EFFECTS OF MEAL SIZE AND TYPE, AND LEVEL OF PHYSICAL ACTIVITY ON PERCEIVED MASCULINITY, FEMININITY, LIKABILITY AND ATTRACTIVENESS

THESIS

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements For the Degree of

MASTER OF ARTS

By

Christie D. Hill, B.S.

Denton, Texas

December, 1994
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Previous research indicates that women are judged on the amount of food eaten and that both men and women are judged on the type of food eaten. This study is an attempt to determine whether meal size or type predominantly accounts for these findings on the variables of masculinity, femininity, attractiveness, thinness, fitness, and likability. Physical activity was also included to determine its effect on these variable. Subjects used were 313 undergraduate students. Results indicate that meal type is more influential than meal size and that physical activity significantly influences judgements of others. The results are discussed in terms of future research and relatedness to socio-cultural theories of eating disorders.
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CHAPTER I

INTRODUCTION

Etiological and risk factors studies in the eating disorders literature relate primarily to one of three classes of theories: individual hypotheses, family hypotheses, and socio-cultural hypotheses (DiNicola, 1990a; Striegel-Moore, Silberstein, & Rodin, 1986). Socio-cultural studies of etiology have related the concept of the "ideal thin," perceptions of attractiveness, and concepts of femininity (Berscheid, Walster, & Bohrnstedt, 1973; DiNicola, 1990b; Garner & Garfinkel, 1980; Garner, Garfinkel, Schwartz, & Thompson, 1980; Hsu, 1989; Rolls, Fedoroff, & Guthrie, 1991; Silverstein, Peterson, & Perdue, 1986; Striegel-Moore, Silberstein, & Rodin, 1986). Several experimental studies have added eating behavior to this relation, including amount eaten (Basow & Kobrynowicz, 1990; Chaiken & Pliner, 1987; Hill & Howerter, 1991) and type of food eaten (Sadalla & Burroughs, 1981; Stein & Nemeroff, 1993). These studies have resulted in claims that persons are judged based on the amount they eat and the type of food they eat. To date there have been no studies done incorporating both sets of independent findings in an attempt to determine the mutual or combined influences of amount eaten and type of food eaten. This study is an
attempt to reexamine the influences of amount and type of food eaten, while incorporating physical activity level, on perceived physical attractiveness, likability, masculinity, and femininity, and to relate the findings to the broader context of eating disorders.

Etiological Theories

Although there is some controversy concerning the exact date, the first description of anorexia nervosa appears to have been published approximately 120 years ago, while bulimia nervosa was not distinguished as a separate disorder until 1979 (Russell, 1979). Over the years the medical and psychological fields have accomplished little more than differentiating subtypes and proposing various etiological theories. The current etiological theories for anorexia and bulimia can be placed into three broad categories consisting of individual, family, and socio-cultural explanations (DiNicola, 1990).

The individual explanations for both anorexia and bulimia include the biomedical hypothesis, the mood disorder hypothesis, and the psychodynamic hypothesis, as well as the developmental psychobiological hypothesis that pertains only to anorexia (Blinder & Cadenhead, 1986; DiNicola, 1990a; Johnson & Maddi, 1986). The family explanations consist of a variety of family interaction patterns for bulimia (Johnson & Maddi, 1986) and the family systems theory for anorexia. The socio-cultural explanation can be delineated
into three specific theories for anorexia: the feminist (social) hypothesis, the culture-bound syndrome hypothesis, and the culture-change hypothesis which has been suggested as a corollary to the culture-bound hypothesis (DiNicola, 1990a).

Individual Etiological Theories

Although there are currently no convincing animal models of anorexia or bulimia (Smith, 1989), Russell (1977) has proposed a biomedical theory of hypothalamic dysfunction. Hetherington and Ranson’s study (cited in Carlson, 1991) supports the theory of hypothalamic dysfunction; they found that electrical stimulation of the ventromedial nucleus of the hypothalamus suppressed eating in animals. Studies by Anand and Brobeck, and Teitelbaum and Stellar (cited in Carlson, 1991) indicate that destruction of the lateral hypothalamus caused animals to stop eating or drinking. Studies of bulimia by Herzog and Copeland (cited in Blinder & Cadenhead, 1986) also suggest the possibility of central neurochemical abnormalities of the serotonergic and noradrenergic systems. However, to date no consistent results indicating endocrine etiological theories have emerged (Johnson & Maddi, 1986). Biomedical theories cannot explain why eating disorders affect primarily women in Western or Westernized cultures and why there are increasing prevalence rates (DiNicola, 1990a).
The mood disorder hypothesis (Cantwell, Sterzenberger, Burroughs, Salkin, & Green, 1977) proposes that anorexia is one of several disorders that is merely a mask for mood disorders. Blinder, Chaitin, and Hagman (cited in Blinder & Cadenhead, 1986) propose that bulimia as well may be primarily a mood disorder. Support for this view comes from findings that depression is commonly associated with anorexia; from 25% to 75% of patients with anorexia show signs of both an eating disorder and a mood disorder. In addition, antidepressants are an effective treatment for bulimic symptoms (Johnson & Maddi, 1986). However, as Katz (1987) has noted, the occurrence of depressed mood is common with many illnesses and it alone does not constitute a diagnosis of a mood disorder. Although there is some support for this view, there has not been a coherent model proposed for the relationship between anorexia nervosa and mood disorders (DiNicola, 1990a).

Although it does not appear that any clearly delineated psychodynamic etiological theories for anorexia and bulimia have been proposed, psychoanalytic views center around the psychodynamics of feeding and eating. Linder (cited in Blinder & Cadenhead, 1986) proposed that bulimia is the result of the patient's active oedipal wishes to be impregnated by her father. Etiological theories for anorexia and bulimia include oral impregnation and oral cannibalistic fantasies. In addition, rejection of female
genital sexuality has been posited as an etiological theory for anorexia (Blinder & Cadenhead, 1986; DiNicola, 1990a).

The developmental psychobiological hypothesis for the etiology of anorexia was suggested by Crisp in 1977. Its basic premises are that anorexia nervosa is caused by a fear of growing up and triggered by the psychobiological changes that occur during puberty. It proposes that the illness also serves as a means for the patient to avoid family conflicts. This hypothesis has two main weak points: (1) it does not present any specific testable causal mechanism and (2) it does not account for those cases of anorexia which occur prior to or after the onset of pubertal changes (DiNicola, 1990a).

Family Explanations

Families of bulimics have been reported to have similar interaction styles that differ significantly from families of normals. These interaction styles include greater expressed anger, aggression, and conflict, as well as a more indirect pattern of communication. Bulimics' families gave less support and commitment to each other and placed less emphasis on assertiveness and autonomy than did normal control families. Paradoxically, while the families of bulimics express higher achievement expectations, they expressed less interest in political, social, cultural, and recreational events than did normal control families (Johnson & Flach, 1985). However, it has not been proposed
that these findings necessarily constitute an etiological theory of bulimia. Family systems theorists have integrated similar findings concerning the interaction styles of the families of anorexics and have developed a systems model of anorexia nervosa. They have created a profile of the "psychosomatic family" consisting of enmeshment, overprotectiveness, rigidity, and a lack of conflict resolution (Minuchin, Rosman, & Baker, 1978).

Socio-Cultural Explanations

The feminist (social) hypothesis for anorexia nervosa, best explained by Orbach (1985, 1986) proposes that anorexia is a protest against the social definition of femininity in the form of a hunger strike. Although this explanation does address the female predominance of anorexia and make culture a causal factor, it is not adequate in explaining why anorexia is primarily seen in higher social classes, more technologically developed societies and more female-liberated Western societies as opposed to those in which the social definition of femininity might be expected to be more strongly felt. This hypothesis also cannot account for any cases of anorexia seen in males (DiNicola, 1990).

"A culture bound syndrome is a group of signs and symptoms of a disease that is restricted to certain cultures primarily by reason of distinctive psychosocial features of those cultures" (Prince, 1985, p. 198). Thus, culture bound syndromes are viewed in terms of the cultural preoccupations
and meaning that they may reflect (Swartz, 1985). Ritenbaugh (cited in Swartz, 1985) and Cassidy (cited in Swartz, 1985) both provide comprehensive definitions of culture bound syndromes which include four specific characteristics: an inability to be understood apart from their cultural context, a symbolization of the norms of the culture, a reliance on the cultural technology and ideology for diagnosis, and a necessity for successful treatment to be performed by persons in that culture.

The first characteristic is that it cannot be understood apart from the specific cultural context. In terms of anorexia this is evident in Western societal emphasis on thinness. This characteristic also indicates that typical syndromes of a symptom may not be considered pathological if they occur within the context of a group where such symptoms are the norm. For example, anorectiform symptoms seen in women involved in image-related careers might not be viewed as pathological given that such symptomatology may be the norm.

The second characteristic is that the etiology summarizes and symbolizes core meanings and behavioral norms of that culture. In this sense, anorexia serves as a vehicle for the expression of the preoccupations of Western cultures.

