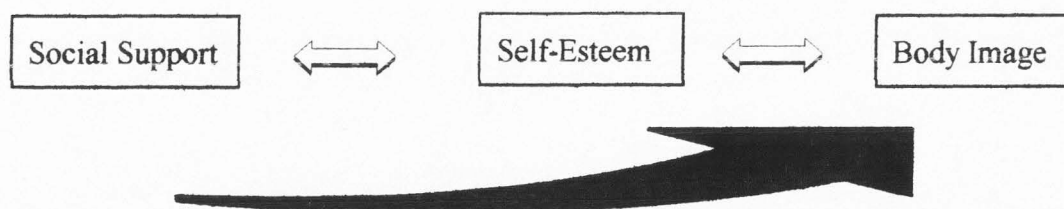


Figure 1. Theoretical model for study.

Research Questions

1. Is there a significant positive correlation between body satisfaction and social support in college women?
2. Is there a significant positive correlation between body satisfaction and social support in college men?
3. Is there a significant positive correlation between body satisfaction and self-esteem in college women?
4. Is there a significant positive correlation between body satisfaction and self-esteem in college men?
5. Is there a significant positive correlation between social support and self-esteem in college women?
6. Is there a significant positive correlation between social support and self-esteem in college men?
7. Is there a significant relationship between the study's demographic characteristics (age, marital status, race, gender, dieting history, ideal weight) and body satisfaction?
8. Is there a significant relationship between the study's demographic characteristics (age, marital status, race, gender, dieting history, ideal weight) and level of social support?
9. What source of social support is the best predictor of body satisfaction for college women?
10. What source of social support is the best predictor of body satisfaction for college men?
11. Is there a significant relationship between current dieting and the Body Esteem Scale scores?
12. Is there a significant relationship between dieting history and the Body Esteem Scale scores?

Significance of the Study

Determining that there is a relationship between body satisfaction and perceived social support will have major implications for future research and treatment of body dissatisfaction. It will help in the development of successful programs that incorporate social support to address body dissatisfaction and such programs will consequently decrease the instances of eating disorders, low self-esteem, and other negative effects of body dissatisfaction.

Limitations

The limitations placed on this study are that the population is a fairly homogeneous, young, White, middle-class group. Ethnic groups may not be accurately represented.

Delimitations

The delimitations of this study are:

1. The nature of the questionnaires used is self-report, which may not be objective.
2. Study participants came from a college population, which may not be representative of a community sample.
3. Due to the nonrandom sampling procedures used, results of this study may not be generalizable to other populations.

Assumptions

For this study, it is assumed that:

1. The instruments were used appropriately to measure the intended variable.
2. Self-reported data were reported honestly.

Definition of Terms

1. Anorexia nervosa: An eating disorder characterized by the refusal to maintain normal body weight and related to an extreme fear of becoming fat. Persons with anorexia nervosa meet the following criteria: (a) maintenance of body weight at 85% or lower of normal standards as represented on actuarial tables; (b) intense fear of becoming fat or gaining weight, (c) disturbance in body image, self-esteem based on perceived body size, or denial of seriousness of low body weight; and (d) amenorrhea in postmenarchal females (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, 4th ed.).

2. Appraisal support: A type of social support that provides information that is useful for self-evaluation. This includes constructive feedback, affirmation, and social comparison (Heaney & Israel, 1997).

3. Binge eating disorder: An eating disorder characterized by recurrent episodes of binge eating in the absence of compensatory behaviors characteristic of bulimia nervosa (DSM-IV, 1994). During binge eating persons with binge eating disorder (BED) must meet at least three of the following criteria: "(1) eating much more rapidly than

usual; (2) eating until feeling uncomfortably full; (3) eating large amounts of food when not feeling physically hungry; (4) eating alone because of being embarrassed by how much one is eating; (5) feeling disgusted with oneself, depressed, or feeling very guilty after overeating” (Spitzer et al., 1993, p. 139).

4. Body image: Body image refers to perceptions and attitudes towards one’s body (Slade, 1994). Body image attitudes consist of cognition, self-perceptions, and behaviors about one’s physical appearance (Cash & Henry, 1995).

5. Body dissatisfaction: Body dissatisfaction results when a person is dissatisfied with their overall body size and appearance (Galgan & Mable, 1986).

6. Bulimia nervosa: Frequent binge eating, as defined by eating in a discrete period of time an amount of food larger than most people would eat in a similar period of time and circumstances, accompanied by inappropriate compensatory behaviors (i.e., vomiting, extreme exercise, laxative use) to avoid gaining weight. The individual is typically normal weight or slightly overweight (DSM-IV, 1994).

7. Chronic dieting: A cycle of eating restrictive amounts of food, becoming disinhibited, and then increasing food intake (Polivy & Herman, 1987).

8. Emotional support: A type of social support that provides expressions of empathy, love, caring and trust (Heaney & Israel, 1997).

9. Informational support: A type of social support that includes suggestions, advice, and information a person can use when addressing a problem (Heaney & Israel, 1997).

10. Instrumental support: A type of social support that provides tangible aid and services to assist the person in need (Heaney & Israel, 1997).

11. Normal eating: Eating in response to hunger cues and stopping in response to satiety cues. It has, however, become questionable as to whether this is a socially "normal" pattern of eating. (Polivy & Herman, 1987).

12. Self-esteem: "The individual simply feels that he is a person of worth; he respects himself for what he is, but he does not stand in awe of himself nor does he expect others to stand in awe of him" (Rosenberg, 1965, p. 31).

13. Social support: According to Cobb (1976), social support includes information leading people to believe they are loved and cared for, esteemed and valued, and have a network of communication and mutual obligation.

14. Stress: The collective physical and emotional response to a stressor (Lerman & Glanz, 1997).

15. Stressor: Demands made by the external environment that upset homeostasis (Lerman & Glanz, 1997).

Summary

This chapter has outlined the background of the problem, the importance of this study, and the implications of answering the research questions. It has also given the parameters of the study and a definition of terms.

The next chapter will provide support from existing literature to the claims made

in this chapter. The third chapter will explain the methods and procedures that will be used to collect and analyze data.

CHAPTER 2

REVIEW OF THE LITERATURE

Gender Differences in Body Satisfaction

In recent years the amount of research on body dissatisfaction has increased considerably. Body dissatisfaction is a concern for many college women (Cash & Henry, 1995; Heilbrun & Friedberg, 1990). A 1993 survey of 803 women found that over one third expressed overall body dissatisfaction and one half revealed concerns about becoming overweight and dieting (Cash & Henry, 1995). Mintz and Betz (1986) found that only underweight women were likely to view themselves as normal weight. Women who were categorized as normal weight tended to perceive themselves as overweight and wanted to lose an average of 10 pounds. In contrast, men reported being under their ideal weight and wanting to gain an average of 17 pounds (Mintz & Betz, 1986).

Men and women have been shown to exhibit comparable degrees of body dissatisfaction but in different directions (Abell & Richards, 1996; Silberstein, Striegel-Moore, Timko, & Rodin, 1988). In a study of 41 undergraduate men and 43 undergraduate women, Abell and Richards (1996) found that men wanted to be an average of 11 pounds heavier, while women wanted to be an average of almost 9 pounds lighter. The absolute values of these results indicated body dissatisfaction in men as well as women (Abell & Richards, 1996).

Silberstein et al. (1988) also examined the absolute values of weight dissatisfaction and perceived weight minus ideal weight. In their study of 45 female and 47

male Yale undergraduates, they found that there were no gender differences in weight dissatisfaction or perceived minus ideal weight scores. Results indicated that men and women exhibited comparable degrees of dissatisfaction with their bodies but in different directions. Studies that have examined gender differences in body dissatisfaction show that men tend to want to be heavier in terms of muscle mass, while women want to be thinner (Abell & Richards, 1996; Davis & Cowles, 1991; Silberteint et al., 1988).

Although men may exhibit body dissatisfaction, it is less likely to lead to the detrimental effects that body dissatisfaction may lead to in women, such as eating disorders (Hsu, 1989). However, the health of men is still at risk. Men may abuse steroids to increase muscle mass and therefore experience the negative health effects of steroid use. Davis and Cowles (1991) found that men who place greater emphasis on appearance are more likely to be involved in a diligent exercise regimen and consequently feel more satisfied with their appearance because they have moved closer to their goal of increasing their muscle mass.

Racial/Ethnic Differences in Body Satisfaction

In addition to gender differences, ethnic differences have been found in terms of body dissatisfaction. In a study of 97 White and 42 Black undergraduate women, Henriques, Calhoun, and Cann (1996) found that Black women had higher levels of body satisfaction, heavier body ideals, and less problematic eating, although they were an average of 20 pounds heavier than White women. Akan and Grilo (1995) found that although Black women had higher body mass index (BMI) scores than White women,

White women had greater levels of disordered eating, dieting attitudes and behaviors, and body dissatisfaction (Wilfley et al., 1996).

In a study of 271 Black and 267 White middle-aged women Wilfley et al. (1996) examined racial differences in eating disorder symptomology and predictors of body dissatisfaction. Results of this study indicated that Black and White women experienced comparable levels of eating disturbance as assessed by the Eating Disorder Inventory. However, after controlling for weight, White women had significantly greater rates of body dissatisfaction.

In a comparison study of American and African students on perceptions of obesity and thinness, a number of differences were found in terms of dieting and perceptions about weight (Cogan, Bhalla, Sefa-Dedeh, & Rothblum, 1996). Although female participants in the United States were an average of 3.1 kg heavier than female participants in Ghana, they were also more likely to have dieted as well as be currently dieting. American students, male and female, preferred smaller female body sizes than did Ghanaians. For example, when choosing an ideal figure on a 12-point figure-type drawing scale, Ghanaian's preferred ratings ranged from 4 to 12 while American students' preferred ratings ranged from 3 to 7, indicating a more narrow definition of the ideal figure (Cogan et al., 1996).

Asian American women were shown to have similar levels of body dissatisfaction as Black women (Akan & Grilo, 1995). Research has shown that when compared to Asian American or Black women, White women generally have higher rates of body

dissatisfaction (Akan & Grilo, 1995; Cogan et al., 1996; Henriques et al., 1996; Wilfley et al., 1996).

Simply because women of color are less likely to experience body dissatisfaction does not mean that it is not a concern for these women. Abrams, Allen, and Gray (1993) looked at eating behaviors and attitudes, disordered eating, and assimilation in 100 White and 100 Black college women. Their results indicated that behaviors and attitudes towards eating were culture bound. For example, Black women were less concerned with weight loss and put forth less effort to achieve a thin body. However, among Black women who endorsed attitudes that rejected their black identity and idealized White identity, there was a higher incidence of attitudes about body image and eating behaviors that are associated with eating disorders (Abrams et al., 1993). The Racial Identity Attitude Scale for Blacks (RIAS-B) was used to identify cultural assimilation (Abrams et al., 1993). Studies like this one suggest that as women of color adopt aspects of the "White culture," they are at a greater risk for body dissatisfaction. Because of these studies, it is essential for body image studies to continue to include minority women in their investigations. Findings such as these demonstrate a relationship between the ideals of beauty in the United States culture and the prevalence of body dissatisfaction.

Influences on Body Satisfaction

Body dissatisfaction can deviate substantially from a person's objective physical characteristics (Myers & Biocca, 1992). Body dissatisfaction appears to be unstable and responsive to social cues. For example, Myers and Biocca (1992) labeled it as the

“elastic body image” because participants in their study viewed their bodies as changing after watching less than 30 minutes of television. Women desired a slender body for aesthetic reasons rather than for health ones. They internalized an ideal that represented a compromise between objective body shape and a socially represented ideal body, and then worked towards transforming their shape to match this ideal (Myers & Biocca, 1992).

Motivations for these transformations may be rooted in a number of causes. Significant correlations have been found in college women between current level of body dissatisfaction and a history of teasing (Akan & Grilo, 1995; Keelan, Dion, & Dion, 1992; Stormer & Thompson, 1996). Akan and Grilo (1995) found that a history of being teased about weight and size was associated with the degree of body dissatisfaction and problematic eating attitudes and behaviors in Black and White women but not in Asian American women. The Asian American women reported significantly lower frequencies of being teased.

Keelan et al. (1992) looked at 106 female university students. Participants completed questionnaires assessing appearance anxiety, social history and lifestyle, and demographics. Results indicated that individuals with positive experiences in childhood, pertaining to their appearance, had more positive feelings towards their appearance in adulthood. In a study examining the sociocultural influences on eating attitudes and behaviors in 98 female university students, Akan and Grilo (1995) found that the frequency of being teased as a child was correlated with problematic eating behaviors and attitudes, and body dissatisfaction. Stormer and Thompson (1996) also found that

negative verbal commentary was related to body dissatisfaction and eating disturbance.

Social comparisons have also been found to be related to a person's level of body dissatisfaction (Heinberg & Thompson, 1992). Comparison to friends was found to be the most important target in terms of effect on body dissatisfaction. Heinberg and Thompson (1992) found that women make upward social comparisons, rating themselves lower than the target, which can result in dysphoria and despair. Men, however, were more likely to make downward social comparisons, rating themselves better than the target, which may result in encouragement and motivation (Heinberg & Thompson, 1992).

Studies have found inconsistent findings when examining the relationship between exposure to media images of thin body types and satisfaction with one's body (Cash, Cash, & Butters, 1983; Henderson-King & Henderson-King, 1997; Myers & Biocca, 1992). In a study conducted by Myers and Biocca (1992), 76 sorority students in a southern university viewed 30 minutes of television containing commercials and programming characterized as neutral and body image material. Interestingly, women in the experimental group who viewed body image advertising felt thinner than normal when compared to controls who viewed neutral programming. Researchers concluded that body image advertising had a therapeutic value or produced a light euphoria. Perhaps, they concluded, these commercials allowed the women to imagine themselves in their future body ideal (Myers & Biocca, 1992).

