

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI

A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor MI 48106-1346 USA
313/761-4700 800/521-0600

Maternal Influence in the Development of Body Image and Dieting in Young Girls

by

Karen Elizabeth Lehman

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

Doctor of Philosophy

University of Washington

1996

Approved by 
Chairperson of Supervisory Committee

Program Authorized
to Offer Degree Psychology (Child Clinical)

Date 9/23/96

UMI Number: 9716869

**UMI Microform 9716869
Copyright 1997, by UMI Company. All rights reserved.**

**This microform edition is protected against unauthorized
copying under Title 17, United States Code.**

UMI
300 North Zeeb Road
Ann Arbor, MI 48103

In presenting this dissertation in partial fulfillment of the requirements for the Doctoral degree at the University of Washington, I agree that the Library shall make its copies freely available for inspection. I further agree that extensive copying of this dissertation is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for copying or reproduction of this dissertation may be referred to University Microfilms, 1490 Eisenhower Place, P.O. Box 975, Ann Arbor, MI 48106, to whom the author has granted "the right to reproduce and sell (a) copies of the manuscript in microfilm and/or (b) printed copies of the manuscript made from microfilm."

Signature Taren Jelen

Date 9/23/96

University of Washington

Abstract

Maternal Influence in the Development of Body Image and Dieting in Young Girls

by
Karen Elizabeth Lehman

Chairperson of the Supervisory Committee: Professor Robert J. McMahon
Department of Psychology

Dieting and eating disorders are serious and increasingly prevalent problems in today's Western world. These behaviors can lead to both serious medical and psychological problems, particularly in young, growing children. Negative body image can often lead to dieting, which, in turn, can lead to an eating disorder. While many factors have been found to be associated with negative body image, past research has failed to examine either the relative strengths or the independent contributions of these factors. Nor has past research examined how some factors might indirectly, as opposed to directly, be related to body image and dieting. The purpose of this research was to address these shortcomings by proposing a more comprehensive model of the development of negative body image and dieting in young girls. Multiple regression analyses found that daughter's body image, mother's dieting, and daughter's self-esteem predicted dieting in the daughters; while daughter's self-esteem, daughter's reflected appraisals, and mother's body image predicted daughter's body image. The daughter's reflected appraisals were predicted by daughter's self-esteem and the mother's actual appraisals.

TABLE OF CONTENTS

	<i>Page</i>
List of Figures	iii
List of Tables	iv
Introduction	1
Chapter 1: Review of the Literature	2
Research Proposal	45
Proposed Model	48
Chapter 2: Method	52
Subjects	52
Measures	53
Procedure	59
Chapter 3: Results	66
Preliminary Analyses	66
Main Analyses	69

Chapter 4: Discussion	78
References	91
Appendix A: Demographic Data	107
Appendix B: Parent Body Image Scale	108
Appendix C: Parent Pictorial Body Image	109
Appendix D: Eating Behaviors Questionnaire	110
Appendix E: Parent Appraisal Scale	111
Appendix F: Parent Pictorial Appraisal Scale	112
Appendix G: Child Body Image Scale	113
Appendix H: Child Pictorial Body Image	114
Appendix I: Rosenberg-Simmons Self-Esteem Scale	115
Appendix J: Child Pictorial Reflected Appraisals	116

LIST OF FIGURES

<i>Number</i>	<i>Page</i>
1. Proposed Path Model of Daughter's Dieting	51
2. Proposed Path Model of Daughter's Dieting (with Betas and P Values)	77

LIST OF TABLES

<i>Number</i>	<i>Page</i>
1. Demographic Information on Subjects	62
2. Ethnicity, Marital Status, Mother-Daughter Relationship, and Number of Years Mother and Daughter Have Lived Together	63
3. Descriptive Statistics of Measures	64
4. Descriptive Statistics of Measures after Z-Scoring	65
5. Percentages of Mothers and Daughters Dieting	74
6. Interrelationships Among the Predictor Variables	75
7. Correlations of Variables with Daughter's Reflected Appraisals, Daughter's Body Image, and Daughter's Dieting	76

Introduction

Dieting and eating disorders are common and growing problems in Western cultures. In particular, these behaviors have greatly increased in preadolescent girls and can lead to a number of adverse medical and psychological complications, the most serious of which is death. Both dieting and eating disorders have been linked to negative body image, but the exact nature of their relationship with body image is unclear. The importance of eating disorders, dieting, and negative body image can be seen in the rapidly growing research they have received in recent years as well as increased attention in the popular press. Despite the recent increased attention they have received, neither the etiology of eating disorders, dieting, and negative body image nor their inter-relationships have been clearly understood.