The third characteristic states that the diagnosis relies on specific technology as well as ideology. This
implies that "anorexia nervosa is to some extent a disorder which gains its reality through a form of negotiation between the diagnoser and the sufferer" (Swartz, 1985, p. 727).

The final characteristic is that successful treatment is accomplished only by participants in that culture. This characteristic is primarily concerned with the fact that the major treatment modalities for anorexia involve communication within a cultural context.

The culture bound syndrome etiological theory thus has several implications: first, the same symptoms viewed either at different times or in different contexts may be construed differently; second the patterns of presentation of any particular culture bound syndrome may be influenced by professional practice; and third, it negates the concept of a linear causal model of psychopathology that lies within the sufferer. DiNicola (1990b) suggests a culture-change etiological theory as a corollary of the culture-bound hypothesis in order to account for the increasing number of anorexia nervosa cases that are appearing under conditions that fall outside of those defined by the culture-bound hypothesis. His culture-change etiological theory proposes that anorexia may emerge under conditions of rapid sociocultural and economic changes brought about by either cultural evolution or migration. He adds that adolescents and children would be especially prone to developing
culture-change syndromes due to their attempts to deal with changes within themselves as well as within the culture that surrounds them.

The socio-cultural hypothesis for the etiology of bulimia posits that there are two cultural events that have occurred simultaneously to account for the rising incidence of bulimia. First, the mean age of the patient population indicates that these women were the first generation raised after the onset of the feminist movement. This may have contributed to role and identity confusion in a subpopulation of these women. The second cultural event that occurred simultaneously with the onset of the feminist movement was the emergence of an emphasis on thinness for women during the mid-1960s. This paired with the increasing focus on achievement for women appears to have influenced the choice of a pursuit of thinness as one way in which young women could compete amongst themselves and demonstrate self-control. Thus, amidst the confusing cultural expectations and high achievement expectations "the pursuit of thinness (which can be scaled and measured) and avoidance of obesity emerged as constituting one very concrete activity through which young women could compete and obtain consistently favorable social responses that held the possibility of enhancing self-esteem" (Johnson & Maddi, 1986, p. 260).
The various socio-cultural hypotheses have two things in common that distinguish them from other etiological hypotheses. First, they all introduce socio-cultural factors and make them central to their explanations of anorexia and bulimia, and second, they are more parsimonious than competing hypotheses (DiNicola, 1990b).

Support for Socio-cultural Hypotheses

There is currently a wide variety of studies to support the socio-cultural hypotheses of both anorexia and bulimia (DiNicola, 1990b). For instance, the incidence of eating disorders has an unequal sex ratio with predominantly more females than males being treated for eating disorders (Bushnell, Wells, Hornblow, Oakley-Browne, & Joyce, 1990; Halmi, Falk, & Schwartz, 1981; Hsu, 1989; Rolls, Fedoroff, & Guthrie, 1991). The Western cultures' aesthetic preference for thinness in women (Garner & Garfinkel, 1980; Silverstein, Peterson, & Perdue, 1986; Striegel-Moore, Silberstein, & Rodin, 1986), and a shift toward an increasingly thin standard which has become more widely distributed due to mass media (Striegel-Moore, Silberstein, & Rodin, 1986) may also be viewed as support for the various socio-cultural hypotheses. Research has shown that judgements of women's attractiveness are often based on weight and weight-related aspects (Berscheid, Walster, & Bohnstedt, 1973; Garner, Garfinkel, Schwartz, & Thompson, 1980). As further evidence for the association between...
thinness and attractiveness for women, Franzoi and Herzog (1987) found that the females' body esteem dimension of weight concern was the most frequently used dimension by both men and women to judge female attractiveness. Thus, for women, there appears to be an intimate relationship between thinness and attractiveness in our society.

Implications of the Ideal Thin

If one accepts one or more of the socio-cultural hypotheses and the proposed theory that achieving the ideal thin can be seen as one way women compete and demonstrate their self-control, then several implications follow. For instance, it is possible that others view the amount and/or type of food that a woman eats and the amount of physical activity that she engages in to be an outward display of her efforts to obtain or maintain the ideal thin. In fact, studies have found that women who eat less are perceived as more feminine and less masculine (Basow & Kobrynowicz, 1993; Chaiken & Pliner, 1987), more physically attractive (Chaiken & Pliner, 1987), and more socially appealing (likable) (Basow & Kobrynowicz, 1993) than women who eat more. It is not surprising that these findings have not been found to hold true for males (Chaiken & Pliner, 1987), given the absence of a prescribed societal standard of thinness for males.
The New Male

Although there is no societal standard of thinness for males, there do appear to be increasing messages from the media that males should strive to achieve a certain body type. For example, research has shown that young males have begun to exhibit high levels of concern over their body size. Wang, Yesalis, Fitzhugh, Buckley, and Smiciklas-Wright found that 47% of their sample of 12th-grade boys, drawn from a pool of 150 high schools nationwide, wanted to gain weight. Furthermore, Buckley et al. (1988) found that 7% of male high school seniors utilized in their study had used anabolic steroids in an attempt to increase their body size. In addition to being one method of achieving a larger body size, eating large meals has been equated with masculinity in our society. For instance, Hill and Howerter (1991) found evidence that males who eat large meals may be seen as more masculine by some subjects than those who eat small meals. However, there are several problems with generalizing from this finding, including that with the knowledge of Stein and Nemeroff’s (1993) findings concerning judgements of others based on the type of food eaten, the results of this study may have been confounded due to the fact that the small meal was a small salad and the large meal was a fried chicken patty, mashed potatoes and gravy, green beans, and cherry cheesecake. Furthermore, there are some methodological concerns with Hill and Howerter’s (1991)
study regarding their use of the Bem Sex Role Inventory, and their results have not been replicated elsewhere. Nevertheless, there does appear to be a societal belief that men should be big eaters.

This societal belief paired with the increasingly muscular standard for males evident throughout the media, and the questionable findings of Hill and Howarter (1991), warrant further research regarding the judgement of males based on the amount and type of food that they eat. Thus, it could be hypothesized that target males who eat more and report being physically active may likely be viewed by others as more attractive and more masculine.

Implications of Food Choices

Other studies have found diet-based social stereotypes centered around the type of food eaten. Sadalla and Burroughs (1981) found specific stereotypes related to five categories of food: vegetarian, gourmet, health food, fast food, and synthetic food. When subjects were asked to describe persons who would prefer each specific category of food they provided similar general character traits for persons who primarily ate foods in each specific category. In addition, a group of subjects was given a battery of personality tests then asked to rate their preferences for specific dishes in each of the five categories. Significant correlations were found between their food preferences and objective personality tests, and self-ratings. These
findings indicate that not only are persons stereotyped based on what they eat, but also that they are generally aware of the identity that they are projecting and to some extent it is consistent with objective personality measures.

Stein and Nemeroff (1993) also found that people judge others based on the type of food that they eat. In their experiment subjects read brief descriptions of targets that differed only in gender and foods most frequently eaten ("good" vs. "bad" foods) and rated the targets on morality, attractiveness and sex-role appropriateness. Targets who ate "good" foods were rated as significantly more moral, more attractive, more likable, more feminine, and less masculine than targets who ate "bad" foods.

Although Stein and Nemeroff (1993) held physical activity constant for all targets and height and weight and constant for all male targets and all female targets, respectively, an analysis of the responses to control check items indicated that eaters of "good" food were rated as more active, more fit, more thin, and less fat than eaters of "bad" food. Furthermore, whereas all targets' reported weights were chosen based on prescribed healthy weight tables for their respective height, male targets were rated as less fat than female targets and all foods were rated as more wholesome, healthy, and non-fattening when they were eaten by male targets than when eaten by female targets. This provides evidence for the behavioral manifestation of
our societal standard of thinness for women by demonstrating that women at a healthy weight are likely viewed by others as overweight and not physically fit.

One might expect that males would be especially harsh in their judgements of women who do not appear to be striving to obtain the ideal thin through diet and/or exercise, since men are more likely to judge attractiveness on the basis of physical attributes than women are (Mazur, 1986). Furthermore, attractiveness in a date or mate is more highly valued by males (Miller & Rivenbark, 1970) and in our culture attractiveness and thinness are almost synonymous for women. However, Stein and Nemeroff (1993) found that males actually rated all targets as significantly less active, less fit, and more fat than did females.

One of the most salient findings of Stein and Nemeroff's (1993) study is that eaters of "bad" foods were rated less active, less fit, less thin, and more fat than eaters of "good" foods. These results were found despite identical descriptions of physical activity and identical weights paired with specific heights for males and females respectively. Furthermore, it appears that subjects selectively attended to the type of food the target most frequently ate, to the point of neglecting other important information concerning weight and physical activity (i.e., all targets were reported as being at a healthy weight for
their height, and all were described as physically fit and active, regularly running and playing tennis).