Henderson-King and Henderson-King (1997) found similar results when looking at thinner women as opposed to heavy women. Participants in this study consisted of 87

undergraduate women who viewed slides depicted as either neutral or "ideal" images from women's magazines. After exposure to ideal images, thinner women rated their sexual attractiveness more positively than heavier women. These findings indicate that individual differences play an important role in exposure to images that reinforce social standards of beauty (Henderson-King & Henderson-King, 1997).

Conflicting results were found in a study conducted by Cash et al. (1983). Fifty-one college women were divided into three groups and shown magazine pictures from ads or articles that were rated as either not attractive, attractive peers, or attractive professionals (models), as determined by student judges. After viewing the pictures participants were given a questionnaire on which they rated their own physical attractiveness. Results indicated that women who were exposed to attractive images rated their own physical attractiveness lower than women exposed to unattractive images. The ratings of women exposed to attractive images were even lower than ratings of those exposed to attractive professionals (Cash et al., 1983). This study suggested that exposure to attractive peers was more significant than exposure to attractive professionals (models) in the short term, but it did not look at the long-term effects of exposure to attractive models (Cash et al., 1983).

Cusumano and Thompson (1997) found that in magazines read by at least 5% of their sample of 175 female students in a southern university, images of women were extremely skewed toward thinness. Images in these magazines were rated on a scale of 1 to 9, with 1 representing the thinnest figures and 9 representing the heaviest figure. The range of ratings in the magazines in their studies was 1.86 to 4.00 for magazine images

rated for body shapes, and 1.00 to 3.62 for magazine images rated for breast shape/size, indicating that most images were extremely thin (Cusumano & Thompson, 1997). In most of the studies discussed above, exposure to images was short-term and brief (Cash et al., 1983; Henderson-King & Henderson-King, 1997; Myers & Biocca, 1992). However, because of the bombardment of thin images that women are exposed to, it would be important to look at long-term effects of these exposures (Cusumano & Thompson, 1997).

Current cultural expectations dictate that women should be thinner than they were in the past. Garner, Garfinkel, Schwartz, and Thompson (1980) examined Playboy centerfolds and Miss America Pageant contestants and showed a trend of an increasing standard of thinness over a 20-year period, from 1959-1978. A follow-up study conducted from 1979-1988 indicated a continuation of the trend found by Garner et al. (1980) in Miss America Pageant contestants, and a plateau of Playboy centerfolds (Wiseman, Gray, Mosimann, & Ahrens, 1992). The leveling off of these numbers may be a result of the difficulty of decreasing expected weight any further without delving into even more dangerously unhealthy ranges (Wiseman et al., 1992). Increased social pressure for women to be thin, along with the cultural ideals for success and beauty, have lead to increased body image disturbances as well as increased instances of eating disorders (Garner et al., 1980).

The misconception that only thin and beautiful women are successful increases the pressure for women to be thin. Cash and Trimer (1984) examined the "what-is-beautiful-is-good" effect in 216 college women. Participants were given bogus essays to

rate on a number of different categories. The essays were accompanied by a description sheet of the essay's author and in most cases a photograph of the person. The results showed that physically attractive essayists were rated more favorably than unattractive counterparts. Attractive essayists were also seen as more competent and were expected to have more potential than their unattractive peers (Cash & Trimer, 1984).

Media pressure in the form of ads, beauty pageants, and television programming appears to contribute to women's desire to have an unnaturally thin body and thus body dissatisfaction (Cash et al., 1983; Garner et al., 1980; Wiseman et al., 1992). Women are also pressured to be thin and beautiful in order to feel successful (Cash & Trimer, 1984). Each of these pressures, and more seriously their cumulative effect, can be related to serious, long-term effects on a woman's body image.

Disordered Eating and Body Satisfaction

Disordered eating in college women falls on a continuum from normal eating to instances of anorexia nervosa and bulimia nervosa (Kalodner & Scarano, 1992; Scarano & Kalodner-Martin, 1994). According to one study, 11% of college women were chronic dieters, 54% daily engaged in dieting behaviors, and 16% were bingers (Mintz & Betz, 1988). Of participants categorized as overweight, 11% were chronic dieters. Astonishingly, of those categorized as normal weight, over 61% were chronic dieters (Mintz & Betz, 1988). This same study showed that subjects higher on the disordered eating continuum have decreasing levels of body satisfaction (Mintz & Betz, 1988). In a review of literature of nonclinical eating disorders, their correlates, and suggestions for

intervention, Kalodner and Scarno (1992) found that significantly more body dissatisfaction was expressed by women in studies who were classified as chronic dieters, purgers, subthreshold, or bulimic, than did those classified as normal.

Most researchers believe that a minority of college women can be categorized as "normal eaters" (Mintz & Betz, 1988; Kalodner & Scarano, 1992). Mintz and Betz (1988) found that 61% of the 682 undergraduate women studied were classified as having some intermediate form of an eating disorder (chronic dieting, bingeing or purging alone, subthreshold bulimia). This is a concern because many women move along the continuum towards more extreme disordered eating behaviors. A literature review conducted by Shisslak, Crago, and Estes (1995) showed that 20-25% of pathological dieters progressed to partial or full syndrome eating disorders within 1 to 2 years.

Eating disorders jeopardize health in a number of ways. Because of extreme weight loss, women with anorexia nervosa develop low blood pressure and heart rate, are intolerant of cold, and often stop menstruating (Insel et al., 1997). Anorexia has also been linked to cardiovascular, endocrine, and gastrointestinal disorders. Bulimia is associated with the development of liver and kidney damage, as well as cardiac arrhythmia because of laxative use or repeated vomiting in combination with deficient caloric intake (Insel et al., 1997).

Body satisfaction, as well as self-esteem, decreases as women advance along the continuum of disordered eating (Mintz & Betz, 1988; Shisslak et al., 1994). This misperception of being overweight may lead women to use dangerous weight control strategies in order to achieve their ideal of thinness (Kalodner & Scarano, 1992; Shisslak

et al., 1994). The literature review conducted by Kalodner and Scarano (1992) revealed that strategies such as using appetite suppressants, cellulite reducing products, and laxatives have all been used by women as weight control measures.

Mintz and Betz (1988) looked at correlates of eating disorders in women and found that as the women in the study advanced along the continuum of eating disorders, their level of body satisfaction decreased. Body satisfaction was measured on the Body Parts Satisfaction Scale (BPSS), which measures the "strength and direction of individuals' feelings toward various body parts and the nature and dimensionality of their body image" (p. 464). Mintz and Betz (1988) found that normal eaters had greater body satisfaction when than did bulimic women.

Heilbrun and Friedberg (1990) found that women who had personality characteristics similar to those in anorexic patients had greater body dissatisfaction than did the controls. Personality characteristics included poor interpersonal relationships (particularly heterosexual), a sense of failure and low self-esteem coupled with perfectionist tendencies, and conflicts with regards to independence. They also found that thinner participants were more likely to overestimate their body size than heavier participants (Heilbrun & Friedberg, 1990).

Fundamental to the development of eating disorders is the pursuit of thinness. Katzman and Wolchik (1984) found that bulimic and binge eater groups showed poorer body satisfaction than control groups. The desire to be thin affects not only those with clinical eating disorders (anorexia or bulimia nervosa) but also affects women with less severe forms of disordered eating.

Reviews of the literature in this area show a significant relationship between body dissatisfaction and disordered eating (Heilbrun & Friedberg, 1990; Mintz & Betz, 1988; Shisslak et al., 1994). Disordered eating is a concern because of its association with a number of health problems. The relationship between body dissatisfaction and disordered eating makes it necessary to further investigate variables related to body dissatisfaction in order to address them and reduce the prevalence of disordered eating and associated health problems.

Body Satisfaction and Self-Esteem

In a study of 43 female and 41 male young adults, Abell and Richards (1996) found that women who expressed more body satisfaction generally had higher levels of self-esteem than women with high levels of body dissatisfaction (Abell & Richards, 1996; Cash & Hicks, 1990; Silberstein et al., 1988). Results indicated a significant correlation in both men and women as determined by the Rosenberg Self-Esteem Scale and the Offer Self-Image Questionnaire for Adolescents. However, when looking at figure satisfaction (actual-ideal figure), significant correlations with self-esteem were only found in the female participants (Abell & Richards, 1996). Research has found considerable evidence that this relationship is a strong and enduring one. It can be seen in pre-pubescent girls through adulthood (Abell & Richards, 1996).

Low levels of self-esteem, according to Grilo et al. (1994), are related to the development of body dissatisfaction in both eating disorder patients and average weight dieters. When strong emphasis is placed on being thin, self-esteem is affected by a belief

that this ideal is not met. The relationship found between self-esteem and body dissatisfaction is related to the idea that body satisfaction is dependent on two images, the perceived self and the ideal self (Silberstein et al., 1988). The perceived self refers to how an individual comprehends or perceives him or herself to be. The ideal self is how an individual would ideally like to be. When these two standards are not matched, self-criticism and damaged self-esteem occur (Silberstein et al., 1988).

Cash and Hicks (1990) conducted a national mail survey of 30,000 participants, then randomly selected 2,000 returned surveys to analyze. Results of the survey showed the correlation between self-esteem and body dissatisfaction to be related to beliefs about the body and not actuality. Perception of participants mattered more than reality. Surveys were categorized as "normal weight self-labeled normal weight" or "normal weight self-labeled overweight." Those who were categorized as normal weight but were self-proclaimed to be overweight exhibited poorer psycho-social well-being than those who both perceived themselves to be, and were in actuality, normal weight (Cash & Hicks, 1990).

Grilo et al. (1994) looked at 40 overweight females attending an outpatient treatment center and found that low self-esteem in these women may have been a risk factor for developing body dissatisfaction. Self-esteem was significantly correlated with appearance evaluation and negatively correlated with body dissatisfaction. However, since such a specific population was used, results may not be generalizable (Grilo et al., 1994).

To many women, looking thin is the outward manifestation of being healthy

(Davis & Cowles, 1991). However, the pursuit of thinness is not synonymous with the pursuit of health. In order to reach the goal of being thin, women can either reduce food intake or increase physical activity, or both. However, the degree to which exercise is performed does little to achieve the unrealistically slender ideal that many women hold and therefore often does not change their level of body satisfaction (Davis & Cowles, 1991). When their ideal is not met, often times unhealthy measures are adopted in futile efforts to reach this unattainable and ultimately unsatisfying end.

Self-Esteem and Social Support

Literature on social support has identified four types of support: instrumental, emotional/esteem, informational, and appraisal (Heaney & Israel, 1997). Instrumental support includes tangible forms of support such as material and financial aid (Streeter & Franklin, 1992). Emotional or affective support includes empathy, love, caring, and trust. Informational support provides suggestions, advice, and information. Appraisal support includes constructive feedback, affirmation, and social comparison (Heaney & Israel, 1997). Cohen and Wills (1985) also include social companionship as a type of social support. Social companionship provides contact with others, which may fulfill a need for affiliation, facilitating a positive mood as well as distracting a person from worrying about problems.

There is not one set social support theory as it relates to health. The two predominate hypotheses are the buffering hypothesis and the direct effect hypothesis (Cohen & Wills, 1985). The buffering hypothesis says that social support acts as a

“buffer” to protect an individual against the potentially negative impact of stressful events. The direct effect hypothesis states that social resources have a positive effect on health regardless of the amount of stress (Cohen & Wills, 1985). The buffering hypothesis posits that support may intervene either between the stressful event and the stress reaction by diminishing or preventing a stress response, or support may intervene between the experience of stress and the onset of illness or negative behavior by reducing or eliminating the stress reaction. In the latter instance, support may minimize the effects of stress by reducing the perceived importance of the stressor (Cohen & Wills, 1985). Support may also have a direct influence on the physiological process (Cohen & Wills, 1985).

Emotional or esteem support can counterbalance the threats to self-esteem that stress appraisals commonly initiate. Informational support provides suggestions and reappraisal of the stressor (Cohen & Wills, 1985). In order for buffering to occur, a match between coping requirements and support must be met. Emotional and informational support are likely to be effective because they can be responsive to a wide range of stressors (Cohen & Wills, 1985).

The buffering hypothesis can be used in researching the relationship between social support and body dissatisfaction. As individuals are bombarded with negative influences such as the media, social comparison, and perceived societal norms for women, social support can act as a buffer to prevent increased levels of body dissatisfaction. Emotional support, which provides information that a person is esteemed and accepted (Cohen & Wills, 1985), would provide the greatest buffer to the potentially

detrimental effects of body dissatisfaction. Individuals who feel loved and cared for by supportive relationships will be less likely to focus on their body as a source of self-worth and identity. Supportive relationships provide people with the necessary avenues of caring, trust, and love that enable them to place less emphasis on physical appearance.

Informational support can also act as a buffer by helping to define, understand, and cope with problematic events (Cohen & Wills, 1985). The provision of informational support could furnish an individual with advice and information regarding the harmful effects of body dissatisfaction as well as information about realistic expectations and appropriate perceptions (Cohen & Wills, 1985).

Common to all definitions of social support is the acknowledgment of the impact of social support on self-esteem (Muhlenkamp & Sayles, 1986). Interactions with significant others, parents, or peers play a crucial role in the development of self-esteem. Lackovic-Grgin et al. (1994) correlated self-esteem scores for 178 adolescents with reported interactions with others. Results indicated that high levels of self-esteem in these adolescents were related to nurturance and intimacy in relationships with parents. In adolescence the development of self-esteem has long been recognized to be influenced by social support (Hoffman et al., 1993).

Hoffman et al. (1993) found that peer support was slightly more significantly related to self-esteem than was parental support. Significant increase in the association between social support and self-esteem was found when there was an increase in the orientation toward the agent providing the support. This suggests that "individuals may have an active role in selecting the social influences impinging upon the self" (p. 29).