This research seeks to elucidate the development and interrelationships of eating disorders, dieting, and negative body image. As a first step in explaining the inter-relationships and development of these problems, it is necessary to present some background information. The next section will provide definitions, age of onset and prevalence estimates, and the medical and psychological complications associated with eating disorders, dieting, and negative body image.

Chapter 1: Review of the Literature

Eating Disorders

Anorexia Nervosa

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (American Psychiatric Association (APA), 1994) identifies three eating disorders: Anorexia Nervosa, Bulimia Nervosa, and Eating Disorder Not Otherwise Specified (NOS). Four criteria must be met for a diagnosis of Anorexia Nervosa: 1) a refusal to maintain body weight at or above a minimally normal weight for age and height; 2) an intense fear of gaining weight or becoming fat, even though underweight; 3) a disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight; and 4) in postmenarcheal females, the absence of at least three consecutive menstrual cycles. The DSM-IV also specifies two types of Anorexia Nervosa: the restricting type and the binge-eating/purging type. The restricting type has not regularly engaged in bingeing or purging behaviors, while the binge-eating/purging type has engaged in regular bingeing and purging.

According to the DSM-IV, the mean age of onset for Anorexia Nervosa is 17 years of age, with bimodal peaks of onset at ages 14 and 18 years. While Anorexia Nervosa has been documented in much younger and much older individuals, onset at these

ages is much less common than it is during the middle and late adolescent years. The DSM-IV reports the overall prevalence estimate of Anorexia Nervosa to be between .5 and 1% of the population meeting full criteria for the disorder. Approximately 90% of all reported cases of Anorexia Nervosa occur in females, with only 10% occurring in males (APA, 1994).

Not surprisingly, Anorexia Nervosa can have numerous serious physical side effects. The most serious complication, and fortunately one of the least common, is death. According to the DSM-IV approximately 10% of all anorexics die from Anorexia Nervosa (APA, 1994). A complete review of all the medical complications resulting from Anorexia Nervosa is too lengthy and beyond the scope of this paper. But briefly, Anorexia Nervosa can have serious effects on the cardiovascular, endocrine, gastrointestinal, dermatologic, pulmonary, neurological, metabolic, renal, and dental systems (for further information see Brotman, Rigotti, & Herzog, 1985; Mitchell, Specker, & de Zwaan, 1991; Pomeroy & Mitchell, 1989).

Bulimia Nervosa

According to the DSM-IV, a person must meet the following five criteria to be diagnosed with Bulimia Nervosa: 1) binge eating a larger amount of food than most people would eat, accompanied by a feeling of lack of control over the eating; 2) recurrent inappropriate compensatory behaviors to prevent weight gain, such as: self-induced vomiting, misuse of laxatives, diuretics, enemas or medications; fasting; or

excessive exercise; 3) the binge-eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for three months; 4) self-evaluation is unduly influenced by body shape and weight; and 5) the disturbance does not occur exclusively during episodes of Anorexia Nervosa (APA, 1994). The DSM-IV also specifies two types of Bulimia Nervosa: the purging type and the nonpurging type. The purging type regularly engages in self-induced vomiting, laxative abuse, or diuretics, while the nonpurging type tends to use excessive exercise and fasting in an attempt to prevent weight gain.

Bulimia Nervosa appears to be slightly more common than Anorexia Nervosa, with the DSM-IV estimating its prevalence to be between 1 and 3% of the population (APA, 1994). Independent researchers have reported higher rates of Bulimia Nervosa and bulimia-like behaviors in the literature, however. Mellin and colleagues (1992) found 9% of 9 year olds reported purging to lose weight. Gross and Rosen (1988) found 9.6% of high school girls and 1.2% of high school boys met DSM-III-R criteria for Bulimia Nervosa. Similar to Anorexia Nervosa, Bulimia Nervosa occurs predominantly in females. Ninety percent of all cases of Bulimia Nervosa are reported to occur in females, with only 10% occurring in males (APA, 1994).

Thus, despite the conservative numbers presented in the DSM-IV, we are seeing alarmingly high numbers of people, particularly young children and adolescents, engaging in disordered eating behaviors. Further, recent reports of eating disorders in young children and adolescents have increased dramatically (DiNicola, Roberts, & Oke, 1989;

Eisele, Hertsgaard, & Light, 1986; Gross & Rosen, 1988; Hawley, 1985; Jacobs & Isaacs, 1986; Lask & Bryant-Waugh, 1992; Maloney & Klykylo, 1983; Warren, 1968; Woodside & Garfinkel, 1992).