The Influence of Physical Activity

Although the previous studies described above have not examined the influence of physical activity, it can be hypothesized that reported physical activity of the targets would affect the subjects’ ratings of those targets. Given that there is a societal standard for females to be thin, and that it has been shown that females who eat less and/or eat "good" food are seen as more attractive, it could be hypothesized that eating lightly and eating "good" foods are two ways of achieving the ideal thin. To the extent that exercise is viewed as another way for women to achieve the ideal thin then the level of physical activity of the female targets should influence subjects’ ratings of those targets. In addition, there appears to be an increasingly muscular standard for men (Buckley et al., 1988) and to the extent that exercise is viewed as a means to obtain a muscular physique, physical activity should influence the subjects’ ratings of the male target.

Rationale

This study is an attempt to reexamine these issues and determine whether and how men and women are judged based on amount eaten, type of food eaten, and level of physical activity.
Hypotheses

1. Female targets reported as eating small meals will be rated as more feminine, more attractive, and more likable than those reported as eating large meals.

2. Male targets described as eating large meals and engaging in physical activity will be rated as more attractive and more masculine than other male targets.

3. The targets who are reported as eating "good" food will be rated as more active, more physically fit, more thin, and more likable than targets who eat "bad" food.

4. Male targets who are reported as being physically active will be rated as more thin, and more physically fit than female targets regardless of the size of meal they typically eat or the type of food they typically eat and whether they are physically active.

5. Female targets who eat small meals of "good" food and are physically active will be rated as the more attractive, more feminine and more likable than other female targets.

6. Both male and female targets who are reported as being physically active will be rated as more physically attractive than those who are not.
CHAPTER II

METHODS

Subjects

The subjects utilized were 320 (160 male and 160 female) University of North Texas undergraduate psychology students who received extra credit for their participation. Subjects were recruited via postings on an extra credit bulletin board and announcements made in their psychology classes (see Appendix A for recruiting statement). The data from eight subjects (6 males and 2 females) was omitted from the analyses due to incomplete questionnaires. The omitted questionnaires were from 6 different cells with no more than 2 subjects being omitted from any one cell. Thus, the number of subjects per cell ranged from 18-20.

The subjects ranged in age from 17-38 ($M = 20.83$, $SD = 2.94$), with the majority of the subjects (70.9%) being in the 18-21 age range. Subjects were fairly evenly distributed as to class year, with 29.7% being freshmen, 31.9% being sophomores, 26.2% being juniors, and 12.1% being seniors. The majority of the subjects (76.0%) were Caucasian, 10.5% were African American, 6.4% were Hispanic, 3.5% were Asian/Asian American, .6% were Native American and other races comprised 2.9% of the sample. The majority (93.3%) of the sample was single, 4.5% was married, 1.9%
divorced, and .3% widowed. The majority of the subjects were from high SES backgrounds, 53.4% indicating that their parents earned at least $55,001 per year, 16.9% between $45,001 and $55,000, 12.8% between $35,001 and $45,000, 8.9% between $25,001 and $35,000 2.9% between $15,001 and $25,000, as well as $15,000 and below, and 2.2% of the sample did not report their parent's combined income.

Stimulus Materials

The materials used included sixteen brief descriptions of targets (8 male and 8 female), consisting of gender, age, height, weight, whether or not the target considers him- or herself to be physically active, the foods that the target most frequently eats ("bad" or "good" foods) and whether the target generally eats small or large meals (see Appendix B for target descriptions). Age, height and weight were held constant for both male and female targets while the size of the meal, type of food and physical activity were manipulated across male and female target conditions. Although Basow and Kobrynowicz (1993) showed videos of their target eating to the subjects, Chaiken and Pliner (1987) utilized food diaries which demonstrated that it is not necessary for subjects to see the target eating in order to obtain findings which indicate that the targets were judged based on the size of meals they were described as having eaten. Stein and Nemeroff (1993) utilized a similar technique by describing the target and listing the foods
that the target had supposedly reported as being those that he or she most frequently ate. These approaches are effective in removing the potentially biasing influence that occurs when the subject sees the confederate's body size and eating mannerisms.

Targets were given "subject numbers" instead of names to avoid any responding based on preconceived notions some subjects may have regarding particular names, and to increase credibility of the cover story.

**Measures**

**Derivation of independent measures.** Foods for the two categories of "bad" food and "good" food were chosen from nominations made by graduate students in psychology. The examiner distributed a questionnaire to all graduate students in the psychology department of the University of North Texas asking them to list ten foods that they considered to be unhealthy/bad for them and ten foods that they consider to be healthy/good for them (see Appendix C). The six most frequently listed foods for each category were chosen to be utilized for the study with the stipulation that none of the "bad" foods were listed on anyone's "good" list and none of the "good" foods were listed on anyone's "bad" list. The foods eventually utilized for the questionnaires included oranges, salad, bananas, broccoli, chicken and fish as the "good" foods and potato chips,
french fries, ice cream, fried chicken, candy, and red meat as the "bad" foods.

The ages for the targets were chosen based on the demographic statistics from the 1992-1993 academic school year. The modal ages of University of North Texas male and female undergraduate students were used. These were determined and provided by the Office of University Planning and Institutional Research. The height assigned each target was the average height for that age according to Metropolitan Life Actuarial Tables. The weight that assigned to the targets was the average weight for that height according to these tables.

The age, height, weight, and target’s favorite foods were determined as described above. The target’s age, height and weight remained constant for male and female targets, respectively. The foods the target most frequently eats were varied by simply listing either the six "good" foods, or the six "bad" foods. Meal size was varied by stating that the target generally preferred eating large meals or generally preferred eating small meals. Whether or not the target was physically active was varied by stating whether or not the target considered him- or herself to be physically active and for those targets who did, listing activities in which he or she regularly participates. These activities remained constant for all targets that were
reported as being physically active, that is, all targets were reported as regularly engaging in the same activities.

**Derivation of dependent measures.** The questionnaires were comprised of 23 questions, with six sets of three questions each designed to be nearly synonymous in meaning and five questions designed to be utilized as manipulation checks (see Appendix D for questionnaire). The ratings of the three related questions were averaged to provide a more reliable trait measure. The questions used to measure physical attractiveness included questions about how attractive, pretty/handsome and good-looking the target is. Those utilized to measure thinness included questions about how thin, slender, and slim the target is. Questions used to measure femininity included questions concerning how feminine, refined and effeminate the target is. Those used to measure masculinity included questions concerning how masculine, virile and macho the target is. Questions utilized to measure likability included questions about how likable, congenial, and amiable the target is. Finally, those used to measure how physically fit the target is included questions about how good the target’s figure is, how in shape the target is and how physically fit the target is.

Prior to any other analyses a correlation matrix was computed to ensure that the ratings which were to be averaged to provide one trait measure were measuring similar
qualities. Each group of questions listed above was significantly intercorrelated at the \( p < .01 \) level, ranging from .25 to .91. Therefore, the ratings from each group of three questions were averaged to derive the following six dependent variables: perceived attractiveness, perceived thinness, perceived femininity, perceived masculinity, perceived likability and perceived physical fitness. Additionally, as a manipulation check, one score was obtained from a single question scored on a Likert-type scale for each of the experimental manipulations, including how healthy and how unhealthy targets’ preferred foods were, how small and how large the meals were that the target preferred, and how physically active the target was. (see Appendix E for Tables 1-4, correlation matrices for the derived dependent variables).

Following each brief description of a target there was a series of trait dimensions which the subject was asked to rate on a seven point Likert-type scale. The trait dimensions assessed attractiveness, thinness, masculinity, femininity, physical fitness, and likability. There was also a series of items scored on a Likert-type scale to assess the affects of the various manipulations. These included questions concerning the healthfulness of the targets reported food preferences, their level of physical activity, and the size of meal they generally prefer. All Likert-type scale ratings were comprised in such a way that
lower scores reflected less of the quality of interest and higher scores reflected more.

**Demographic variables.** A series of demographic questions was included as a part of the survey (see Appendix D). This requested the subject’s date of birth, race, college class (e.g. freshman, sophomore, junior, or senior), marital status, father’s education level, mother’s education level, and their parents’ combined income.

**Procedure**

Subjects were run in groups both in their classes and at scheduled times in the University of North Texas Psychology Clinic. Subjects were first asked to complete and were given a copy of an informed consent form briefly describing the study (see Appendix D). When the informed consent forms were returned to the examiner the subjects were given a target description and ratings which had a top sheet with the cover story printed on it (see Appendix D). They were instructed to read the instructions on the cover page and begin. When the subjects completed the questionnaire they were given their extra credit card and a debriefing statement explaining the true nature of the study, the necessity of deception, and how to contact the examiner should they experience any negative effects of completing the research (see Appendix F).

A randomized split plots design was utilized, with each subject rating one target description. The target
descriptions were randomly distributed with the exception that care was taken to assign equal numbers of each condition to male and female subjects. This was accomplished by passing out two separate stacks of questionnaires, one explicitly for males and one explicitly for females. Each stack was comprised of an equal number of questionnaires for each condition.
CHAPTER III

RESULTS

Descriptive Statistics

The means and standard deviations for the derived dependent variables, rated on a scale of 1 to 7, were as follows: masculinity (M = 3.33, SD = 1.01), femininity (M = 3.77, SD = 1.03), likability (M = 4.13, SD = 0.86), thinness (M = 4.11, SD = 1.47), attractiveness (M = 3.81, SD = 1.09), and fitness (M = 3.83, SD = 1.46). The means and standard deviations of the questions utilized to assess the effectiveness of the manipulations were as follows: physical activity (M = 3.63, SD = 1.80), small meals (M = 3.35, SD = 1.62), large meals (M = 4.01, SD = 1.78), healthy food (M = 3.84, SD = 2.34), and unhealthy food (M = 3.74, SD = 2.17).