Studies have looked at attachment to both parents and peers and the relationship of these attachments to self-esteem (Field, Lang, Yando, & Bendell, 1995; Lackovic-Grgin et al., 1994; Paterson, Pryor, & Field, 1995). Field et al. (1995) looked at the correlation between self-esteem and social support in 455 adolescents and found that those with high levels of self-esteem had more intimate relationships with their parents. Attachment to parents during adolescence often has an even stronger relationship with self-esteem than does attachment to peers (Lackovic-Grgin et al., 1994; Paterson et al., 1995). However, other research has shown that especially in adolescence, those with supportive friendships report higher levels of self-esteem (Field et al., 1995; Paterson et al., 1995).

Conversely, low levels of social support have been related to psychological distress and disorder (Brand, Lakey, & Berman, 1995). Brand et al. (1995) conducted an intervention designed to train participants in social skills and cognitive reframing regarding the self and social relations. Researchers hypothesized that involvement in the 13-week intervention would increase participants' perceived level of social support. Results indicated that those who participated in the intervention had increased perceived social support as determined by a 40-item perceived support scale. Increases in self-esteem were also demonstrated as measured by the Rosenberg Self-Esteem Scale. These results indicated that changes in perceived social support are correlated with increases in self-esteem (Brand et al., 1995).

Muhlenkamp and Sayles (1986) researched the relationship between self-esteem, social support, and positive health practices. In their study of 98 adult volunteers, they

found that social support, defined as “interpersonal interactions that produce a sense of belonging and communication of positive affect” (p. 334), was significantly correlated with self-esteem. Social support was shown to have a direct effect on self-esteem and an indirect effect on lifestyle through self-esteem. Results such as these are significant because of the possibilities they present for influencing health behaviors by increasing self-esteem and social support.

Research has shown that intimacy with mothers is significantly correlated with self-esteem, a higher correlation than intimacy with fathers and intimacy with friends in adolescence (Field et al., 1995; Lackovic-Grigin et al., 1994; Paterson et. al., 1995). Higher levels of self-esteem are also associated with lower levels of control and punitiveness of parents. Lackovic-Grigin et al. (1994) found that the best predictor of self-esteem of adolescent girls appears to be a relationship of nurturance and intimacy with their mothers. Lackovic-Grigin et al. (1994) believed that the nonsignificant relationship with peers is related to the idea that it is not until later in adolescence and early adulthood that intimacy with peers begins to have a greater impact on self-esteem.

The information found in this review showed a variety of correlations, depending on who was measured as providing social support. Although a number of studies in this review found that peer support was only weakly correlated with self-esteem, the proposed study hypothesizes that the effect of peer support will be more significant in a college population because of the proximity of peer support as opposed to parental support.

Murray et al. (1995) determined that future research needs to address the

relationship of social support and body image. They suggest that a study should be done to “establish whether and to what extent supportive personal relationships, characterized by a high degree of acceptance, have enabled them to remain ‘insulated’ from wider social concerns about body weight and shape” (Murray et al., 1995, p. 252).

Numerous studies have shown a correlation between self-esteem and social support (Field et al., 1995; Paterson et al., 1995). The level of correlation may be affected by the source of support, the type of support, as well as the period in one’s life. However, social relationships have consistently been shown to be related to self-esteem (Hoffman et al., 1993; Muhlenkamp & Sayles, 1986).

Summary

Body dissatisfaction has been shown to be an increasingly common problem among college age women and men (Cash & Henry, 1995; Heilbrum & Friedberg, 1990). Body dissatisfaction is influenced by a number of different characteristics. Gender, ethnicity, childhood experiences, media images, and societal pressure have all been shown to influence levels of body dissatisfaction (Abell & Richards, 1996; Abrams et al., 1993). Persons who have body dissatisfaction often have detrimental effects associated with it, such as eating disorders (Mintz & Betz, 1988).

Body dissatisfaction has also been found to be related to self-esteem (Abell & Richards, 1996). Studies have shown that self-esteem is affected when women pursue the idealized thin figure and do not achieve it (Silberstein et al., 1988). Self-esteem is also related to social support (Muhlenkamp & Sayles, 1986). Numerous studies have

shown that relationships with peers and parents play a crucial role in the development and maintenance of self-esteem (Field et al., 1995; Hoffman et al., 1993; Lackovic-Grgin et al., 1994).

The relationships already established between body satisfaction and self-esteem and between self-esteem and social support provide a theoretical link between social support and body satisfaction through self-esteem. This study will attempt to determine if a relationship exists between social support and body satisfaction. Establishing a relationship could enhance early intervention strategies in addressing issues of body dissatisfaction. Health educators would be able to incorporate social support into intervention programs to decrease body dissatisfaction and therefore decrease instances of the detrimental effects of body dissatisfaction, such as eating disorders and a low self-esteem.

CHAPTER 3

METHODOLOGY

Chapter Overview

In this chapter the purpose of the study will be given, and the research design and sampling procedures will be outlined. Instruments will be identified as well as their validity and reliability data. Data collection and analysis procedures will also be discussed.

Purpose of the Study

Research has not yet established if a significant relationship exists between body dissatisfaction and perceived social support. This study was designed to determine if, and to what extent, this relationship exists. Although an experimental study is perhaps a better research design, it is important to first establish an empirical relationship between social support and body dissatisfaction.

Research Design

The design of this study was a nonrandom, correlational, cross-sectional study to determine the relationship between body dissatisfaction and social support. Using a nonrandom sample limits the generalizability to other populations. However, using a convenience sample of Utah State University students allows for a relatively large sample size as well as ease in data collection. Correlational designs provide information

about the degree of the relationship between variables (Gall, Borg, & Gall, 1996). A limitation to using a correlational design is that it identifies a relationship but does not necessarily identify a cause-and-effect relationship (Isaac & Michael, 1981). In cross-sectional studies in which data are collected at one point in time from groups at different ages or at different stages of development, information obtained is not prospective (Gall et al., 1996). Questionnaires were administered one time to study participants. Because there was no follow-up, analysis was conducted after the initial data collection.

Sampling and Setting

A nonrandom convenience sample was used in this study. Male and female Utah State University students enrolled Fall Semester 1998 in two sections of Sociology 1010 ($n = 193$ and $n = 145$) and Family and Human Development 1500 ($n = 132$ and $n = 135$), and one section of Nutrition and Food Sciences 1000 ($n = 26$) and Family and Human Development 3110 ($n = 85$) were used. Total enrollment in these classes for Fall Semester 1998 was 1,140; however, the number of students in attendance the days the questionnaire was administered was substantially less. Excluding those who did not complete the questionnaires because they were either pregnant or under 18 years of age, both of which were exclusion criteria in the informed consent, 724 questionnaires were returned. Eight of those returned marked that they were pregnant and were therefore not included in the analysis. Four participants did not mark their gender, and were therefore not included in the analyses that were separated by gender, leaving a total of 712 participants in those analyses, which is a response rate of 64%.

Because of the nature of introductory classes, it was assumed that the majority of participants would be freshman and sophomores, and hence relatively young. In fact, nearly half of the sample were 19 years or younger ($n = 341$, 47.6%) and nearly 90% were 23 or younger ($n = 639$, 89.6%). The study sample was younger when compared to the total Utah State University population, 30.7% of which were 19 years or younger and 70.6% of which were 23 or younger (USU Planning and Analysis, 1997). Because of the age of the sample it was assumed that the majority of the participants would be single. Results showed that 82% ($n = 587$) were single (never married) and only 14.8% ($n = 106$) were currently married. Information on the marital status of the total Utah State University population was not available. An unexpected finding was that 72.1% ($n = 516$) of the sample were female and only 27.5% ($n = 196$) were male. In the total USU population female students outnumbered male students, although only slightly (52.8% and 47.2%, respectively).

Although not unexpected, it is unfortunate that 95.4% ($n = 683$) of the population was White, leaving all other racial and ethnic groups underrepresented in this study. The racial and ethnic background of the university was similar to that found in the study sample; nearly 90% were classified as White, non-Hispanic ($n = 19,062$, 89.9%). Because of the small number of racial and ethnic minorities represented in the study sample, analysis on these groups will not be discussed.

A set of demographic questions addressed the participants' history of dieting, friends' and family members' dieting history, current dieting, and weight. Over half of the participants ($n = 369$, 51.5%) felt that they were currently at a normal weight, while

nearly 33% ($n = 235$, 32.8%) felt they were overweight to some degree, and only 15.5% ($n = 111$) felt that they were underweight to some degree. Twenty-one percent ($n = 149$) of the sample were currently dieting (defined as restricting eating in an effort to lose weight); however, 45.9% ($n = 326$) reported dieting one or more times in the past year. Of that 45.9%, nearly 5% ($n = 33$, 4.6%) reported dieting more than 12 times in the past year. Of those currently dieting, 89.9% were female and only 10.1% were male participants.

Ten percent ($n = 72$) of the population were currently trying to gain weight. Of this 10% over 80% were male ($n = 58$, 80.6%) and only 19% were female ($n = 14$). Participants were also asked about their friends' and family members' dieting histories. While 45.9% of participants reported dieting in the past year, nearly 80% ($n = 565$, 79.6%) reported having family members who have dieted in the past year and 70% ($n = 494$) reported having friends who have dieted in the past year (see Table 1).

Instrumentation

Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This widely used test is a highly reliable and internally consistent measure of global self-esteem. The Rosenberg Self-Esteem scale (Appendix D) is a 10-item measure that is rated on a scale of 1 "strongly agree" to 4 "strongly disagree." Reliability coefficient alphas for college students are reported as .88 (Gray-Little, Williams, & Hancock, 1997). Silber and Tippett (1965) found convergent validity scores of .56 to .83 when the RSE was correlated with several similar measures. Cronbach's alpha levels

Table 1

Demographic Profile of Study Sample

Variable	N	Percent	Missing
Gender			4
Male	196	27.4	
Female	516	72.1	
Age			3
19 or younger	341	47.6	
20-21	192	26.8	
22-23	106	14.8	
24-25	38	5.3	
26 or older	36	5.0	
Race/Ethnicity			4
Hispanic	12	1.7	
Black	4	.6	
Asian/Pacific Islander	10	1.4	
White	683	95.4	
Native American	3	.4	
Marital Status			2
Single (never married)	587	82.0	
Married	106	14.8	
Separated/divorced	10	1.4	
Cohabitant	11	1.5	
Widowed	0	0.0	
Currently dieting			2
Yes	149	20.8	
No	565	78.9	
Trying to gain weight			4
Yes	72	10.1	
No	640	89.4	
Dieting history (past year)			5
None	385	53.8	
1-4 times	244	34.1	
5-10 times	39	5.4	
11-12 times	10	1.4	
more than 12	33	4.6	
Friend history			10
None	212	29.6	
1-4 times	353	49.3	
5-10 times	91	12.7	
11-12 times	15	2.1	
more than 12	35	4.9	
Family history			6
None	145	20.3	
1-4 times	444	62.0	
5-10 times	89	12.5	
11-12 times	11	1.5	
more than 12	21	2.9	

were determined for the current sample using SPSS to substantiate the reliability of the instruments for the present study sample (see Table 2). Alpha levels should be above .70 but generally will not be higher than .90 (Streiner & Norman, 1995). An alpha level similar to that reported for college students was found in this sample ($\alpha = .86$), indicating an acceptable reliability.

The Social Provisions Scale (Appendix B) was used to measure social support (Cutrona & Russell, 1987). The original Social Provisions Scale is a 24-item scale measuring six provisions of social support: guidance, reliable alliance, attachment, social integration, reassurance of worth, and opportunity to provide nurturance. The revised scale contains 36 items and though it measures the same six provisions, it measures them according to the source providing the support (parents, friends, male partner). Because support of male partner is included in the scale, but not support of female partner, the scale was modified to include female partner as male students were surveyed and analyzed in this study. Response options (yes, no, or sometimes) are summed in order to determine a social support score (Cutrona, 1989). Extensive analysis of the original scale yielded reliability coefficients for the six provisions ranging from .65 to .76 with the reliability of the total Social Provision Score being .91 (Cutrona & Russell, 1987). Validity of the Social Provisions Scale ranged from .35 to .46 when correlated with other measures of support (Cutrona & Russell, 1987). The modified scale was correlated with the original scale which resulted in a correlation of .65 (Cutrona, 1989). Reliability coefficients were determined for the six subscales and each support source (parents, friends, males partner) generating coefficients of .69, .63, and .78, respectively (Cutrona,

1989). Reliability coefficients were also calculated for the present study, which not only substantiated the reliability for the current sample but also confirmed the validity for the revised partner subscale. Coefficients found in the present study sample were higher for each subscale than those reported by Cutrona (1989), they equaled .84, .77, and .81 (parents, friends, partner) indicating acceptable reliability for each scale. Reliability coefficients were also calculated for the two total Social Provisions Scale scores; total 1 ($\alpha = .86$) includes the parent and friend subscale and excludes the partner subscale while total 2 ($\alpha = .87$) includes all three subscales, and both alphas indicate acceptable reliability. Total 1 includes only the parent and friend subscales and excludes the partner subscale. This was done because a number of participants did not currently have a partner and were instructed not to fill out the partner subscale. Total 2 includes all three subscales (parent, friend and partner) of those who completed each subscale.

The Body Esteem Scale (Appendix C) was used to measure body satisfaction (Franzoi & Shields, 1984). The Body Esteem Scale is based on the Body Cathexis Scale developed by Secord and Jourard (1953). Using this scale, subjects rate their satisfaction with 35 body parts and functions on a scale of 1 "have strong negative feelings" to 5 "have strong positive feelings." The scale is divided into three subscales for males (physical attractiveness, upper body strength, physical condition) and three subscales for females (sexual attractiveness, weight concern, physical condition). Reliability coefficients for males range from .81 to .86. For females reliability ranges from .78 to .87 (Franzoi & Shields, 1984). The Body Esteem Scale has been found to be correlated with measures of self-esteem, and convergent validity ranged from .19 to .35 for females

and .45 to .51 for males (Franzoi & Shields, 1984). Convergent validity with other instruments has not been reported. Reliability coefficients calculated for the present study sample were higher than those reported by Franzoi and Shields ($\alpha = .94$) and indicate an acceptable reliability.