Similar to Anorexia Nervosa, Bulimia Nervosa is also accompanied by numerous negative physical outcomes. Bingeing and purging can lead to problems in the cardiovascular, endocrine, gastrointestinal, dermatologic, pulmonary, neurological, metabolic, renal, and dental systems (for further information see Brotman, Rigotti, & Herzog, 1985; Mitchell, Specker, & de Zwaan, 1991; Pomeroy & Mitchell, 1989). While most persons with Bulimia Nervosa experience several of the above complications, these side effects show a wide range in their severity. Death from Bulimia Nervosa is also less likely than death from Anorexia Nervosa (APA, 1994).

Eating Disorder (NOS)

The third type of eating disorder identified by the DSM-IV is Eating Disorder Not Otherwise Specified (NOS) (APA, 1994). This category is used as a diagnosis for persons who meet some, but not all the criteria for the other two eating disorders. Binge-eating without the accompanying compensatory behaviors seen in Bulimia Nervosa would be classified as an Eating Disorder NOS, as would normal-weight Anorexia Nervosa. Most of the available data examining eating disorders is for Anorexia Nervosa and Bulimia Nervosa, as this is where the majority of research has been targeted. Hence, little reference will be made to Eating Disorder NOS specifically.

Because there has been little research conducted specifically on Eating Disorder NOS, and also because of the wide variety of syndromes and behaviors it encompasses, prevalence estimates for Eating Disorder NOS per se are not available. It is likely, however, that there is a higher prevalence of persons engaging in eating disordered behaviors that do not fully meet criteria for Anorexia Nervosa and Bulimia Nervosa than there is of either Anorexia Nervosa or Bulimia Nervosa. One behavior that has been measured in research is bingeing, and researchers generally find a high number of people bingeing but not meeting criteria for Anorexia Nervosa or Bulimia Nervosa. Greenfeld and colleagues (1987) reported that in a sample of 13 to 19 year olds, 44.6% of females and 16.4% of males reported "serious binges." Other studies have found anywhere from 26 to 44% of college women engaging in binges (Brown, Cash, & Lewis, 1989; Duchmann, Williamson, & Stricker, 1989; Garfinkel, Garner, & Goldbloom, 1987).

Dieting

Dieting can refer to numerous different behaviors, some focused on changing appearance, and some focused on increasing one's overall health. Dieting has not been consistently defined in the literature, making it somewhat difficult to interpret research findings. For the purposes of this paper, dieting will be defined as restricting food intake with a goal of promoting weight loss. This does not include changes in food intake with a goal of promoting health, rather than weight loss, such as reducing cholesterol.

Dieting is much more common than eating disorders. Similar to eating disorders, dieting tends to be more common in females than in males at all age levels. Briefly, 75%

of adult women report dieting, while only 47% of adult men diet (Jeffery, Adlis, & Forster, 1991; Killen et al., 1993). The prevalence of dieting in adolescence is somewhat lower, but still shows the same gender split as does adult dieting. Researchers have found that between 37 and 61% of adolescent girls and between 5 and 15% of adolescent boys reported dieting (Greenfeld, Quinlan, Harding, Glass, & Bliss, 1987; Koff & Rierdan, 1991; Perry-Hunnicut & Newman, 1993; Wardle & Marsland, 1990). Thus, the reported incidence of dieting is much higher for adolescent girls than for boys, and this gender gap is much wider during adolescence than during adulthood.

In a review of dieting research Hill, Oliver, and Rogers (1992) found that 50% of females reported first dieting prior to age 15 years. Another study found similar results in that 41% of girls aged 7 to 12 reported dieting (Maloney, McGuire, Daniels, & Specker, 1989). There is significantly less research on dieting in children than there is on dieting in adolescents and adults, and even fewer studies looking at specific age groups of children. The few studies that have looked at different age groups in children have found that approximately 27.5% of second grade girls, 31-33.3% of fourth grade girls, and 34.5-60% of sixth grade girls reported dieting (Koff & Rierdan, 1991; Mellin et al., 1992; Thelen, Powell, Lawrence, and Kuhnert, 1992). Less data are available on boys' dieting behaviors, but in one fourth grade sample, 28% of girls as opposed to 21% of boys reported dieting (Thelen & Cormier, 1995).