A correlation matrix was computed to determine if any of the demographic variables were significantly correlated with any of the independent variables or the dependent variables included in the hypotheses. For those demographic variables which were categorical with more than two naturally occurring categories (e.g. race, classification and marital status) the categories were condensed into two categories and t-tests were computed. This was accomplished by creating the first category out of that group or groups
in which the majority of the subjects fell and the second out of the remaining groups.

Upon examining the independent variables, it was found that there was a significant point-biserial correlation between subject age and target meal size ($r(311) = .15, p < .01$). This correlation indicates that although care was taken to assign equal numbers of male and female subjects to each condition, older subjects were more likely to receive questionnaires describing a target as eating large meals.

Subject race and socioeconomic status (SES) were the only demographic variables that influenced any of the dependent variables. Targets' ratings of femininity were significantly influenced by the subjects' race, $t(311) = -3.00, p = .003$. Minority subjects rated the targets as significantly more feminine ($M = 4.08$) than did Caucasian subjects ($M = 3.67$). SES, determined by parents' income, was significantly negatively correlated with ratings of target physical attractiveness, $r(311) = -0.13, p < .05$. This indicates that subjects from a higher SES were more likely to rate the target as less attractive. There were no significant effects on any of the dependent variables for subject marital status or college classification. Given that random assignment of subjects to the different conditions was made, the differences in ratings of femininity should not result in confounds within the analysis since subject race can be assumed to be evenly
distributed across the conditions. Furthermore, given that the correlation between subject SES and ratings of physical attractiveness was very weak, the results found in the hypothesis testing can be assumed to be free from confounds due to the demographic variables.

Data Analysis Plan

A 2 (type of food preferred) X 2 (size of meal preferred) X 2 (level of physical activity) X 2 (sex of target) between subjects multivariate analysis of variance (MANOVA) was performed on the six derived dependent variables and one dependent variable which served as a manipulation check on the target’s level of physical activity.

Results of the evaluation of the assumption of normality indicate that there is some skewness in the dependent variables. However, given that the sample sizes deviated only slightly from the minimum of 20 recommended by Tabachnik and Fidell (1989) and the sample produces a minimum of 20 degrees of freedom for error in the univariate cases, this assumption can be considered to be met. As Tabachnik and Fidell (1989) state, the MANOVA program is robust to these modest violations if they are produced by skewedness and not by outliers. The Box M test for homogeneity of variance was significant with $F(420, 51601) = 1.52, p < .001$. Although this indicates that the data violate the assumption of homogeneity of variance-covariance
matrices, Tabachnik and Fidell (1989, p. 379) state that the Box M test is "a notoriously sensitive test of homogeneity of variance-covariance matrices." They further indicate that the less the discrepancy in cell sizes, the less the chance for true violation of this assumption. They suggest analysis of cell by cell variance-covariance matrices and propose that if cells with larger samples produce larger variances and covariances then the threat of or violation of this assumption, according to the results of the Box M test, does not result in overly liberal tests of significance. The results of such an analysis on the present data indicate that the cells with larger samples do produce larger variance-covariance matrices and vice versa. Therefore, this mild violation is not thought to be of major concern since it is not likely to lead to overly liberal tests of significance. None of the derived dependent variables were highly correlated with one another, therefore, the data does not violate the assumptions of multicolinearity and singularity.

Hypothesis Tests

Hypothesis 1 (that female targets reported as eating small meals would be rated as more feminine, more attractive, and more likable than those reported as eating large meals) was tested by redefining groups from the MANOVA and using t-tests to determine if statistically significant differences existed within the data. The results do not
support the hypothesis and indicate that differences in
ratings of female targets who were reported as eating small
meals and other female targets were not significantly
different (femininity, $t(152) = -0.34$, $p = .37$,
attractiveness, $t(152) = 0.36$, $p = .36$, and likability,
$t(152) = .00$, $p = .50$).

The second hypothesis (that male targets described as
eating large meals and engaging in physical activity would
be rated as more attractive and more masculine than other
males) was also tested by redefining the groups within the
MANOVA and performing t-tests on the newly defined groups.
Although these targets were not rated significantly more
attractive than other male targets ($t(156) = 1.00$, $p = .16$),
they were rated as significantly more masculine than other
male targets ($t(156) = 2.42$, $p = .0085$, $M = 3.98$ for targets
described as eating large meals and engaging in physical
activity and $M = 3.53$ for other male targets). Thus,
although hypothesis 2 was not supported in its entirety, the
predicted influence of meal size and physically activity was
found to have an effect on ratings of masculinity.

The third hypothesis (that targets who were reported as
eating "good" food would be rated as more physically active,
more physically fit, more thin and more likable than targets
who were reported as eating "bad" food) was tested by means
of main effects within the MANOVA. Using the Wilks’
criterion the main effect for type of food was found to be
significant \( F(7, 290) = 12.43, p \leq .001 \). Univariate F tests indicate that this effect was significant on the dependent variables of physical activity \( (F(1, 296) = 29.15, p \leq .001) \), physical fitness \( (F(1, 296) = 55.02, p \leq .001) \), thinness \( (F(1, 296) = 17.49, p \leq .001) \) and likability \( (F(1, 296) = 19.18, p \leq .001) \), as predicted. Those targets reported as eating good food were rated as more physically active \( (M = 4.00) \) than those reported as eating "bad" food \( (M = 3.26) \), more physically fit \( (M = 4.27 \text{ vs. } M = 3.40) \), more thin \( (M = 4.41 \text{ vs. } M = 3.80) \), and more likable \( (M = 4.33 \text{ vs. } M = 3.93) \). (see Appendix G for Table 7, means of main effects for type of food).

The fourth hypothesis (that male targets who were reported as being physically active would be rated as more thin, and more physically fit than female targets regardless of the size of meal they typically eat, or the type of food they typically eat and whether the female target is reported as being physically active) was tested by means of a t-test after redefining the groups within the MANOVA. This hypothesis was supported for the dependent variables of thinness \( (t(232) = 5.02, p \leq .001) \) and physical fitness \( (t(232) = 5.33, p \leq .001) \). The male targets who were reported as being physically active were rated more thin \( (M = 4.77) \) than female targets \( (M = 3.81) \). These targets were also seen as more physically fit \( (M = 4.95) \) than female targets \( (M = 3.83) \).
The fifth hypothesis (that female targets who were reported as preferring small meals of "good" food and being physically active would be rated as more attractive, more feminine and more likable than other female targets) was tested by redefining the groups within the MANOVA and performing a t-test. This hypothesis was also supported for all of the dependent variables included in the analysis (attractiveness, femininity, and likability). Those targets reported as preferring small meals of "good" food and being physically active were rated significantly more attractive ($t(152) = 3.73, p < .001, M = 4.86$), more feminine ($t(152) = 1.99, p = .024, M = 4.61$), and more likable ($t(152) = 2.71, p = .004, M = 4.72$) than other female targets ($M = 3.88, M = 4.13, M = 4.19$, respectively).

The final hypothesis (that both male and female targets who were reported as being physically active would be rated as more physically attractive than other targets) was tested by means of main effects for physical activity on the dependent variable physical attractiveness within the MANOVA. Using the Wilks' criterion there was a significant main effect of physical activity, $F(7, 290) = 57.70, p < .001$. This main effect was significant for the dependent variable attractiveness, $F(1, 296) = 39.88, p < .001$. Those targets who were reported as being physically active were rated as significantly more physically attractive ($M = 4.16$) than other targets ($M = 3.48$).
Other Statistical Findings

Using the Wilks criterion, the combined dependent variables were significantly affected by a two-way interaction between meal size and physical activity $\chi^2(7, 290) = 2.45, p = .019$. Univariate F tests indicate that the two-way interaction was specific to the dependent variable attractiveness $\chi^2(1, 296) = 7.18, p = .008$. Those targets reported as eating small meals and being physically active were rated as the most physically attractive ($M = 4.35$), followed by those reported as eating large meals and being physically active ($M = 3.98$). Targets reported as not being physically active were rated as the least attractive with $M = 3.39$ and $3.58$ for nonactive targets reported as eating small and large meals respectively (see Appendix H for Figure 1, meal size by physical activity interaction diagram).