Demographic characteristics were obtained using a questionnaire developed for the present study (Appendix E). The questionnaire assessed gender, age, race, marital status, dieting history, ideal weight, and family and peer dieting history and ideal weight. Literature has shown an important distinction between male and female perceptions of body satisfaction and therefore supports the inclusion of gender as a demographic characteristic (Abell & Richards, 1996). Racial and ethnic difference have also been established in the literature and are important to study in this instance (Abrams et al., 1993; Akan & Grilo, 1995). Age and marital status have not been discussed in terms of body satisfaction, but may be factors that are influential and will therefore be addressed. Dieting history and ideal weight have been well established in the literature as important variables to consider in terms of body satisfaction (Mintz & Betz, 1988; Shisslak et al., 1994).

Data Collection Procedures

Questionnaires were administered by the student researcher to the students in the courses previously listed. Participants were informed that participation was voluntary and anonymous. The student researcher read the consent form (Appendix A) to the students, who were then asked to complete the questionnaire. A pilot test was

Table 2

Cronbach's Alpha Levels

Scales	Alpha level
BES	.94
RSE	.86
SPS	
Friend	.77
Parent	.84
Partner	.81
Total 1	.86
Total 2	.87

Note. BES = Body Esteem Scale; RSE = Rosenberg Self-Esteem Scale; SPS = Social Provisions Scale; Friend = friend subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Partner = partner subscale of the Social Provisions Scale; Total 1 = friend and parent subscales of the Social Provisions Scale; Total 2 = friend, parent, and partner subscales of the Social Provisions Scale

administered to one section of HEP 2500, Health and Wellness, in order to determine the time to complete the questionnaire as well as to solicit suggestions for making the questionnaire more understandable. Eight female and two male students participated in the pilot test. All pilot test participants were White, 80% were single ($n = 8$), and most were 21 years old or younger. All participants completed the questionnaire in 15

minutes, but it was assumed that administration in larger classes would take additional time to hand out and collect the questionnaire. The only suggestion was to change the order of the answers on the Social Provisions Scale (from No, Sometimes, Yes, to Yes, Sometimes, No). No changes were made, however, in order not to change the reliability and validity established for the Social Provisions Scale. Approval from the Institutional Review Board of Utah State University was granted before data were collected (Appendix F).

Data Analysis Procedures

Means and standard deviations were determined for each scale that was used. Pearson product-moment correlation coefficients were used to determine any correlation between body dissatisfaction, self-esteem, and social support in males and females. At alpha .01, *t* tests were used to determine statistical significance. Analysis of variance (ANOVA) was conducted to examine the relationship between study demographics and body dissatisfaction. ANOVA is used to compare the amount of between group variance in individual scores with the amount of within group variance (Gall et al., 1996). Multiple regression analysis is used to determine the correlation between a criterion variable and a combination of predictor variables (Gall et al., 1996). In this study, multiple regression was used to determine which subscale was the best predictor of body satisfaction (see Table 3).

Effect size statistics were calculated to assess the practical significance of the statistical analysis. The effect size for standardized means (SME) was used to calculate

effect size for t tests and was calculated by subtracting one mean from the other and dividing that number by the weighted standard deviation (Gall et al., 1996). Cohen (1977) suggested that a standardized mean effect size of .20 could be defined as small, .50 as moderate, and .80 as large. Eta-squared (η^2) was the effect size statistic used for analyses using analysis of variance. This was calculated by dividing the sum of squares between by the sum of squares total (Heiman, 1992). Cohen (1977) stated that the effect size statistics for ANOVA of .10 could be defined as small, .25 as medium, and .40 as large.

Table 3

Research Questions, Instruments, and Statistical Analysis Used

Research question	Instrument	Statistical analysis
1. Is there a significant positive correlation between body satisfaction and social support in college women?	Body Esteem Scale (BES) total score and Social Provisions Scale (SPS) total score	Means, standard deviations, t test, Pearson r
2. Is there a significant positive correlation between body satisfaction and social support in college men?	BES total score and Social Provisions Scale (SPS) total score	Means, standard deviations, t test, Pearson r

(table continues)

Research question	Instrument	Statistical analysis
3. Is there a significant positive correlation between body satisfaction and self-esteem in college women?	BES total score and Rosenberg Self-Esteem (RSE) total score	Means, standard deviations t test, Pearson r
4. Is there a significant positive correlation between body satisfaction and self-esteem in college men?	BES total score and RSE total score	Means, standard deviations t test, Pearson r
5. Is there a significant positive correlation between social support and self-esteem in college women?	SPS total score and RSE total score	Means, standard deviations, t test, Pearson r
6. Is there a significant positive correlation between social support and self-esteem in college men?	SPS total score and RSE total score	Means, standard deviations, t test, Pearson r
7. Is there a significant relationship between the study demographic characteristics and body satisfaction?	BES total score and each demographic item	Analysis of variance (ANOVA), means for demographic questions

(table continues)

Research question	Instrument	Statistical analysis
8. Is there a significant relationship between the study demographic characteristics and level of social support?	SPS total score and each demographic item	ANOVA, means for demographic questions
9. What source of social support is the best predictor of body satisfaction for college women?	BES total score and SPS subscale scores	Multiple regression
10. What source of social support is the best predictor of body satisfaction for college men?	BES total score and SPS subscale scores	Multiple regression
11. Is there a significant relationship between current dieting and the Body Esteem Scale scores?	BES total score and demographic current dieting	t test
12. Is there a significant relationship between dieting history and the Body Esteem Scale scores?	BES total score and dieting history question	ANOVA

CHAPTER 4

RESULTS

Chapter Overview

Research has not yet established if a significant relationship exists between body dissatisfaction and social support. This study attempted to determine if a statistically significant relationship exists. It was hypothesized that a theoretical relationship exists between social support and body dissatisfaction through the relationship that each of these factors has with self-esteem. Determining if this relationship exists would allow health educators to be better able to address the issue of body dissatisfaction by addressing social support and therefore decreasing instances of detrimental effects of body dissatisfaction, such as eating disorders and low self-esteem.

Sample Gender Differences

Chi-square analysis was conducted to determine if significant differences existed between the study demographics and gender of participants. This provided insight into the differences between the male and female undergraduate students who participated in the present study. Male and females differed significantly in their dieting history, $\chi^2 = 80.472$, $p < .01$. Eighty-one percent of males had not dieted in the previous 12 months, while only 43.9% of females had not. Of female participants, 41.4% had dieted 1-4 times in the past year, while only 16.3% of men had dieted 1-4 times in the past year.

These results indicated that female participants had a greater history of dieting than male participants.

Male and female participants differed significantly on their feelings about their current weight, $\chi^2 = 41.164$, $p < .01$. Similar percentages of male (54.1%) and female participants (51%) felt they were currently normal weight. Females, however, were much more likely to feel they were currently overweight (38.2%) than male participants (19.3%) and males were more likely to feel they were currently underweight (males = 15.2%, females = 10.9%).

A significant difference also existed between male and female participants and friends' dieting history, $\chi^2 = 115.687$, $p < .01$. Nearly 60% of male participants reported friends not dieting in the past year, while only 18.9% of female participants reported their friends had not dieted. Over half of the female participants reported their friends dieting 1-4 times in the past year, while only 35% of males reported the same level of dieting. There was not a significant difference between male and female participants and their family members' dieting history. A majority of both male (85.1%) and female participants (82.3%) reported their family members dieting 0-4 times in the previous 12 months.

Age was analyzed using ANOVA because it is a ratio variable. A significant difference existed between male and female participants ages, $F(1, 709) = 50.386$, $p < .01$. Female participants tended to be younger than male participants. Nearly 48% of male participants were 22 years old or older while only 16.7% of female participants were in the same age group.

To determine gender differences on marital status participants were classified either married or not married. A small differences in marital status did exist between males and females, $\chi^2 = 3.914$, $p < .05$. Slightly more female participants (86.9%) were single than male participants (81.1%). Participants racial background for this analysis were categorized as either White or non-White. A small yet significant gender difference existed between racial groups; more males were classified as non-White (7.8%) than females (2.3%).

Analysis of Research Questions

Sample size, means, and standard deviations were calculated for each of the scales and subscales that were used in the questionnaire, which includes the Body Esteem Scale, Rosenberg Self-Esteem Scale, Social Provisions Scale, and subscales of the Social Provisions Scale. The Social Provisions Scale has two totals that are reported. Total 1 is the sum of the friend and parent subscales but excludes the partner subscale, which was done because participants who did not currently have a partner were instructed not to fill out the partner subscale. Total 2 is the sum of the friend, parent, and partner subscales for those participants who completed all three subscales. Table 4 shows each of these values for female participants and Table 5 shows the values for male participants.

Research Question One

Is there a significant positive correlation between body satisfaction and social

Table 4

Sample Size, Means, Standard Deviations, and Minimum and Maximum Values for the Female Study Sample

Variable	<u>N</u>	<u>M</u>	<u>SD</u>	Min value	Max value
BES	516	111.54	19.09	57.00	174.00
RSE	516	30.70	4.99	10.00	40.00
SPS					
Friend	516	32.57	2.96	17.00	36.00
Parent	516	31.72	3.93	14.00	36.00
Partner	383	32.56	4.06	1.0	36.00
Total 1	516	64.29	5.93	33.00	72.00
Total 2	283	96.58	7.81	50.00	108.00

Note. BES = Body Esteem Scale; RSE = Rosenberg Self-Esteem Scale; SPS = Social Provisions Scale; Friend = friend subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Partner = partner subscale of the Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

support in college women? Pearson product-moment correlation coefficients were calculated to determine if a relationship existed between social support and body satisfaction in college women. Strength of correlation coefficients throughout the present study were defined by the following criteria; .20 as weak, .40 as moderate, and

Table 5

Sample Size, Means, Standard Deviations, and Minimum and Maximum Values for the Male Study Sample

Variable	<u>N</u>	<u>M</u>	<u>SD</u>	Min value	Max value
BES	196	124.46	22.35	75.00	175.00
RSE	196	31.89	5.17	11.00	40.00
SPS					
Friend	196	31.98	3.65	18.00	36.00
Parent	196	30.86	4.61	14.00	36.00
Partner	91	31.86	6.56	1.00	36.00
Total 1	196	62.84	7.16	32.00	72.00
Total 2	91	94.39	11.30	56.00	107.00

Note. BES = Body Esteem Scale; RSE = Rosenberg Self-Esteem Scale; SPS = Social Provisions Scale; Friend = friend subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Partner = partner subscale of the Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

.60 as strong (Fox, 1998). Correlation coefficients were calculated between scores on the Body Esteem Scale score and the Social Provisions Scale score and its subscales. Scores were calculated separately for males and females in order to conduct analysis separately.

One hundred and thirty-three female participants did not complete the partner

subscale because they did not have a current partner and were instructed to leave the section blank. Statistically significant correlations were found between Body Esteem Scale scores and each of the Social Provisions subscales as well as both total Social Provisions Scale scores. As Table 6 indicates, the strongest positive correlations were found between the Body Esteem Scale score and the friend social support subscale ($r = .21, p < .01$) and the Social Provisions Scale total 1 ($r = .247, p < .01$).

All measures of social support were found to be statistically significantly and positively related to body satisfaction in college women. Total 1 of the Social Provisions Scale (excluding the partner subscale) and friend support were the most strongly related to body satisfaction. Although the correlations were found to be weak, with a variable as complex as body satisfaction, finding a weak correlation provides insight into yet another component that affects a person's level of body satisfaction.

Research Question Two

Is there a significant positive correlation between body satisfaction and social support in college men? As with female participants, Pearson product-moment correlation coefficients were calculated to determine if a relationship existed between Body Esteem Scale scores and Social Provisions Scales subscales and total scores for male participants. One hundred and five males did not complete the partner subscale of the Social Provisions Scale because they were not currently in a relationship.

Statistically significant correlations were found between the Body Esteem Scale scores and the friend and parent subscales of the Social Provisions scale as well as the

Table 6

Correlation Coefficients for the Body Esteem Scale and the Social Provisions Scale for Female Participants

Subscales	1	2	3	4	5	6
1. BES	–	.210**	.151*	.146**	.202**	.247**
2. Friend		--	.330**	.467**	.810**	.282**
3. Parent			--	.149*	.273**	.718**
4. Partner				--	.897**	.278**
5. Total 1					--	.326**
6. Total 2						--

Note. BES = Body Esteem Scale; Friend = friend subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Partner = partner subscale of the Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

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

Social Provisions Scale total 1 (parent and friend subscales). As indicated in Table 7, the correlations between the Body Esteem Scale score and the friend subscale ($r = .215$, $p < .01$) and total 1 ($r = .216$, $p < .01$) score correlated at similar levels and were the strongest correlations that existed for male participants. Although not statistically significant, a small and negative correlation existed between the Body Esteem Scale

Table 7

Correlation Coefficients for the Body Esteem Scale and the Social Provisions Scale for Male Participants

Subscales	1	2	3	4	5	6
1. BES	–	.215**	.165*	-.021	.216**	.112
2. Friend		--	.494**	.303**	.829**	.372**
3. Parent			--	.142	.896**	.332**
4. Partner				--	.234*	.742**
5. Total 1					--	.403**
6. Total 2						--

Note. BES = Body Esteem Scale; Friend = friend subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Partner = partner subscale of the Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

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

score and the partner subscale of the Social Provisions Scale score, $r = -.021$, $p = .842$.

No significant relationship was found between the Body Esteem Scale and total 2 of the Social Provisions Scale, $r = .112$, $p = .292$.

To determine if a difference existed between male and female Body Esteem Scale scores and Social Provisions Scale scores, t tests were calculated (see Table 10, shown

later). Results indicated that there was a statistically significant difference in scores based on gender for Body Esteem Scale scores, $t(df = 710) = 7.69, p < .01$. Male participants ($M = 124.5$) scored an average of 13 points higher than female participants ($M = 111.5$), indicating a higher level of body satisfaction for male participants.

Analyses for the two total scores of the Social Provisions Scale based on gender also found statistically significant results, total 1 $t(df = 710) = 2.76, p < .01$; total 2 $t(df = 710) = 2.07, p < .05$. Means on total 1 of the Social Provisions Scale differed between female and male scores by an average of only 1.5 points, $M = 64.3$ and $M = 62.8$, respectively. Scores indicated that female participants had a slightly higher level of social support as measured by the parent and friend subscales of the Social Provisions Scale. On total 2 of the Social Provisions Scale where mean scores differed by an average of only 2.2 points, female participants ($M = 96.6$) once again had a slightly higher level of social support than male participants ($M = 94.4$) as measured by all three subscales of the Social Provisions Scale.

Effect sizes were also calculated for each scale based on gender. Effect sizes were calculated by subtracting the male mean score from the female mean score and dividing that number by the weighted standard deviation (Gall et al., 1996). Effect size statistics were calculated to assess the practical significance of the results that were found. Calculations for the Body Esteem Scale scores yielded a very small effect size ($SME = .03$). Standardized mean effect sizes for the totals of the Social Provisions Scale were similar to that of the Body Esteem Scale (total 1 $SME = .04$; total 2 $SME = .01$). These effect sizes indicate that although statistically significant, there is no practical

difference between genders on the Body Esteem Scale and the Social Provisions Scale.

Body dissatisfaction was statistically significantly and most strongly related to friend support and total 1 of the Social Provisions Scale for male participants. Unlike results for female participants, a correlation between body dissatisfaction and total 2 of the Social Provisions Scale was not seen for male participants. Parent support was statistically significant, yet only weakly correlated with body dissatisfaction ($r = .165, p < .05$). The other measures of social support were not found to be statistically significant in college men.

Research Question Three

Is there a significant positive correlation between body satisfaction and self-esteem in college women? Correlation coefficients were also calculated to determine the relationship between body satisfaction and self-esteem as measured by the Body Esteem Scale and the Rosenberg Self-Esteem Scale. Strong and statistically significant positive correlations were found between these two scales for female participants ($r = .570, p < .01$) as shown in Table 8. These results indicate that a high level of self-esteem is related to a high level of body satisfaction in college women.

Research Question Four

Is there a significant positive correlation between body satisfaction and self-esteem in college men? Correlation coefficients were also calculated to determine if a relationship existed between body satisfaction and self-esteem in college men. Scores from the Body Esteem Scale and the Rosenberg Self-Esteem scale were also used to

Table 8

Correlation Coefficients for the Body Esteem Scale and the Rosenberg Self-Esteem Scale for Female Participants

Scales	1	2
1. BES	--	.570**
2. RSE	.570	--

Note. BES = Body Esteem Scale; RSE = Rosenberg Self-Esteem Scale

** $p < .01$.

Table 9

Correlation Coefficients for the Social Provisions Scale and the Body Esteem Scale for Male Participants

Scales	1	2
1. BES	--	.346**
2. RSE	.346**	--

Note. BES = Body Esteem Scale; RSE = Rosenberg Self-Esteem Scale

** $p < .01$.

determine this calculation. A moderate and statistically significant relationship was found ($r = .346$, $p < .01$) for college men (see Table 9).

To determine if a statistically significant difference existed between male and female scores on the Rosenberg Self-Esteem Scale t tests were calculated. Results

Table 10

Independent t-Test Values for Scales Between Genders

Scales	<u>Male participants</u>		<u>Female participants</u>		t	SME
	Means	<u>SD</u>	Means	<u>SD</u>		
BES	124.46	22.35	111.54	19.09	-7.687**	-.03
SPS						
Total 1	62.84	7.16	64.29	5.93	2.756**	.01
Total 2	94.39	11.31	96.58	7.80	2.074*	.03
RSE	31.89	5.17	30.69	4.99	2.812**	.05

Note. BES = Body Esteem Scale, SPS = Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

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

indicated that statistically significant differences did exist on this scale, $t(df = 712) = 2.81$, $p < .01$. On average mean scores on the Rosenberg Self-Esteem Scale for male participants ($M = 31.9$) were 1.2 points higher than the mean score of female participants ($M = 30.7$), indicating a slightly higher level of self-esteem for male participants (see Table 10).

Standardized mean effect size was calculated to determine the practical significance of gender difference on the Rosenberg Self-Esteem Scale. Results were similar to those found for the Body Esteem Scale and the Social Provisions Scale. An

effect size of $SME = .05$ was found for gender differences on the Rosenberg Self-Esteem Scale, indicating no practically significant differences between genders.

Research Question Five

Is there a significant positive correlation between social support and self-esteem in college women? Correlation coefficients were calculated to determine if a relationship existed between social support and self-esteem in college women. Social support was measured by scores on the Social Provisions Scale while self-esteem was measured by the Rosenberg Self-Esteem Scale. Again, male and female scores were analyzed separately. Statistically significant results were found between Rosenberg Self-Esteem Scale scores and all subscales and total scores on the Social Provisions Scales for female participants. As Table 11 indicates, the correlations found for female participants between the Rosenberg Self-Esteem Scale and both totals of the Social Provisions Scale resulted in statistically significant and moderate positive relationships (total 1 $r = .308$, $p < .01$; total 2 $r = .343$, $p < .01$). Social support subscale scores were also found to be statistically significant. The strongest relationship was found with the partner subscale ($r = .278$, $p < .01$), indicating a weak positive relationship. Analysis of social support and self-esteem in college women shows that a weak to moderate yet significant relationship exists between these variables.

Research Question Six

Is there a significant relationship between social support and self-esteem in college men? Statistically significant results were also found between the Rosenberg

Table 11

Correlation Coefficients for the Rosenberg Self-Esteem Scale and the Social Provisions Scale for Female Participants

Scales	1	2	3	4	5	6
1. RSE	–	.155**	.256**	.278**	.308**	.343**
2. Partner		--	.149*	.330**	.273**	.718**
3. Parent			--	.467**	.897**	.278**
4. Friend				--	.810**	.283**
5. Total 1					--	.326**
6. Total 2						--

Note. RSE = Rosenberg Self-Esteem Scale; Partner = partner subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Friend = friend subscale of the Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

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

Self-Esteem Scale scores and all but the partner subscale ($r = .104$, $p = .327$) of the Social Provisions Scale scores for male participants. As shown in Table 12, the strongest correlation was between the Rosenberg Self-Esteem Scale and the friend subscale of the Social Provisions Scale ($r = .383$, $p < .01$). Similar correlations were found for the parent subscale ($r = .283$, $p < .01$), total 1 ($r = .377$, $p < .01$), and total 2 ($r = .275$, $p < .01$) of the

Table 12

Correlation Coefficients for the Rosenberg Self-Esteem Scale and the Social Provisions Scale for Male Participants

Scales	1	2	3	4	5	6
1. RSE	–	.104	.283**	.383**	.377**	.275**
2. Partner		--	.142	.303**	.234*	.742**
3. Parent			--	.494**	.896**	.332**
4. Friend				--	.829**	.372**
5. Total 1					--	.403**
6. Total 2						--

Note. RSE = Rosenberg Self-Esteem Scale; Partner = partner subscale of the Social Provisions Scale; Parent = parent subscale of the Social Provisions Scale; Friend = friend subscale of the Social Provisions Scale; total 1 = friend and parent subscales of the Social Provisions Scale; total 2 = friend, parent, and partner subscales of the Social Provisions Scale

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

Social Provisions Scale. These results show that a significant relationship exists between social support and self-esteem in college men.

Research Question Seven

Is there a significant relationship between the study demographics and body satisfaction? Statistically significant relationships were found between some of the study

demographic characteristics and body satisfaction as measured by the Body Esteem Scale. One-way analysis of variance (ANOVA) was used to determine this relationship; F -values significant at $p < .01$ will be considered statistically significant in all analyses using ANOVA. The strongest F -value was found for current weight, which assessed whether a person felt that he/she was currently underweight, normal weight, or overweight, $F(4, 710) = 36.789$, $p < .01$. Dieting history also resulted in a strong F -value, $F(4, 706) = 20.327$, $p < .01$. This demographic looked at the number of times a person dieted in the previous 12 months. None of the other F -values that were found were nearly as strong as for these two demographic characteristics. Although personal dieting history resulted in a large F -value, friend, $F(4, 701) = 5.435$, $p < .01$, and family dieting history, $F(4, 705) = 3.120$, $p < .05$, resulted in much smaller F -values; however, friend dieting history remained statistically significant. Marital status, $F(3, 710) = 1.049$, $p = .370$, was the only demographic characteristic not found to be statistically significantly related to the Body Esteem Scale (see Table 13).

Eta-squared was the effect size statistic used for analyses using ANOVA. The effect size for current weight ($\eta^2 = .17$) was a small to medium effect size, indicating a small level of practical significance. All other eta squares were much lower and not of a great enough magnitude to be classified.

Multiple range tests were conducted to determine where the variation existed in significant analyses. Duncan's post hoc test was used in the present study to determine where significant variation existed; post hoc analysis was conducted at $p < .05$. When looking at the variation in Body Esteem Scale scores between levels of weight

Table 13

Analysis of Variance for Study Demographic Variables and the Body Esteem Scale

Source	<u>df</u>	Sum of squares	Mean square	<u>F</u> value	η^2
Race	4	5025.790	1256.447	2.915*	.02
Current weight	4	53194.303	13298.576	36.789**	.17
Dieting history	4	31801.827	7950.457	20.327**	.10
Friend history	4	9210.129	2302.532	5.435**	.03
Family history	4	5356.885	1339.471	3.120*	.02
Marital status	3	1366.256	455.419	1.049	.004
Age	4	9278.808	2319.702	5.486**	.03

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

satisfaction, the most significant variations were seen between those who were self-categorized as very overweight ($M = 90.2$), those who were somewhat underweight ($M = 122.2$), and the rest of the categories: those who felt they were currently normal weight ($M = 120.5$), those who felt they were somewhat overweight ($M = 104.7$) and those who categorized themselves as very underweight ($M = 112.2$). These results indicated that those who reported to be very overweight scored significantly lower on the Body Esteem Scale, while those who reported to be currently normal weight scored significantly higher on the Body Esteem Scale.

Results of the Duncan's multiple range test showed that those who reported no

history of dieting in the previous year ($\underline{M} = 120.8$) and all other levels of self-reported dieting history: 1-4 times ($\underline{M} = 110.8$), 5-10 times ($\underline{M} = 104.4$), 11-12 times ($\underline{M} = 106.6$), and more than 12 times ($\underline{M} = 99.4$). These results indicate that those who did not report a history of dieting in the past year had significantly higher Body Esteem Scale scores than the rest of the sample. Significant variation was also seen in friends' dieting history between those who had no history of dieting in the past year ($\underline{M} = 119.9$), those who reported dieting 5-10 times in the previous year ($\underline{M} = 109.3$), and all other levels of friends' dieting history: 1-4 times ($\underline{M} = 114.1$), 11-12 times ($\underline{M} = 110.8$), and more than 12 times ($\underline{M} = 111.7$). This may suggest that those reporting no friends' dieting history in the past year had significantly higher Body Esteem Scale scores than the rest of the sample, and those who reported friends dieting 5-10 times in the past year had significantly lower scores on the Body Esteem Scale. Finally, Duncan's post hoc test was conducted to see where the variation in Body Esteem Scale scores could be seen in relation to age. Significant variation was seen between those 19 or less ($\underline{M} = 112.3$), those 22-23 ($\underline{M} = 122.2$), and all other age groups: 20-21 ($\underline{M} = 114.7$), 24-25 ($\underline{M} = 119.9$), and 26 or older ($\underline{M} = 117.7$). This signifies that those who were 19 or less had lower Body Esteem Scale scores and those who were 20-23 had higher Body Esteem Scale scores than the rest of the sample.

Significant relationships were seen between age, current weight, dieting history, friend dieting history, and body satisfaction. Marital status, family dieting history, and race were not found to be statistically significantly related to body satisfaction. The strongest relationships were found between dieting history and current weight.

Research Question Eight

Is there a significant relationship between the study demographics and level of social support? A one-way analysis of variance (ANOVA) was conducted to determine the relationship between the study demographic variables and social support as measured by the Social Provisions Scale. Analysis was conducted separately for total 1 and total 2 of the Social Provisions Scale; those F -values significant at $p < .01$ will be discussed as statistically significant. For total 1, which includes the parent and friend subscales and excludes the partner subscale, most demographic characteristics were found to be statistically significant (see Table 14). Marital status was found to have the largest F -value when analyzed with total 1 of the Social Provisions Scale, $F(3, 710) = 7.808$, $p < .01$. Current weight, $F(4, 710) = 3.495$, $p < .01$, and dieting history, $F(4, 706) = 4.268$, $p < .01$, were also found to be statistically significantly related to total 1 of the Social Provisions Scale. Friends' dieting history, $F(4, 701) = .736$, $p = .568$, and age, $F(4, 708) = 1.655$, $p = .159$, were not found to be related to total 1 of the Social Provisions Scale.

Eta-squared was conducted on all the relationships found for the demographics characteristics and total 1 of the Social Provisions Scale in order to determine effect size. All results had no practical significance, indicating that a person's demographic characteristics make no practical difference in terms of the social support as measured by total 1 of the Social Provisions Scale.

Duncan's multiple range test was used to determine where significant variation in total 1 scores could be found for F -values found to be statistically significant. Significant variations in race was seen between Asian/Pacific Islanders ($M = 55.0$), Native

Table 14

Analysis of Variance for Study Demographic Variables and Total 1 of the Social Provisions Scale

Source	df	Sum of squares	Mean square	F value	η^2
Race	4	1056.944	264.236	6.841**	.04
Current weight	4	549.477	137.369	3.495**	.02
Dieting history	4	670.095	167.524	4.269**	.02
Friend history	4	117.850	29.462	.736	.004
Family history	4	409.229	102.307	2.582*	.01
Marital status	3	908.792	302.931	7.808**	.03
Age	4	263.464	65.866	1.655	.01

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

Americans ($M = 68.3$), and all other racial backgrounds: Hispanic ($M = 61.1$), Black ($M = 59.3$), and White ($M = 64.1$). This indicates that these two groups had significantly different (Asian/Pacific Islanders, lower; and Native American, higher) social support levels than other groups; however, caution must be taken in interpreting these results because n-sizes were small for all categories except White.