With the use of the Wilks' criterion, there were additional main effects found for physical activity, $\chi^2(7, 290) = 57.70, p < .001$, on the dependent variables of masculinity, likability, thinness, and physical fitness. There was a significant difference in masculinity ratings depending on whether or not the target was described as being physically active $\chi^2(1, 296) = 66.45, p < .001$. Those targets who were described as being active were rated as significantly more masculine ($M = 3.73$) than those who were described as not being physically active ($M = 2.92$). There
was also a significant difference in likability ratings depending on whether or not the target was described as being physically active, $F(1, 296) = 12.77, p < .001$. Those targets who were described as being active were rated as significantly more likable ($M = 4.29$) than others ($M = 3.97$). A significant difference was also found on the dependent variable of thinness, $F(1, 296) = 29.80, p < .001$. Those targets who were described as being physically active were rated as significantly thinner ($M = 4.51$) than other targets ($M = 3.70$). There was also a significant difference found on the dependent variable fitness depending on whether or not the target was described as being physically active, $F(1, 296) = 231.00, p < .001$. Those targets who were reported as being physically active were rated as significantly more physically fit ($M = 4.74$) than targets who were described as not being physically active ($M = 2.93$).

Using the Wilks' criterion, there was also a main effect for type of food the target was reported as preferring, $F(7, 290) = 12.43, p < .001$. This effect was found on the dependent variables of femininity, $F(1, 296) = 50.67, p < .001$, likability, $F(1, 296) = 19.18, p < .001$, thinness, $F(1, 296) = 17.49, p < .001$, attractiveness, $F(1, 296) = 23.22, p < .001$, and fitness, $F(1, 296) = 55.02, p < .001$. Targets who were described as preferring "good" food were rated as significantly more feminine ($M = 4.12$) than
others (M = 3.41), more likable (M = 4.33) than others (M = 3.93), more thin (M = 4.41) than others (M = 3.80), more attractive (M = 4.08) than others (M = 3.56) and more physically fit (M = 4.27) than others (M = 3.40) (see Appendix G for Table 8, means for the main effects for type of food).

Within the MANOVA there was a main effect found for the gender of the target using the Wilks’ criterion, \( F(7, 290) = 26.11, p < .001 \). This effect influenced the dependent variables of likability, \( F(1, 296) = 7.01, p = .009 \), thinness, \( F(1, 296) = 14.78, p < .001 \), and attractiveness, \( F(1, 296) = 10.19, p = .002 \). Female targets were rated as significantly more likable (M = 4.26) than male targets (M = 4.00). Male targets were rated as significantly thinner (M = 4.40) than female targets (M = 3.24). However, female targets were rated as significantly more physically attractive (M = 4.01) than male targets (M = 3.64) (see Appendix G for Table 9, means for the main effects for target gender).

**Manipulation Checks**

A 2 (type of food preferred) × 2 (size of meal preferred) × 2 (level of physical activity) × 2 (sex of target) between subjects multivariate analysis of variance (MANOVA) was performed on the items used to discern effectiveness of the manipulations. These consisted of five separate questions asking how small, large, healthy, and
unhealthy the targets' meals were and how physically active the targets were. Using the Wilks' criterion, $F(5, 292) = 64.74$, $p < .001$, there was a significant main effect found for the manipulation of targets' reported level of physical activity. This effect influenced the subjects' ratings of how physically active the targets were ($F(1, 296) = 320.48$, $p < .001$), with those who were reported as being physically active, being rated as significantly more physically active ($M = 4.87$) than those who were reported as not being physically active ($M = 2.38$). This indicates that the manipulation of reported levels of physical activity was effective.

Using the Wilks' criterion, $F(5, 292) = 129.94$, $p < .001$, there was a significant main effect found for type of meal. This effect influenced how healthy the targets' meals were rated, $F(1, 296) = 587.76$, $p < .001$, and how unhealthy the targets' meals were rated, $F(1, 296) = 181.46$, $p < .001$. The meals were rated as significantly more healthy ($M = 5.68$) and less unhealthy ($M = 2.45$) in those conditions in which the targets were reported as eating "good" food than in those in which targets were reported as eating "bad" foods ($M = 1.93$ for healthiness and $M = 5.07$ for unhealthiness of foods). This indicates that the manipulation of meals type was effective.

Using the Wilks' criterion, $F(5, 292) = 45.31$, $p < .001$, there was a significant main effect found for meal
size. This effect was found on the ratings of how small the targets' meals were, $F(1, 296) = 58.98, p < .001$, and how large the targets' meals were, $F(1, 296), p < .001$. Meals were rated as smaller ($M = 3.71$) and less large ($M = 2.89$) when the target was reported as preferring small meals; they were rated as larger ($M = 5.10$) and less small ($M = 2.72$) when the target was reported as preferring large meals. This indicates that the manipulation of meal size was effective.

Within the MANOVA there was a main effect found for the gender of the target using the Wilks’ criterion, $F(7, 290) = 26.11, p < .001$. This effect influenced the dependent variables of masculinity, $F(1, 296) = 41.03, p < .001$, and femininity, $F(1, 296) = 67.60, p < .001$. As would be expected, male targets were rated significantly more masculine ($M = 3.64$) than female targets ($M = 3.00$) and female targets were rated significantly more feminine ($M = 4.19$) than male targets ($M = 3.36$). Although masculinity and femininity are not identical to gender, these results suggest that the manipulation of target gender was also effective.

Exploratory Analyses

An analysis of the $F$ statistic for each of the main effects was done for each of the six derived dependent variables. This was done to determine which of the independent variables had the greatest effect on each of the
dependent variables. The independent variable that was found to have the largest effect on the dependent variable masculinity was targets' described physical activity ($F(1, 296) = 66.45$). Target gender also had a substantial effect on ratings of masculinity, $F(1, 296) = 41.03$. The remaining independent variables had minimal effect on ratings of masculinity. Target gender was found to have the largest effect on ratings of femininity ($F(1, 296) = 67.60$), followed by type of food the target was reported as preferring ($F(1, 296) = 50.67$). The remaining independent variables had only minimal effects on ratings of target femininity.

Likability was most strongly affected by type of food the target was reported as preferring ($F(1, 296) = 19.18$), followed by whether or not the target was reported as being physically active ($F(1, 296) = 12.77$). Other independent variables had only minimal effect on ratings of target likability. Target attractiveness was most strongly influenced by whether or not the target was described as physically active ($F(1, 296) = 39.88$), closely followed by the type of food the target was reported as preferring ($F(1, 296) = 23.22$). Target gender also had a small effect on how attractive the target was judged to be ($F(1, 296) = 10.19$).

How physically fit the target was judged to be was primarily affected by whether the target was reported as being physically active ($F(1, 296) = 231.00$) and much less
so by the type of food the target was described as preferring ($F(1, 296) = 55.02$). Remaining independent variables contributed only minimally to ratings of targets' physical fitness.

Judgements concerning targets' thinness were affected the most by whether the subject was described as being physically active ($F(1, 296) = 29.80$), then by the type of food the target was described as preferring ($F(1, 296) = 17.49$). Target gender also influenced the ratings of target thinness ($F(1, 296) = 14.78$), as did size of meal ($F(1, 296) = 10.32$).

It should be noted that the size of the meals that the targets were reported as preferring had the least amount of effect on the ratings of all the independent variables included. Furthermore, the influence of meal size on the dependent variables was minuscule ($F(1, 296) = .36 - .56$) compared to other independent variables with the exceptions of ratings of targets' physical fitness, where $F(1, 296) = 2.77$, and thinness ($F$ reported above).
CHAPTER IV

DISCUSSION

Hypothesis Tests

Four of the six hypotheses were supported in their entirety. One hypothesis was partially supported and one was not supported. Among the most interesting results was the finding that meal type apparently has more to do with ratings of how active, physically fit, thin, likable, feminine, and attractive targets are than does meal size. Another major finding concerns the influence of reported physical activity on ratings of attractiveness, likability and thinness. Those targets reported as being physically active were rated as more attractive, likable and thin. In fact reported physical activity appears to ameliorate any negative judgements made based on targets being reported as eating large meals.

The first hypothesis (that female targets reported as eating small meals would be rated as more feminine, more attractive, and more likable than those reported as eating large meals) was not supported. This was unexpected given the previous research (Basow & Kobrynowicz, 1993; Chaiken & Pliner, 1987) that indicates that women’s femininity, attractiveness and social appeal (likability) are judged based on the size of meals they eat.
One possible explanation of this lack of findings would be that the meal size in prior research was confounded by food type. For example, it could be that small meals consisted of predominantly "good" food such as salads, fruits and breads, while large meals consisted primarily of what might be considered "bad" foods, such as hamburgers, french fries and desserts. Although Basow and Kobrynowicz (1993) used four meals, one small feminine meal (small salad), one large feminine meal (large salad), one small masculine meal (small hoagie) and one large masculine meal (large hoagie), results indicated that the majority of the subjects mistakenly judged the small hoagie as a large hoagie and rated the target on this misperception. Furthermore, their planned comparisons revealed only that the target eating the small salad was rated more socially appealing and more feminine than the target eating other meals and that the target eating the large hoagie was rated as significantly less socially appealing and less physically attractive than the target eating other meals. From this information it is not possible to discern whether these results suggest differences based on meal size or meal type.