Significant variations in feelings about current weight were seen between those who reported themselves to be very overweight ($M = 59.56$) and the rest of the sample--very underweight ($M = 60.6$), somewhat underweight ($M = 63.7$), currently normal

weight ($M = 64.3$), and somewhat overweight ($M = 63.8$)--indicating those who were self-categorized as very overweight had significantly lower scores on total 1 of the Social Provisions Scale. Variation in dieting history was seen between those who reported dieting more than 12 times in the past year ($M = 59.8$), those who reported dieting 5-10 times ($M = 64.8$), and all other levels of dieting history: none ($M = 64.1$), 1-4 times ($M = 64.0$), and 11-12 times ($M = 61.3$). This indicates that those who reported dieting the most frequently had significantly lower total 1 scores than the rest of the sample, and those who reported dieting 5-10 times in the past year had significantly higher scores on total 1 of the Social Provisions Scale than the rest of the sample.

Finally, significant variation was seen between those who were single ($M = 64.3$), those who were cohabitating ($M = 58.2$), and all other marital statuses: married ($M = 62.5$) and separated/divorced ($M = 59.2$). These results indicate that those who were single had significantly higher levels of social support as measured by total 1, while those who were cohabitating had significantly lower levels of social support as measured by total 1 of the Social Provisions Scale.

On total 2 of the Social Provisions Scale, which includes the parent, friend, and partner subscales, about half of the demographic characteristics were found to be statistically significant (see Table 15). Marital status had the largest F-value, $F(3, 372) = 4.475$, $p < .01$, which corresponds to the results found for total 1 of the Social Provisions Scale. Race, friends' dieting history, and family members' dieting history were not found to be statically significantly related to total 2 of the Social Provisions Scale. Current weight, $F(4, 372) = 2.904$, $p < .05$, and dieting history, $F(4, 369) = 3.073$, $p < .05$,

Table 15

Analysis of Variance for Study Demographic Variables and Total 2 of the Social Provisions Scale

Source	df	Sum of squares	Mean square	F value	η^2
Race	4	439.941	109.985	1.411	.01
Current weight	4	891.282	222.821	2.904*	.03
Dieting history	4	946.027	236.507	3.073*	.03
Friend history	4	268.782	67.196	.853	.01
Family history	4	321.309	80.327	1.022	.01
Marital status	3	1020.197	340.066	4.475**	.03
Age	4	867.617	216.904	2.824*	.03

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

had similar, yet slightly smaller F -values in relation to total 2 of the Social Provisions Scale than to total 1.

Duncan's multiple range test was used to determine where the variation could be seen on total 2 of the Social Provisions Scale and marital status. Significant variation was seen between those who were single ($M = 96.8$), those who were separated/divorced ($M = 87.9$), and the rest of the sample: cohabitating ($M = 89.7$) and married ($M = 95.3$). These results show that those who were single had significantly higher social support levels, as measured by total 2 of the Social Provisions Scale, than the rest of the sample,

while those who were separated or divorced had significantly lower social support levels.

An interesting finding was the difference in F -values for current weight and dieting history that was seen between the two totals of the Social Provisions Scale. Both current weight and dieting history were found to be statistically significantly related to total 1 but not to total 2. It is not clear why this difference exists. Most demographics were significantly related to social support, although not consistently across the two social support totals.

Research Questions Nine and Ten

What source of social support is the best predictor of body satisfaction for college women and men? Multiple regression analysis was conducted to determine the best social support predictor of body satisfaction. As shown in Table 16, results indicated that only the friend subscale was a significant predictor of body satisfaction for college men and women, $B = 1.246$, $p < .01$. Parent and partner subscales did not significantly add to the prediction of body satisfaction. The model summary showed the total predictive value of 4% ($R^2 = .043$) for the parent, partner, and friend subscales of the Social Provisions Scale. This indicates that 4% of the Body Esteem Scale scores can be predicted by knowing their level of social support as measured by the subscales of the Social Provisions Scale.

Gender was added into the predictive model to determine what predictive value it held (see Table 17). Analysis showed that gender was the most significant predictor of body dissatisfaction, $B = 13.917$, $p < .01$. Adding gender to the model increased the

Table 16

Summary of Multiple Regression Analysis for Social Support Predictors and BodySatisfaction

Variable	<u>B</u>	<u>SE B</u>	<u>β</u>
Partner	4.931E-02	.229	.011
Parent	.159	.283	.032
Friend	1.246	.397	.187**

Note. $R^2 = .043$

** $p < .01$.

Table 17

Summary of Multiple Regression Analysis for Social Support Predictors, Gender, andBody Satisfaction

Variable	<u>B</u>	<u>SE B</u>	<u>β</u>
Partner	.142	.222	.033
Parent	.312	.280	.062
Friend	1.082	.382	.165**
Gender	13.917	2.285	.299**

Note. $R^2 = .122$

** $p < .01$.

predictive value to 12% ($R^2 = .122$). These results indicate that a person's gender is a significant predictor of his/her Body Esteem Scale scores.

Research Question Eleven

Is there a significant relationship between current dieting and Body Esteem Scale scores? To determine if a relationship exists between the Body Esteem Scale and the demographic of current dieting, t tests were conducted between the demographic variable and the Body Esteem Scale. Results indicated that a statistically significant difference existed between those who were and were not currently dieting on the Body Esteem Scale, $t(df=714) = 6.12, p < .01$. Those who were currently dieting had lower Body Esteem Scale scores ($M = 105.98$) than those not currently dieting ($M = 117.43$) by an average of 11.5 points, indicating a higher level of body dissatisfaction for current dieters. Effect size statistics were also calculated to determine the practical significance. Results indicated an insignificant effect size for the Body Esteem Scale and current dieting ($SME = .03$).

A statically significant result was also found for Body Esteem Scale scores between those who were and were not currently trying to gain weight, $t(df=712) = 5.598, p < .01$. On average those who were currently trying to gain weight had higher Body Esteem Scale scores ($M = 127.9$) than those who were not trying to gain weight ($M = 113.7$) by an average of 14.2 points. Effect sizes calculated for the Body Esteem Scale and current efforts to gain weight were found to be small ($SME = .03$).

Research Question Twelve

Is there a significant relationship between dieting history and the Body Esteem Scale scores? The relationship between the dieting history demographic and the Body Esteem Scale was also determined. Analysis of variance was conducted to calculate this relationship. Results indicated that a statistically significant relationship existed between the Body Esteem Scale and participants' dieting history, $F(4, 706) = 20.327, p < .01$. Mean scores on the Body Esteem Scale tended to decrease as the level of dieting history increased. The average score for those who had no history of dieting in the past year was 120.8 as compared to an average of 99.4 for those who had a history of dieting 12 or more times in the past year. Effect size statistics were also calculated to determine the practical significance of these findings. Eta-squared results indicated a small relationship ($\eta^2 = .10$) between dieting history and the Body Esteem Scale score.

Summary

This chapter discussed the results of the analyses of the relationships among self-esteem, social support, body satisfaction, and study demographics (see Table 18). Chapter 5 will discuss the implications of these findings, limitations of the present study, and recommendations for future research and for health education.

Table 18

Research Questions, Statistical Analysis, and Results of the Present Study

<u>Research questions</u>	<u>Statistical analysis</u>	<u>Results</u>
1. Is there a significant positive correlation between body satisfaction and social support in college women?	Means, standard deviations, t tests, Pearson r	Yes
2. Is there a significant positive correlation between body satisfaction and social support in college men?	Means, standard deviations, t tests, Pearson r	Yes
3. Is there a significant positive correlation between body satisfaction and self-esteem in college women?	Means, standard deviations, t tests, Pearson r	Yes
4. Is there a significant positive correlation between body satisfaction and self-esteem in college men?	Means, standard deviations, t tests, Pearson r	Yes
5. Is there a significant positive correlation between social support and self-esteem in college women?	Means, standard deviations, t tests, Pearson r	Yes

(table continues)

Research questions	Statistical analysis	Results
6. Is there a significant positive correlation between social support and self-esteem in college men?	Means, standard deviations, t tests, Pearson r	Yes
7. Is there a significant relationship between the study demographic characteristics and body satisfaction?	Analysis of variance (ANOVA), means for demographic questions	Yes - on all but marital status, race, and family dieting history
8. Is there a significant relationship between the study demographic characteristics and level of social support?	ANOVA	Yes (total 1)- race, current weight, dieting history, marital status (total 2) marital status
9. What source of social support is the best predictor of body satisfaction for college women?	Multiple regression	Friend
10. What source of social support is the best predictor of body satisfaction for college men?	Multiple regression	Friend
11. Is there a significant relationship between current dieting and Body Esteem Scale scores?	t test	Yes

(table continues)

Research questions	Statistical analysis	Results
12. Is there a significant relationship between dieting history and Body Esteem Scale scores?	ANOVA	Yes

CHAPTER 5

DISCUSSION

Chapter Overview

The purpose of this study was to determine if there was a correlational relationship between body satisfaction and social support. Little research had been conducted to determine if this relationship exists. Therefore, research needed to be conducted in this area in order to enhance our early intervention strategies. If a relationship were to be found, then health educators would be better able to address the issue of body dissatisfaction by incorporating social support into prevention programs, therefore decreasing instances of detrimental effects of body dissatisfaction, such as eating disorders and low self-esteem.

In recent years research has shown significant levels of body dissatisfaction in college women (Cash & Henry, 1995; Heilbrun & Friedberg, 1990). Body dissatisfaction has been correlated with low levels of self-esteem (Abell & Richards, 1996; Grilo et al., 1994; McAllister & Caltabiano, 1994). Social support has also been found to be correlated with self-esteem in similar patterns as was found in the present study. Interactions with significant others appear to be a crucial part of developing self-esteem (Lackovic-Grgin et al., 1994). This apparently strong relationship between social support and self-esteem builds a theoretical link between social support and body dissatisfaction through self-esteem.

In this chapter, findings for each research question will be discussed, as well as

past research in the areas of body satisfaction, self-esteem, and social support (see Table 19, shown later). Finally, limitations of the present study will be discussed along with implications for future research and health education.

Study Demographics

Demographic characteristics assessed in this study included gender, race, age, marital status, and a set of questions assessing dieting status, dieting history, as well as dieting history of friends and family members. Statistical analysis was conducted to determine the relationships among the demographic characteristics, source of social support, self-esteem, and body satisfaction. Statistically significant relationships were found for age, race, dieting history, current dieting, desire to gain weight, family dieting history, and friends' dieting history for both men and women. Marital status was the only demographic not found to be significantly related to body satisfaction for both men and women. F -values for the dieting demographic characteristics of current dieting and dieting history were much stronger than all other F -values that were found. When analyzed with total 1 of the Social Provisions Scale, race, current weight, dieting history, family history, and marital status were all found to be statistically significant. Age and friends' dieting history were not found to be related to total 1 of the Social Provisions Scale. When analyzed with total 2 of the Social Provisions Scale current weight, dieting history, marital status, and age were found to be significant. Race, friends' dieting history, and family dieting history were not found to be related to total 2 of the Social

Provisions Scale. All significant F -values were similar in strength and will be discussed separately.

Results from the analysis with race are presumed to be unreliable because of the large percentage of the sample that was white (95%, $n = 693$), and therefore will not be discussed. Marital status was not found to be statistically significantly related to body dissatisfaction, but was, however, significantly related to social support, total 1 $F(3,710) = 7.808, p < .01$; total 2 $F(3, 372) = 4.475, p < .01$. This is the only demographic characteristic for which this relationship was true. In terms of body dissatisfaction, marital status was apparently unimportant. Marital status was, however, related to a person's level of social support. Turner and Marino (1994) found that social support varied by marital status. Higher levels of social support were seen for married men and women than for those never married, divorced, widowed, or separated. This may be attributed to the idea that a marriage partner provides a supportive relationship, therefore increasing level of total social support.

Age was found to be statistically significant as related to body dissatisfaction, $F(4, 708) = 5.486, p < .01$, but not to social support, total 1, $F(4,708) = 1.66, p = .159$, or total 2 $F(4,370) = 2.82, p < .05$. Those who were 19 years old or less, which was the largest age group for the present study ($n = 341, 48\%$), had the lowest average Body Esteem Scale scores. This suggests that freshman-level college students have a greater level of body dissatisfaction than older college students. This relationship has not been examined in the existing research. Studies that have looked at age differences in body dissatisfaction have generally categorized college-age participants as one age group and

have not differentiated between freshman and senior-level college students. In these studies conflicting results have been found. Wilcox (1997) found no age difference for body dissatisfaction in men and women ages 20 to 80. In contrast, other studies have shown that more dissatisfaction exists with older men and women than with college age men and women (Lamb, Jackson, Cassiday, & Priest, 1993).

As expected, the dieting demographics had the greatest F -values when analyzed with body satisfaction, most specifically current weight and dieting history. This tells us that body satisfaction is related to a person's feelings about their current weight as well as their history of dieting in the previous year. These results are similar to those found in past research. For example, Mintz and Betz (1988) found that dieters had higher levels of body dissatisfaction than non-dieters. In a review of the literature of nonclinical eating disorders, Kalodner and Scarno (1992) found that women who were classified as chronic dieters had significantly more body dissatisfaction than those classified as normal eaters.

Participants in the present study who were currently dieting as well as those with a history of dieting had lower Body Esteem Scale scores as compared to those not dieting, indicating that a relationship exists between a person's level of dieting and his/her level of body satisfaction. In the present study this relationship was most true for female participants. Male participants were found to have low levels of current dieting ($n = 15$, 10.1%) as well as low levels of dieting in the previous year as compared to females, with only 18.8% ($n = 37$) of male participants self-reporting dieting in the past

year. Although there has been substantial research that has examined this relationship in women, it had not previously been examined in men.