The results of Chaiken and Pliner’s (1987) study may have also confounded meal size with meal type since their small meals were ‘coffee with cream, bran muffin with butter’, ‘orange juice, toast and butter’, ‘green salad, oil and vinegar dressing, coffee with cream’, or chicken soup,
two saltines, and black coffee’ and their large meals were ‘pancakes and syrup, 3 slices of bacon, grapefruit with sugar and milk’ or ‘bowl of vegetable soup, spaghetti with meat sauce, green salad with French dressing, chocolate brownie, banana, and a large coke’. Although the small and large meals may not be distinct with respect to meal type (i.e., the small meal may not be entirely "good" foods and the large meal may not be entirely "bad" foods), it does appear that their small meals were predominantly "good" foods and their large, at the very minimum, contained several "bad" foods. Given the recent findings about importance of meal type (Sadalla & Burroughs, 1981; Stein & Nemeroff, 1993) if meal size and meal type were not controlled for, one would expect the findings to be confounded to the degree that they may be questionable at best.

The second hypothesis (that male targets described as eating large meals and engaging in physical activity would be rated as more attractive and more masculine than other male targets) was only partially supported. These targets were rated more masculine than others but not more attractive. The hypothesized effects of meal size and physical activity on ratings of attractiveness were based on limited recent research (Buckley et al., 1988; Wang et al., 1994) indicating that males have begun to show an increase in concern over their own bodies. It could be that this
concern has simply not yet been focused outward. In other words, while research may indicate that males are becoming more concerned with their own body appearance, this simply may not translate into their judging other males on the basis of their attempts to become more muscular through diet and exercise. Furthermore, given the common perception that females generally judge the attractiveness of males by factors such as their intelligence, income potential and character, factors such as meal size and physical activity simply may not be salient enough to influence females' judgements of males' attractiveness. Further research focussing on the influence of the sex of the subject may be able to determine whether the above argument can account for these findings.

Given the lack of research on how males are judged by others and the current findings that meal size and reported physical activity influenced the ratings of males' masculinity, further research is clearly indicated. Previous research by Pliner and Chaiken (1990) reported that both men and women stated they would eat larger meals if they were attempting to appear more masculine. However, Chaiken and Pliner (1987) and Basow and Kobrynowicz (1993) both failed to find any effect on the ratings of males' masculinity on the basis of meal size. Yet, in addition to the current findings, Hill and Howerter (1991) also found that males reported as eating large meals were rated as more
masculine. Given that Chaiken and Pliner's (1987) and Basow and Kobrynowicz's (1993) studies were conducted in the east or northeast, and studies which yielded significant results for masculinity ratings based on meal size were conducted in the south, these findings could indicate a regional tendency to view males who are big eaters as more masculine. It is plausible that the implication that males who are big eaters are more masculine is limited to the southern United States.

The third hypothesis (that targets who are reported as eating "good" food would be rated as more active, more physically fit, more thin and more likable than targets who eat "bad" food) was supported in its entirety. This was expected based on prior research indicating that targets reported as eating "good" foods were rated as more attractive and likable, that persons are generally stereotyped based on the type of food that they eat and that to some extent, they are aware of this (Sadalla & Burroughs, 1981; Stein & Nemeroff, 1993). However, it is of interest to note that this study has extended these findings, by demonstrating that targets who were reported as preferring "good" foods were rated as significantly more physically active, physically fit and more thin regardless of whether or not they were reported as being physically active and despite the fact that all female targets were described as being the same height and weight, as were all male targets. Furthermore, these heights and weights were chosen based on
average heights for targets of that gender and age and recommended weights for targets of that gender and height based on the Metropolitan Life Actuarial Tables. Therefore, it appears that when given information concerning the type of food a target preferred eating, subjects attended to this information to the neglect of other important descriptive information about that target.

The fourth hypothesis (that male targets who are reported as being physically active would be rated as more thin and more physically fit than female targets, regardless of the size of the meals they typically eat, or the type of food they typically eat and whether the female target is reported as being physically active) was supported in its entirety. This is not surprising given Stein & Nemeroff’s (1993) finding that male targets were rated as less fat than female targets regardless of type of food preferred. Furthermore, they found that all foods were rated as more wholesome, healthy, and non-fattening when they were eaten by male targets than when eaten by female targets. This suggests an overall bias toward judging males less harshly than females, one which even extends to the judgements of their food choices. Additionally, it is possible that males who are reported as being physically active are viewed as having physical activity as a socially desirable trait in and above the apparent socially desirable ‘maleness’.
Hypothesis 5 (that female targets who eat small meals of "good" food and are physically active would be rated as more attractive, feminine, and likable than other female targets) was supported in its entirety. Given that eating small meals of "good" food and engaging in physical activity is the utmost that females could do to obtain the ideal thin, the expressed emphasis on obtaining the ideal thin for women and the indications that women are primarily judged on weight and weight related aspects, this finding is also to be expected and is in accordance with previous research in the field.

The final hypothesis (that male and female targets who were reported as being physically active would be viewed as more physically attractive than those who are not) was also supported in its entirety. Given that physical activity may represent a means for males to increase their muscle mass, that recent research has shown that there is an increasing trend for males to be concerned with this (Buckley et al., 1988), that physical activity may be a means for females to obtain the ideal thin and that females' attractiveness is most often judged on weight and weight related aspects, this finding is also expected and congruent with previous research in the field.

Other Findings

Reported physical activity had a positive influence on ratings of targets' attractiveness, even to the extent of
ameliorating any negative effects of preferring large meals. However, it is interesting to note that those targets who were reported as not being physically active and preferring large meals were rated as more physically attractive than those who were reported as preferring small meals. There is currently no explanation based on theory or previous research that can account for these findings. Although merely speculation, these findings might lead one to wonder whether subjects attended more to height and weight descriptions for conditions in which the target was expending no effort to obtain or maintain the ideal thin (e.g. exercising). If this were the case, one might speculate that those targets who were reported as not being physically active and preferring large meals were seen as having obtained and/or having no difficulty in maintaining the ideal thin since they exhibited no concern with behaviors instrumental to the achievement or maintainence of this goal. On this basis these subjects may have been rated as more attractive. Alternatively, targets who were reported as not being physically active and preferring small meals may have been viewed as attempting to obtain and/or maintain the ideal thin only through passive measures. If such is the case, these targets may have been viewed as unwilling to expend the effort necessary and therefore, less attractive.
It is of interest that physical activity appears to enhance the effects of preferring "good" foods, at least for females. As proposed in the introduction, it is likely that for a female, engaging in physical activity and preferring "good" foods is seen as an increased effort to obtain or maintain the ideal thin. Both male and female targets who were reported as being physically active were rated as more physically attractive than other targets. This result may be explained as an extension of the above argument. Thus, women who are viewed as expending effort to obtain and/or maintain the ideal thin and men who are expending effort to increase their muscle mass are seen as more physically attractive.

Additionally, physical activity appears to ameliorate any negative effects that may result from preferring large meals. Furthermore, it appears that when males are reported as being physically active, they are judged less harshly than females. In such instances the males were rated as more thin and more physically fit than females.

Interestingly, there were additional main effects found for physical activity on the dependent variables of likability, and thinness. This indicates that not only does engaging in physical activity make the target more physically attractive in the eyes of others, but also thinner and more likable. Little explanation is needed for the findings of thinness. The fact that reported physical
activity influences ratings of thinness is simply a logical extension of the presumed effects of physical activity. However, it should be noted that this effect was found even when all male and female targets were reported as being at a healthy weight for their gender and height. Thus, it appears that engaging in physical activity increases others' perceptions of how thin a person might be.

There is currently very little research in the field concerning the influence of physical activity on ratings of others. Thus (although of interest for further research) there is no explanation for the current finding that targets who were reported as being physically active were rated as more likable than other targets. It is possible that this could be a ramification of the beauty is good effect (Dion, Berscheid, & Walster, 1972), equating physical activity with thinness (which is a societal standard for beauty) and thinness with likability. However, this is merely speculation and further research would be needed to confirm or refute any possible explanation for such findings.

Results of this study indicate that meal type has more influence than meal size on the ratings of females' femininity, attractiveness, physical fitness, thinness, likability, and level of physical activity. These findings, along with the previously discussed confounds within the small and large meals in prior research, cast further doubt on the theory that meal size is responsible for differences
in ratings of femininity, attractiveness and likability. Additionally, they are consistent with the hypothesized reasons for a lack of support for hypothesis 1 and together, these two constitute a substantial argument for the hypothesis that it is and has been type of food preferred rather than size of meal that has accounted for previous and current findings. Furthermore, an analysis of the F statistics for the effects of meal size on each of the dependent variables indicates that it only significantly influenced the ratings of target thinness. Its influence on all other dependent variables was extremely minimal. In light of the current findings, the assertions set forth by previous research which indicate that meal size affects judgements of females' attractiveness, femininity, and likability should be seriously reconsidered.

In summation, it appears that females are judged more based on meal type than on size; however, meal size may have some affect on how males are judged. Furthermore, reported physical activity appears to have a significant influence on the ratings of both males and females. The findings reported here indicated a need for further research, especially concerning the influence of reported physical activity and influence of meal size on judgements of males' masculinity. Since the current study only addressed physical activity in terms of presence or absence, it would be particularly interesting if future research examined
mediating variables such as frequency duration and type of exercise (e.g., aerobic vs. non aerobic). If the hypothesized explanations for the current findings are accurate, one might expect to find targets who exercise longer and more frequently to be rated more favorably. Furthermore, the explanations utilized for the current findings would suggest that women would be rated more favorably when reported as engaging in aerobic, fat-burning exercises and men would be rated more favorably when reported as engaging in muscle building exercises.