For female participants, this relationship could be explained in one of two ways. A person may diet in an effort to lose weight and as a result of unsuccessful dieting experience a heightened level of body dissatisfaction. Tiggemann (1994) reported that dieting to maintain a target weight can set up a cycle of shame, loss of control, and decreased self-esteem. Repeated failure at dieting may in turn lead to increased dissatisfaction towards one's body. Or a person may be dissatisfied with their body and diet in an effort to change their body to be more like their ideal. Numerous studies have shown body dissatisfaction beginning in early adolescence and being followed by instances of dieting and eating disorders (Benedikt, Wertheim, & Love, 1998; Levine, Smolak, & Hayden, 1994; Strong & Huon, 1998; Wertheim, Paxton, Schutz, & Muir, 1997).

Body satisfaction was also found to be statistically significantly related to a person's friends' history of dieting in the previous year. Again, this relationship is stronger for female than male study participants because of their significantly greater level of dieting and lower level of body satisfaction. Those participants who reported high levels of friends' dieting in the past year had lower Body Esteem Scale scores than those who reported no dieting in the past year for friends. Similar results have been found in research conducted with adolescent girls. Body dissatisfaction and dieting often begin in adolescence, making it the age in which many studies are conducted. Paxton (1996) found that body dissatisfaction and dietary restraint were found to be at similar

levels among friendship groups. This may be for a number of reasons. Concern over weight and dieting is ubiquitous among adolescent girls. Levine et al. (1994) reported that 41.5% of middle school girls reported talking with their friends about shape, weight, and dieting. Such exchanges may contribute to unhealthy behaviors and attitudes toward their bodies. Other factors may include teasing, a desire to fit in, the verbalized concern of others about weight, or social comparisons (Wertheim et al., 1997). Social comparisons between friendship groups have been shown to lead to body concerns. The expression "I'm too fat" from an apparently thin friend may pressure self-evaluation and increase body dissatisfaction. These results are similar to those in the present study which suggest that participants with friends who report a history of dieting have lower levels of body satisfaction. Another possible explanation may be the idea of social contagion effects. People start to behave in certain way because they feel like "everyone is doing it."

Lower levels of body satisfaction were also found to be related to high levels of family members' dieting history in the present study. Research has shown that a mother's level of dieting and weight concern is related to a daughter's level of dieting as well as her feelings about her body (Benedikt et al., 1998). No research has shown a relationship with fathers dieting. Mothers can influence body satisfaction through actively encouraging daughters to be thinner, modeling dieting behaviors and attitudes of body dissatisfaction, or reinforcing societal messages of the importance of weight and appearance (Benedikt et al., 1998; Strong & Huon, 1998). However, Benedikt et al. (1998) found no evidence for a modeling effect between mothers and daughters, except

in instances of extreme weight loss behaviors (crash dieting, vomiting, laxative use), and suggested that mothers act as a transmitter of sociocultural values about dieting and body size. A mother who encourages an ideal of beauty that is consistent with thinness is likely to also encourage dissatisfaction with a body that is not compatible with this image. Social comparison could also be an explanation for the relationship between a mother's dieting history and child's level of body dissatisfaction. Dieting is a manifestation of unhappiness with current body size, a way of saying "I'm too fat." Children may compare themselves with a mother who is making this statement and feel inadequate and consequently dissatisfied with their own bodies.

Similar to the results found in previous research, a discrepancy was found between men and women in terms of efforts to lose and gain weight. Of those trying to lose weight, 89.9% ($n = 134$) were female while only 10.1% ($n = 15$) were male. Similar results in the opposite direction were found for those trying to gain weight. Only 19.4% ($n = 14$) in this group were female while 80.6% ($n = 58$) were male. Although n -sizes in these groups were relatively small, the idea that in general women are trying to lose weight and men are trying to gain weight is seen consistently throughout the research. For example, Abell and Richards (1996) found that women wanted to lose weight and men wanted to gain weight and be physically stronger. The same relationship was found in earlier research conducted by Mintz and Betz (1986) and again by Silberstein et al. (1988). Davis and Cowles (1991) found that 80% of the women ages 14-24 in their sample wanted to lose weight while only 33% of the men in this age group reported

wanting to lose weight. They also found that 47% of the men wanted to gain weight while only 8% of the women did.

Abell and Richards (1996) also found that men and women differed in the direction of their displeasure yet had similar levels of body dissatisfaction. Although results in the present study indicate that men desire to gain weight and women desire to lose weight to a similar degree, comparable levels of body dissatisfaction were not found. Men's desire to gain weight did not translate into decreased levels of dissatisfaction. Men scored an average of 13 points higher on the Body Esteem Scale than female participants, indicating a greater level of body satisfaction for college men in the present study. It was also found in multiple regression analysis that gender was a significant predictor of body satisfaction. Being male or female was found to significantly influence scores on the Body Esteem Scale.

This discrepancy in level of body satisfaction may be related to the intense societal pressure placed on women's bodies. Constant focus has been placed on the way a woman looks as opposed to her intellect, her occupation, her experiences, or her personality. When such an emphasis is placed on one aspect of a person's identity, it may soon become that person's entire identity. The woman is no longer a complete person, she is a body--a body that will never be as good, as thin, or as beautiful as it is supposed to be. Endless images of perfection are forced upon women in magazines, television, and films. These images, coupled with the expectations of others, create an unattainable ideal. This intense focus on a woman's body and pressure to reach an unrealistic ideal can lead to feelings of dissatisfaction with her current body. This level

of dissatisfaction is not likely to be seen in men, who do not face the same pressure and focus on their bodies that women do.

The dieting demographic characteristics were not as strongly related to social support as they were to body dissatisfaction. When using total 1 of the Social Provisions Scale, significant relationships were found for current weight, dieting history, and family history, but not for friend history. Although statistically significant, the strength of these relationships was small and not practically significant as measured by effect size. When using total 2 of the Social Provisions Scale, current weight and dieting history were found to be significantly related while friend and family dieting history were not. These relationships were also small and effect sizes were insignificant. One explanation for these findings could be that the Social Provisions Scale did not measure the type of social support that is related to level of dieting. As was discussed previously, the relationship with parents and peers has been shown to be related to level of dieting; however, these relationships may not be defined as supportive according to the Social Provisions Scale.

Body Satisfaction and Self-Esteem

Moderate levels of body satisfaction were found for college females ($M = 111.5$), while moderate to high levels were found for college men ($M = 124.5$) as measured by the Body Esteem Scale. Self-esteem levels for college men and women were found to be similar, with men ($M = 31.9$) scoring slightly higher than women ($M = 30.5$). These results are similar to those found in previous research. For example, Nell and Ashton (1996) used the Rosenberg Self-Esteem Scale and found that men ($M = 33.1$) had higher

levels of self-esteem than women ($M = 30.3$). Tiggeman and Rothblum (1997) also used the Rosenberg Self-Esteem Scale and found that men ($M = 42.4$) had higher levels of self-esteem than women ($M = 40.7$).

Correlation coefficients were calculated to determine if a relationship existed between body satisfaction and self-esteem in college men and women. A statistically significant and moderate to strong positive correlation ($r = .570, p < .01$) was found between body satisfaction and self-esteem for female participants. The relationship found for male participants was also statistically significant. There was, however, a weaker correlation between body satisfaction and self-esteem in males ($r = .346, p < .01$) than for female participants.

The statistical significance of the results is consistent with other research. Abell and Richards (1996) looked at undergraduate men and women and found self-esteem to be strongly related to body satisfaction for both men and women ($r = .64, p < .001$; $r = .68, p < .001$, respectively). Grilo et al. (1994) investigated the relationship between self-esteem and body dissatisfaction in obese women and found a correlation of $r = -.50, p < .01$. Mayhew and Edelman (1989) found similar, yet slightly weaker, results for female undergraduates ($r = -.41, p < .05$).

The gender differences that were found may be attributed to the cultural ideal of thinness that is directed significantly more towards women than men. Although past research has shown comparable degrees of dissatisfaction between men and women, and between men wanting to gain weight and women wanting to lose weight, the consequences of this dissatisfaction may be more detrimental to women. Women may

tie their feelings about their bodies to their feelings about their self-esteem to a greater extent than men. A woman who is dissatisfied with her body may attach that dissatisfaction to her feelings about herself, whereas a man is less likely to make this connection and therefore not experience an effect on his self-esteem because of his feelings about his body.

Self-Esteem and Social Support

Scores on the Social Provisions Scale were similar for male and female college students. Females scored slightly higher on each subscale as well as both totals of the Social Provisions Scale, indicating a slightly higher level of social support for female college students.

The relationship between self-esteem and social support was determined for male and female participants. Statistically significant correlations were found for self-esteem and the parent, partner, and friend subscales, and totals of the Social Provisions Scale for female and male participants. All correlations for female participants were found to be weak positive correlations, ranging from $r = .145$ to $r = .308$. A slight difference existed between male and female participants. Female participants had stronger correlations on the partner subscale and total 2, while male participants had stronger correlations on the parent and friend subscales and total 1 of the Social Provisions Scale. The differences that existed were small and only those on the partner subscales resulted in a significant correlation for females and not for males. This suggests that females reported greater support from their male partners than males reported from their female partners. Carbery

and Buhrmester (1998) showed that married females reported their support from their partner to be higher than that reported by married males.

The strongest correlations for both men and women were found between self-esteem and the friend subscale of the Social Provisions Scale. Similar results were found by Hoffman et al. (1993), who reported peer support to be slightly more related to self-esteem than parent support. This contrasts with results reported by Field et al. (1995), who found that the correlation between self-esteem and parent support was stronger than the correlation between self-esteem and peer support. Their research, however, was conducted with adolescents rather than college students, which results in a significant difference in terms of proximity and degree of relationships with parents and peers at these two stages in life. Nearly all of the current sample was single and many were not in a current relationship. These factors were likely to contribute to the small role of partner support throughout the study.

In a study that looked at supportive relationships in college students, Carbery and Buhrmester (1998) found that friends were reported as the most preferred companion and confidant for single college students. They also reported that the role of friends decreased for married students, and partner support became more influential, with spouses supplying the support once given by friends. In the present study the support of friends was shown to be significant in relation to self-esteem as well as body satisfaction. The lack of partner support and its relationship with self-esteem and body satisfaction can be related to the majority of the sample being single.

Body Satisfaction and Social Support

The relationship between body dissatisfaction and social support was assessed for both college men and women. Statistically significant correlations were found between body satisfaction as measured by the Body Esteem Scale and the parent, friend, and partner subscales, and total of social support as measured by the Social Provisions Scale in female participants. Although correlation coefficients were weak, they were statistically significant and provide insight into the complex issues of body dissatisfaction.

Correlations for male and female participants were similar for all measures of social support except the partner subscale. It is interesting to note that although not statistically significant, a negative relationship was found between the Body Esteem Scale and the partner subscale of the Social Provisions Scale for male participants, suggesting that high levels of partner support are related to low levels of body satisfaction for men. All other relationships found between body satisfaction and social support were positive. Total 1 of the Social Provisions Scale and friend support were found to be the strongest relationships for male participants, while total 2 of the Social Provisions Scale and friend support were found to be the strongest relationships for college women.

Multiple regression analysis was conducted to determine the best social support predictor of body satisfaction. Friend support was found to be the most significant predictor of body satisfaction for both male and female participants. Parent and partner

support did not significantly add to the predictive value of social support. It is reasonable for friend support to be the most significant predictor of body satisfaction in a young college population because of the proximity of friends as opposed to parents. Partner support may not have played a greater role because of the large percentage of the sample that was single (82%) and the large number of participants ($n = 238$) who did not complete the partner subscale because they were not currently in a relationship. As mentioned previously, Carbery and Buhrmester (1998) found that in a single college sample friend support was more influential than parent or partner support.

When looking at the R^2 from the multiple regression model for the Body Esteem Scale and total 1 of the Social Provisions Scale for both male and female participants, we find that $R^2 = .04$, which tells us that this measure of social support explains 4% of the variance in body dissatisfaction. With a variable as complex as body dissatisfaction, finding a component that explains 4% of the variance is a step towards gaining a better understanding of body dissatisfaction and its numerous causes.

Gender was also added to the model to see the predictive value that it added. When adding gender, the total predictive value of the model increased from 4% to 12.2%. This suggests that being male or female has a significant influence on a person's level of body satisfaction as measured by the Body Esteem Scale. This is in contrast to aforementioned research stating that men and women have comparable degrees of body dissatisfaction.

Although no other research has been conducted to determine the relationship between social support and body satisfaction, the results of the present study are

consistent with the expected results hypothesized by the theoretical model for this study (see Figure 1). Social support was found to be significantly related to self-esteem in both college men and women. Self-esteem was also found to be significantly related to body satisfaction in both men and women. Body satisfaction was found to be significantly related to social support in college men and women, completing the theoretical model proposed for this study. Murray et al. (1995) suggested that future research be done to determine if the relationship that was found in this study existed, to see if "supportive personal relationships, characterized by a high degree of acceptance, have enabled them to remain 'insulated' from wider social concerns about body weight and shape" (p. 252). Results of the present study suggest that this relationship does exist. It was found that a high level of social support, especially from friends, was related to a high level of body satisfaction.

Although the results for social support and body satisfaction were weak to moderate, they are still significant. A person's level of body satisfaction is a complex and multifaceted issue. Research has shown a number of issues that are related to a person's level of body satisfaction. Akan and Grilo (1995) found a history of being teased about weight and size was associated with body dissatisfaction. Cusumano and Thompson (1997) reported that long-term exposure to media images can have a detrimental effect on a person's level of body satisfaction. Societal pressures can also lead to negative feelings about one's body, as expressed in the adage "what is beautiful is good" (Cash & Trimer, 1984). These and other variables have been reported throughout health and psychological research as factors that affect a person's body satisfaction.