Although upon initial consideration it may seem inherently more logical to interpret the findings with a socio-cultural hypothesis of eating disorders if women were found to be judged predominately on the size of meal eaten rather than the type. However, research indicates that anorexic restrictors express preferences only for the lowest calorie and most nutritious foods (Drewnowski, Pierce, & Halmi, 1988). Thus, anorexics likely most severely restrict "bad" foods. Furthermore, the current findings would tend to indicate a societal standard of thinness and physical fitness. This would tend to indicate that the ideal thin may no longer be concerned solely with size, but also with such factors as percentage of body fat and muscle tone.

Additionally, one could speculate that the findings concerning meal type may have some implications for explanations of bingeing and purging behavior seen in
bulimia nervosa. For example, it is common for binges to primarily consist of what has been described as "bad" foods. Research indicates that binges generally consist of forbidden foods which are higher in fat content and caloric density (Kales, 1990; Woell, Fichter, Pirke, & Wolfram, 1989). This fact, coupled with an underlying societal implication that these foods are bad and women who eat them are viewed as less feminine, attractive, physically fit, thin, and likable may lead to a binge-purge cycle in which the bulimic rebels against the prescribed sex roles and then attempts to atone for this rebellion. For example, the bulimic may binge on "bad" foods in a overt attempt to rebel against these societal norms. This in turn may lead to a strong urge for the bulimic to atone for this rebellion by separating herself from the "bad" foods which carry such numerous negative connotations through purging. Although the integration of these findings into a socio-cultural hypothesis of eating disorders as suggested above is merely speculation, it appears to be one way of interpreting these findings which merits further research.
APPENDIX A

RECRUITING STATEMENT
Recruiting Statement

I am conducting a research project concerned with predicting others' characteristics based on limited amounts of information. You will be given pieces of information about a person and asked to rate that person on the basis of the information you are given. I am particularly concerned with what types of information lead to the most accurate prediction, so different people will be getting different pieces of information. This project would take approximately one-half hour of your time and is worth one extra credit point for your psychology classes. Please let me know if you are interested in participating.
APPENDIX B

TARGET DESCRIPTIONS
Target Descriptions

Subject #001 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating small meals rather than large. He listed the foods he most frequently eats as oranges, salad, bananas, broccoli, chicken and fish. Subject #001 reported that he considers himself to be physically active and regularly engages in such activities as jogging, swimming and bicycling.

Subject #002 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating small meals rather than large. He listed the foods he most frequently eats as oranges, salad, bananas, broccoli, chicken and fish. Subject #002 reported that he is not physically active and does not regularly engage in any physical activity.

Subject #003 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating small meals rather than large. He listed the foods he most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #003 reported that he considers himself to be physically active and regularly engages in such activities as jogging, swimming and bicycling.
Subject #004 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating small meals rather than large. He listed the foods he most frequently eats as potato chips, french fries, ices cream, fried chicken, candy, and red meat. Subject #004 reported that he is not physically active and does not regularly engage in any physical activity.

Subject #005 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating large meals rather than small. He listed the foods he most frequently eats as oranges, salad, bananas, broccoli, chicken, and fish. Subject #005 reported that he considers himself to be physically active and regularly engages in such activities as jogging, swimming and bicycling.

Subject #006 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating large meals rather than small. He listed the foods he most frequently eats as oranges, salad, bananas, broccoli, chicken, and fish. Subject #006 reported that he is not physically active and does not regularly engage in any physical activity.
Subject #007 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating large meals rather than small. He listed the foods he most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #007 reported that he considers himself to be physically active and regularly engages in such activities as jogging, swimming and bicycling.

Subject #008 is a 20 year-old male. He is 5 feet 9 inches tall and weighs 149 pounds. He states that he prefers eating large meals rather than small. He listed the foods he most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #008 reported that he is not physically active and does not regularly engage in any physical activity.

Subject #009 is a 20 year-old female. She is 5 feet 4 inches tall and weighs 120 pounds. She states that she prefers eating small meals rather than large. She listed the foods she most frequently eats as oranges, salad, bananas, broccoli, chicken, and fish. Subject #009 reported that she considers herself to be physically active and regularly engages in such activities as jogging, swimming and bicycling.
Subject #010 is a 20 year-old female. She is 5 feet 4 inches tall and weighs 120 pounds. She states that she prefers eating small meals rather than large. She listed the foods she most frequently eats as oranges, salad, bananas, broccoli, chicken, and fish. Subject #010 reported that she is not physically active and does not regularly engage in any physical activity.

Subject #011 is a 20 year-old female. She is 5 feet 4 inches tall and weighs 120 pounds. She states that she prefers eating small meals rather than large. She listed the foods she most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #011 reported that she considers herself to be physically active and regularly engages in such activities as jogging, swimming, and bicycling.

Subject #012 is a 20 year-old female. She is 5 feet, 4 inches tall and weighs 120 pounds. She states that she prefers eating small meals rather than large. She listed the foods she most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #012 reported that she is not physically active and does not regularly engage in any physical activity.
Subject #013 is a 20 year-old female. She is 5 feet, 4 inches tall and weighs 120 pounds. She states that she prefers eating large meals rather than small. She listed the foods she most frequently eats as oranges, salad, bananas, broccoli, chicken, and fish. Subject #013 reported that she considers herself to be physically active and regularly engages in such activities as jogging, swimming, and bicycling.

Subject #014 is a 20 year-old female. She is 5 feet, 4 inches tall and weighs 120 pounds. She states that she prefers eating large meals rather than small. She listed the foods she most frequently eats as oranges, salad, bananas, broccoli, chicken, and fish. Subject #014 reported that she is not physically active and does not regularly engage in any physical activity.

Subject #015 is a 20 year-old female. She is 5 feet, 4 inches tall and weighs 120 pounds. She states that she prefers eating large meals rather than small. She listed the foods she most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #015 reported that she considers herself to be physically active and regularly engages in such activities as jogging, swimming, and bicycling.
Subject #016 is a 20 year-old female. She is 5 feet, 4 inches tall and weighs 120 pounds. She states that she prefers eating large meals rather than small. She listed the foods she most frequently eats as potato chips, french fries, ice cream, fried chicken, candy, and red meat. Subject #016 reported that she is not physically active and does not regularly engage in any physical activity.
Good/Bad Foods Questionnaire

Please list 10-15 foods that you would consider healthy/good foods.

1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________
9. ____________________________
10. ____________________________
11. ____________________________
12. ____________________________
13. ____________________________
14. ____________________________
15. ____________________________

Please list an additional 10-15 foods that you consider unhealthy/bad.

1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
APPENDIX D

QUESTIONNAIRE PACKET
Informed Consent

I, ________________________________ agree to participate in a study examining the accuracy of personality descriptions made using small pieces of information. This study will also examine the types of information that lead to the most accurate descriptions. I understand that this study is part of a Masters thesis requirement. I understand that there is no personal risk or discomfort directly involved with this research, and that I am free to withdraw my consent and discontinue participation at any time. A decision to withdraw from this study will in no way affect my standing in any class. If I have any questions or problems that arise in connection with my participation I should contact Christie Hill at 817-565-2671, or if I wish to speak to someone other than her, Dr. Sharon Rae Jenkins at 817-565-2671.

Signed this_____ day of __________________________, 19____

Signed: Participant ________________________________

Investigator_______________________________
I am interested in how accurately people can describe other people when they only know a small amount of information about them. I am most interested in which types of information will lead to the most accurate descriptions.

In order to determine this, I am giving different subjects in this experiment different bits of information about actual people. I will compare the descriptions of these people made by subjects who know different types of information, to determine which kinds of information lead to the most accurate descriptions.

This questionnaire contains a description of a UNT student who participated in an experiment last semester, in which he/she filled out questionnaires about various aspects of his/her life. These students have agreed to allow their personal information to be utilized for this study, and all names have been omitted and replaced with subject numbers to insure their anonymity and privacy. Please rate these people on the checklist following the descriptive information about them, basing your judgments on the information that you have been given. I have actual ratings on these people and want you to use what you know to come as close as possible.

[Target description to be inserted here.]
Please rate subject #000 on the following descriptors. The following descriptor items are to be rated along a continuum, where 1 = not at all, 2 = hardly, 3 = slightly, 4 = somewhat, 5 = quite a bit, 6 = very much, and 7 = extremely. Please answer them to the best of your ability given the available information.

1. How attractive do you think this person is?
1------2------3------4------5------6------7

2. How masculine do you think this person is?
1------2------3------4------5------6------7

3. How congenial do you think this person is?
1------2------3------4------5------6------7

4. How slender do you think this person is?
1------2------3------4------5------6------7

5. How feminine do you think this person is?
1------2------3------4------5------6------7

6. How refined do you think this person is?
1------2------3------4------5------6------7

7. How small do you think the meals that this person prefers to eat are?
8. How macho do you think this person is?
1-------2-------3-------4-------5-------6-------7

9. How slim do you think this person is?
1-------2-------3-------4-------5-------6-------7

10. How good-looking do you think this person is?
1-------2-------3-------4-------5-------6-------7

11. How wholesome/nonfattening/healthy are the foods that this person most frequently eats?
1-------2-------3-------4-------5-------6-------7

12. How effeminate do you think this person is?
1-------2-------3-------4-------5-------6-------7

13. How likable do you think this person is?
1-------2-------3-------4-------5-------6-------7

14. How physically active do you think this person is?
1-------2-------3-------4-------5-------6-------7

15. How good do you think this person’s figure is?
1-------2-------3-------4-------5-------6-------7
16. How pretty/handsome do you think this person is?

1-------2-------3-------4-------5-------6-------7

17. How virile do you think this person is?

1-------2-------3-------4-------5-------6-------7

18. How amiable do you think this person is?

1-------2-------3-------4-------5-------6-------7

19. How thin is this person?

1-------2-------3-------4-------5-------6-------7

20. How large do you think the meals that this person prefers to eat are?

1-------2-------3-------4-------5-------6-------7

21. How in shape do you think this person is?

1-------2-------3-------4-------5-------6-------7

22. How unhealthy/fattening are the foods that this person most frequently eats?

1-------2-------3-------4-------5-------6-------7

23. How physically fit do you think this person is?

1-------2-------3-------4-------5-------6-------7
Demographics Questionnaire

Date of Birth: ______/_____/_____

Gender: _____ Male _____ Female

Race: _____ 1) African-American
       _____ 2) Asian/Asian-American
       _____ 3) Caucasian
       _____ 4) Native-American
       _____ 5) Other _______________________

Marital Status: _____ 1) Single (never married)
                 _____ 2) Married
                 _____ 3) Divorced
                 _____ 4) Widowed

Year in College: _____ 1) Freshman
                  _____ 2) Sophomore
                  _____ 3) Junior
                  _____ 4) Senior

Mother's Education:
_____ 1) Attended high school
_____ 2) High school graduate
_____ 3) Attended college
_____ 4) Associates degree (2 yrs)
_____ 5) Bachelor's degree (4 yrs)
_____ 6) Degree beyond Bachelors

Father's Education:
_____ 1) Attended high school
_____ 2) High school graduate
_____ 3) Attended college
_____ 4) Associates degree (2 yrs)
_____ 5) Bachelor's degree (4 yrs)
_____ 6) Degree beyond Bachelors

Parents' Income (combined):
_____ 1) $15,000 and below
_____ 2) $15,001-$25,000
_____ 3) $25,001-$35,000
_____ 4) $35,001-$45,000
_____ 5) $45,001-$55,000
_____ 6) $55,001 and above
APPENDIX E
CORRELATIONAL MATRICES FOR DEPENDENT VARIABLES
Table 1

**Correlation Matrix for Masculinity**

<table>
<thead>
<tr>
<th>Masculinity</th>
<th>masculine</th>
<th>macho</th>
<th>virile</th>
</tr>
</thead>
<tbody>
<tr>
<td>masculine</td>
<td>1.00</td>
<td>.62</td>
<td>.33</td>
</tr>
<tr>
<td>macho</td>
<td>.62</td>
<td>1.00</td>
<td>.25</td>
</tr>
<tr>
<td>virile</td>
<td>.33</td>
<td>.25</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 2

**Correlation Matrix for Femininity**

<table>
<thead>
<tr>
<th>Femininity</th>
<th>feminine</th>
<th>refined</th>
<th>effeminate</th>
</tr>
</thead>
<tbody>
<tr>
<td>feminine</td>
<td>1.00</td>
<td>.40</td>
<td>.46</td>
</tr>
<tr>
<td>refined</td>
<td>.40</td>
<td>1.00</td>
<td>.24</td>
</tr>
<tr>
<td>effeminate</td>
<td>.46</td>
<td>.24</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 3

Correlation Matrix for Likability

<table>
<thead>
<tr>
<th></th>
<th>congenial</th>
<th>likable</th>
<th>amiable</th>
</tr>
</thead>
<tbody>
<tr>
<td>congenial</td>
<td>1.00</td>
<td>.36</td>
<td>.43</td>
</tr>
<tr>
<td>likable</td>
<td>.36</td>
<td>1.00</td>
<td>.50</td>
</tr>
<tr>
<td>amiable</td>
<td>.43</td>
<td>.50</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 4

Correlation Matrix for Attractiveness

<table>
<thead>
<tr>
<th></th>
<th>attractive</th>
<th>good looking</th>
<th>pretty/ handsome</th>
</tr>
</thead>
<tbody>
<tr>
<td>attractive</td>
<td>1.00</td>
<td>.85</td>
<td>.80</td>
</tr>
<tr>
<td>good looking</td>
<td>.85</td>
<td>1.00</td>
<td>.83</td>
</tr>
<tr>
<td>pretty/ handsome</td>
<td>.80</td>
<td>.83</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 5

**Correlation Matrix for Thinness**

<table>
<thead>
<tr>
<th></th>
<th>slim</th>
<th>thin</th>
<th>slender</th>
</tr>
</thead>
<tbody>
<tr>
<td>slim</td>
<td>1.00</td>
<td>.83</td>
<td>.86</td>
</tr>
<tr>
<td>thin</td>
<td>.83</td>
<td>1.00</td>
<td>.82</td>
</tr>
<tr>
<td>slender</td>
<td>.86</td>
<td>.82</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 6

**Correlation Matrix for Physical Fitness**

<table>
<thead>
<tr>
<th></th>
<th>good figure</th>
<th>physically fit</th>
<th>in shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>good figure</td>
<td>1.00</td>
<td>.68</td>
<td>.69</td>
</tr>
<tr>
<td>physically fit</td>
<td>.68</td>
<td>1.00</td>
<td>.91</td>
</tr>
<tr>
<td>in shape</td>
<td>.69</td>
<td>.91</td>
<td>1.00</td>
</tr>
</tbody>
</table>
APPENDIX F

DEBRIEFING STATEMENT
Explanation of Research

The true nature of the research project you have just completed involved investigating how males and females are judged based on the size of meals they report eating, the type of food they report preferring, and whether or not they are physically active. The use of deception was necessary to ensure accurate responding. Data are currently being gathered and will soon be analyzed. Results will be made available through September, 1994. If you would like to obtain information about the results, or if you experience any difficulties as a result of participating in this study, you may contact Christie D. Hill or Dr. Sharon Rae Jenkins at (817) 565-2671.
APPENDIX G

ADDITIONAL TABLES
Table 7

Means for Hypothesized Main Effects of Meal Type

<table>
<thead>
<tr>
<th>Variable</th>
<th>Good Food</th>
<th>Bad Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>physically active</td>
<td>M = 4.00</td>
<td>M = 3.26</td>
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<tr>
<td>physically fit</td>
<td>M = 4.27</td>
<td>M = 3.40</td>
</tr>
<tr>
<td>thin</td>
<td>M = 4.41</td>
<td>M = 3.80</td>
</tr>
<tr>
<td>likable</td>
<td>M = 4.33</td>
<td>M = 3.93</td>
</tr>
</tbody>
</table>

Table 8

Additional Means for Main Effects for Type of Food

<table>
<thead>
<tr>
<th>Variable</th>
<th>Good Food</th>
<th>Bad Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>femininity</td>
<td>M = 4.12</td>
<td>M = 3.41</td>
</tr>
<tr>
<td>likability</td>
<td>M = 4.33</td>
<td>M = 3.93</td>
</tr>
<tr>
<td>thinness</td>
<td>M = 4.41</td>
<td>M = 3.80</td>
</tr>
<tr>
<td>attractive</td>
<td>M = 4.08</td>
<td>M = 3.56</td>
</tr>
<tr>
<td>physically fit</td>
<td>M = 4.27</td>
<td>M = 3.40</td>
</tr>
</tbody>
</table>
Table 9

Means for Main Effects for Target Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculinity</td>
<td>M = 3.64</td>
<td>M = 3.00</td>
</tr>
<tr>
<td>Femininity</td>
<td>M = 4.19</td>
<td>M = 3.36</td>
</tr>
<tr>
<td>Likability</td>
<td>M = 4.00</td>
<td>M = 4.26</td>
</tr>
<tr>
<td>Thinness</td>
<td>M = 4.40</td>
<td>M = 3.24</td>
</tr>
<tr>
<td>Attractive</td>
<td>M = 3.64</td>
<td>M = 4.01</td>
</tr>
</tbody>
</table>
APPENDIX H

FIGURE 1
Figure 1

2-Way Interaction Between Meal Size and Physical Activity

Legend

- Physically Active

- Not Active

Mean Ratings of Physical Activity

Small Meals

Large Meals

Meal Size

4.6

4.5

4.4

4.3

4.2

4.1

4.0

3.9

3.8

3.7

3.6

3.5

3.4

3.3

3.2

3.1

3.0
REFERENCES