With so many variables already established, it is understandable that a previously unresearched variable would only explain a small amount of the variance in a person's level of body satisfaction. It is, however, a significant finding because of the added insight it provides into the complex issue of body satisfaction.

Limitations

There are some limitations to the present study. First, the population used was homogeneous. Participants were college students, most of whom were young and nearly all of whom were White, leaving ethnic groups virtually unrepresented. Because of these limitations, caution must be taken when generalizing these results to other populations. It can be assumed that a non-White sample may have significantly different results than a predominately White sample and therefore the results of this study cannot be generalized to minority groups. Generalization of the study would have been improved if more males had been in the classes that were sampled, as well as if classes with older students were surveyed in order to get a more diverse age range.

A second limitation is that the sample was not randomly selected. Generalization would have been improved if a randomly selected community sample had been used. Another limitation to this research is the self-report nature of the questionnaires used in the study. Caution must always be taken when using self-reported answers.

Implications for Future Research

The present study found that friend support was most strongly related to body

satisfaction; it was also the best predictor of a person's Body Esteem Scale score. As discussed above, this may be due to the age and marital status (single) of the sample used. It would be interesting for future research to look at older college students (juniors, senior, graduate students) and determine the role of partner support. This could also be done using a married, non-student sample. It would also be interesting to determine if being married or in a long-term relationship increased the influence of partner support and decreased the influence of friend support.

It would also be beneficial to do a study similar to the present study with a largely non-White population. Research has shown ethnic and racial differences exist in feelings of body satisfaction and it would be interesting to determine if these differences also exist in levels of social support and in the relationship between these two variables.

A large amount of research on body satisfaction has been conducted with women and adolescent girls, while only a small amount of research has been conducted with men. Although males in the present study were found to have higher levels of body satisfaction than females, it is still important that future research look at adolescent males level of body satisfaction and its determinants. It would be of interest to determine if pressures exist for men to gain weight and the events that foster that behavior (i.e., modeling, social comparison, etc.).

Implications for Health Education

High levels of body dissatisfaction have been shown to be related to low levels of self-esteem and increased instances of eating disorders. Because of these detrimental

effects of body dissatisfaction, prevention programs need to be developed to address these issues. Most interventions aimed at body dissatisfaction are conducted through counseling sessions. In order to address primary prevention and education, programs directed to pre-adolescents, adolescents, and college students should be developed and implemented. Health educators have traditionally played a key role in primary prevention efforts, and need to make an effort at developing primary prevention programs to address body dissatisfaction.

Significant relationships between self-esteem and body satisfaction were found for college men and women. These relationships suggest that efforts to increase self-esteem be incorporated into intervention and prevention programs that address body dissatisfaction. Findings of the present study also suggest that social support has a small yet important role in a person's level of body satisfaction. This is an important finding for the field of health education. Although the results of the present study are not significant enough to justify entire prevention programs focused on increasing social support, they do suggest that infusing social support into other programs may increase that program's effectiveness. Combining social support with a prevention program adds yet another component that is related to a person's level of body satisfaction and another defense against body dissatisfaction, decreased self-esteem, and eating disorders.

Other findings from the present study suggest that efforts be made to include peer groups into programs addressing body dissatisfaction in college students. It was shown that friend support was a significant predictor of body satisfaction in college men and women. It was also found that friends' level of dieting history affected body satisfaction

in women. These findings indicate the importance of peer group education or incorporating friend support into intervention efforts.

Traditionally, men have been neglected in research related to body satisfaction. However, a number of recent studies, including the present study, have looked at men and their level of body satisfaction and their efforts to gain weight. Although behaviors that cause weight gain are not as unhealthy as those that cause weight loss, efforts should be made to educate men on the possible dangers of trying to gain weight in unhealthy ways or by excessive exercise.

Because relationships were found to exist between self-esteem, social support, and body satisfaction, health educators have additional resources available to address the issue of body dissatisfaction in college men and women. These results provide another small piece of the complex puzzle that makes up how men and women feel about their bodies, and provide another tool to combat negative feelings and support positive ones.

Table 19

Research Questions, Study Results and Related Research

Research questions	Results	Related research
1. Is there a significant positive correlation between body satisfaction and social support in college women?	Yes	No previous research

(table continues)

Research questions	Results	Related research
2. Is there a significant positive correlation between body satisfaction and social support in college men?	Yes	No previous research
3. Is there a significant positive correlation between body satisfaction and self-esteem in college women?	Yes	Abell & Richards, 1996 Grilo et al., 1994 Mayhew & Edelman, 1989
4. Is there a significant positive correlation between body satisfaction and self-esteem in college men?	Yes	Abell & Richards, 1996
5. Is there a significant positive correlation between social support and self-esteem in college women?	Yes	Hoffman et al., 1993 Field et al., 1995
6. Is there a significant positive correlation between social support and self-esteem in college men?	Yes	Hoffman et al., 1993 Field et al., 1995
7. Is there a significant relationship between the study demographic characteristics and body satisfaction?	Yes - on all but marital status race, and family dieting history	Tiggemann, 1994 Paxton, 1996; Levine et al. 1994; Benedikt et al., 1998

(table continues)

Research questions	Results	Related research
8. Is there a significant relationship between the study demographic characteristics and level of social support?	Yes (total 1) - race, current weight, dieting history, marital status (total 2) - marital status	Carbery & Buhrmester, 1998
9. What source of social support is the best predictor of body satisfaction for college women?	Friend	No previous research
10. What source of social support is the best predictor of body satisfaction for college men?	Friend	No previous research
11. Is there a significant relationship between current dieting and Body Esteem Scale scores?	Yes	Kalodner & Scarno, 1992; Mintz & Betz, 1988
12. Is there a significant relationship between dieting history and Body Esteem Scale scores?	Yes	Kalodner & Scarno, 1992; Mintz & Betz, 1988

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APPENDICES

Appendix A. Informed Consent Form

Informed Consent

This survey is about your feelings about your body and your self and your relationship with others. It has been developed in an effort to understand the relationship between these feelings. The information provided will be used to develop better health education and promotion programs for people like yourself.

You are eligible to participate if you are over the age of 18 and are not currently pregnant. The information about your background will only be used to describe the type of student completing the study. We are interested in finding group, not individual results. DO NOT write your name on the survey or answer form, names are not required. All information that is collected will be anonymous. Participation is voluntary. It should take you approximately 15-20 minutes to complete the questionnaires. You may discontinue participation in the study at any time without negative consequences and without effecting your grade in this class.

If you have any questions or concerns about the study please contact me at 797-1495 or Dr. Julie Gast at 797-1490. Thank you for your help.

Sincerely,

Sarah Hodson, Student Researcher
Department of Health, Physical Education,
and Recreation

Julie Gast, Ph.D.
Assistant Professor, Department of
Health, Physical Education,
and Recreation

Appendix B. Social Provisions Scale

Social Provisions Scale

In answering the next set of questions, please think about your current relationship with your friends. If you feel the question accurately describes your relationships with your friends you would answer "yes". If the question does not describe your relationships with your friends, you would answer "no" If at times the question describes your relationships, you would answer "sometimes".

- a. No
- b. Sometimes
- c. Yes

1. Are there friends you can depend on to help you if you really need it?
2. Do you feel you could not turn to your friends for guidance in times of stress?
3. Are there friends who enjoy the same social activities that you do?
4. Do you feel personally responsible for the well-being of your friends?
5. Do you feel your friends do not respect your skills and abilities?
6. If something went wrong, do you feel that none of your friends would come to your assistance?
7. Do your relationships with your friends provide you with a sense of emotional security and well-being?
8. Do you feel your competence and skill are recognized by your friends?
9. Do you feel none of your friends share your interests and concerns?
10. Do you feel none of your friends really rely on you for their well-being?
11. Is there a trustworthy friend you could turn to for advice if you were having problems?
12. Do you feel you lack emotional closeness with your friends?

In the next set of questions, please think about your relationships with your parents.

- a. No
- b. Sometimes
- c. Yes

13. Can you depend on your parents to help you if you really need it?
14. Do you feel you could not turn to your parents for guidance in times of stress?
15. Do your parents enjoy the same social activities that you do?
16. Do you feel personally responsible for the well-being of your parents?
17. Do you feel your parents do not respect your skills and abilities?
18. If something went wrong, do you feel that your parents would not come to your assistance?
19. Does your relationship with your parents provide you with a sense of emotional security and well-being?
20. Do you feel your competence and skill are recognized by your parents?
21. Do you feel your parents do not share your interests and concerns?
22. Do you feel your parents do not really rely on you for their well-being?
23. Could you turn to your parents for advice if you were having problems?
24. Do you feel you lack emotional closeness with your parents?

In answering the next set of questions, please think about your current partner (boyfriend/girlfriend/ spouse). If you do not have a current partner leave the items 25-36 blank.

- a. No
- b. Sometimes
- c. Yes

25. Can you depend on your partner to help you if you really need it?
26. Do you feel you could not turn to your partner for guidance in times of stress?
27. Does your partner enjoy the same social activities that you do?
28. Do you feel personally responsible for the well-being of your partner?
29. Do you feel your partner does not respect your skills and abilities?

30. If something went wrong, do you feel that your partner would not come to your assistance?
31. Does your relationship with your partner provide you with a sense of emotional security and well-being?
32. Do you feel your competence and skill are recognized by your partner?
33. Do you feel your partner does not share your interests and concerns?
34. Do you feel your partner does not really rely on you for his/her well-being?
35. Could you turn to your partner for advice if you were having problems?
36. Do you feel you lack emotional closeness with your partner?

Appendix C. Body Esteem Scale

Body Esteem Scale

Below are listed a number of body parts and functions. Please read each item and indicate how you feel about this part or function of your own body using the following scale:

- a. Have strong negative feelings
- b. Have moderate negative feelings
- c. Have no feelings one way or the other
- d. Have moderate positive feelings
- e. Have strong positive feelings

1. Body scent
2. Appetite
3. Nose
4. Physical stamina
5. Reflexes
6. Lips
7. Muscular strength
8. Waist
9. Energy level
10. Thighs
11. Ears
12. Biceps
13. Chin
14. Body build
15. Physical coordination
16. Buttocks
17. Agility
18. Width of shoulder
19. Arms
20. Chest or breasts
21. Appearance of eyes
22. Cheeks/cheekbones
23. Hips
24. Legs
25. Figure of physique
26. Sex drive
27. Feet
28. Sex organs
29. Appearance of stomach
30. Health
31. Sex activities
32. Body hair
33. Physical condition
34. Face
35. Weight

Appendix D. Rosenberg Self-Esteem Scale

Rosenberg Self-Esteem Scale

Please indicate whether or not you agree with the following statements.

- a. Strongly Disagree
- b. Disagree
- c. Agree
- d. Strongly Agree

1. I feel that I'm a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times, I think I am no good at all.

Appendix E. Demographics Information Sheet

Demographic Information

1. How old are you?
 - a. 19 or less
 - b. 20-21
 - c. 22-23
 - d. 24-25
 - e. 26 or older

2. What is your sex?
 - a. Female
 - b. Male

3. Which of the following best describes your current marital status?
 - a. Single (never married)
 - b. Married
 - c. Separated/divorced
 - d. Cohabitant (living with someone in an intimate relationship)
 - e. Widowed

4. What is your race/ethnicity?
 - a. Hispanic
 - b. Black
 - c. Asian or Pacific Islander
 - d. White
 - e. Native American

5. How do you feel about your current weight?
 - a. I am very underweight
 - b. I am somewhat underweight
 - c. I am currently normal weight
 - d. I am somewhat overweight
 - e. I am very overweight

6. Are you currently dieting (restricting your eating in an effort to lose weight)?
 - a. Yes
 - b. No

7. Are you currently trying to gain weight?
 - a. Yes
 - b. No

8. How many times in the past year have you been on a diet (restricted your eating in an effort to change your weight)?

- a. None
- b. 1-4 times
- c. 5-10 times
- d. 11-12 times
- e. More than 12 times

9. On average how many times in the past year have your closest friends dieted (restricted their eating in an effort to change their weight)?

- a. None
- b. 1-4 times
- c. 5-10 times
- d. 11-12 times
- e. More than 12 times

10. On average how many times in the past year have your family members dieted (restricted their eating in an effort to change their weight)?

- a. None
- b. 1-4 times
- c. 5-10 times
- d. 11-12 times
- e. More than 12 times

11. Are you currently pregnant?

- a. Yes
- b. No

Appendix F. Institutional Review Board Approval Letter

Utah State UNIVERSITY

VICE PRESIDENT FOR RESEARCH OFFICE
Logan UT 84322-1450
Telephone: (435) 797-1180
FAX: (435) 797-1367
INTERNET: [pgerity@champ.usu.edu]

October 14, 1998

MEMORANDUM

TO: Julie Gast
Sarah Hodson

FROM: True Rubal, Secretary to the IRB

SUBJECT: The Relationship Between Body Image, Self-esteem, and Social Support in Undergraduate Men and Women

The above-referenced proposal has been reviewed by this office and is exempt from further review by the Institutional Review Board. The IRB appreciates researchers who recognize the importance of ethical research conduct. While your research project does not require a signed informed consent, you should consider (a) offering a general introduction to your research goals, and (b) informing, in writing or through oral presentation, each participant as to the rights of the subject to confidentiality, privacy or withdrawal at any time from the research activities.

The research activities listed below are exempt from IRB review based on the Department of Health and Human Services (DHHS) regulations for the protection of human research subjects, 45 CFR Part 46, as amended to include provisions of the Federal Policy for the Protection of Human Subjects, June 18, 1991.

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through the identifiers linked to the subjects; and (b) any disclosure of human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your research is exempt from further review based on exemption number 2. Please keep the committee advised of any changes, adverse reactions or termination of the study. A yearly review is required of all proposals submitted to the IRB. We request that you advise us when this project is completed, otherwise we will contact you in one year from the date of this letter.