Despite popular belief, dieting is far from benign and can actually have numerous negative medical outcomes. Researchers have found altered metabolic rates (Prentice et

al., 1991) and altered neurotransmitter functioning (Anderson, Parry-Billings, Newsholme, Fairburn, & Cowen, 1990) in women who diet. In an extensive review of the research on dieting, Polivy and Herman (1985) cited many medical complications resulting from dieting. The majority of people who lose weight will regain it, which generally leads to another episode of dieting. Thus, most dieters engage in “yo-yoing” up and down with their weight. Polivy and Herman (1985) cite the following potential side effects from yo-yo dieting: low blood pressure, lowered metabolic rate, fainting, gallstones, diarrhea, muscular aching, general weakness and fatigue, slowed or increased heart rate, thinning or reddening of hair, abdominal pains, and elevated uric acid. Potential outcomes of these dieting side effects include gout or kidney stones, elevated serum cholesterol, anemia, arthritis, edema, headaches, nausea, cardiac disorders, and death.

Dieting in young children carries with it health risks similar to those in adults (Polivy & Herman, 1985). However, because children are at a stage when they need nutrients for growth, these side effects are potentially much more serious. Children who diet often experience retarded or impaired growth, development, mental functioning, and/or reproductive capacity (Mallick, 1983; Pugliese, Lifshitz, Grad, Fort, & Marks-Katz, 1983). For adolescent girls, dieting can also lead to later osteoporosis (Kriepe & Forbes, 1990).

In addition to the numerous adverse medical outcomes, dieting also has numerous psychological side effects. People who are dieting are often tense, irritable, depressed,

distressed, and anxious (Polivy & Herman, 1985). Dieting can have other psychological side effects, as well, such as impairing performance on cognitive tasks (Rogers, Edwards, Green, & Jas, 1992) and altering the way information is processed (Cooper & Fairburn, 1992). A history of yo-yo dieting and unstable weight is often associated with lower self-esteem (McAllister & Caltabiano, 1994).

Polivy and Herman's review (1985) points out that much of the past research which attributed negative physical and psychological outcomes to being overweight is flawed because the majority of overweight people are also dieters. Most, in fact, are yo-yo dieters, which further increases their health risks, because many of the health risks attributed to being overweight are now more accurately attributed to dieting.

As noted above, dieting is a serious health problem, with both physical and psychological complications, that is engaged in by a large segment of the population. What is even more concerning is that the prevalence of dieting is increasing, particularly in younger age groups (Hill, Oliver, & Rogers, 1992; Koff & Rierdan, 1991; Mellin et al., 1992; Thelen et al., 1992). In addition, dieting is almost always the first step leading to an eating disorder, such as Anorexia Nervosa or Bulimia Nervosa (Duchmann, Williamson & Stricker, 1989; Hill, 1993; Huon, 1994; Levine, Smolak, & Hayden, 1994; White, 1992). Dieting has been implicated in the development of eating disorders by teaching people to adopt a cognitively, rather than physiologically, regulated eating style, and hence teaching them to ignore normal hunger and satiety cues (Polivy & Herman, 1985). Hill and colleagues (1989) reported that 12 and 14 year old girls who dieted were

more likely to feel hungry and binge than non-dieting girls, showing evidence that dieting can produce symptoms of Bulimia Nervosa or binge-eating in young adolescent girls. Another striking piece of evidence is the finding that females who dieted as children are eight times more likely to develop an eating disorder than females who did not diet as children (Patton, Johnson, Wood, & Mann, 1990).

Negative Body Image

Previous research has not clearly or consistently defined body image. Unlike dieting and eating disorders which are, for the most part, observable behaviors, body image is a vague, subjective, internal self-construct. The measurement of any such self-referent construct can be extremely problematic in research (Wylie, 1974). Researchers in the field of body image generally measure one of two types of body image (Slade, 1994). The first definition involves a perceptual distortion. For instance, an emaciated anorexic might look in the mirror and see herself as obese. The second definition involves a subjective evaluation of the body or body satisfaction. It is this definition that will be employed in this study, as it has been most often related to dieting and later eating disorders. Specifically, negative body image will be defined as a sense of dissatisfaction with one's body shape and weight, generally related to feeling overweight.

Research on adults' body image finds that negative body image reports are higher for women than men. Approximately 75% of females report being unhappy with their bodies, while 10-47% of males report being unhappy with their bodies (Garfinkel et al., 1992; Jeffery, Adlis, & Forster, 1991). This gender difference parallels that found in the

eating disorders and dieting research. Furthermore, the nature of negative body image differs according to gender: Men with negative body images generally wish to gain weight, while women with negative body images wish to lose weight (Cash & Brown, 1989; Drewnowski, Kurth, & Krahn, 1995).

Between 70 and 80% of adolescent girls and between 17 and 33% of adolescent boys felt that they were overweight (Eisele, Hertsgaard, & Light, 1986; Greenfeld et al., 1987; Koff & Rierdan, 1991; Paxton et al., 1991). Similar to the adult body image studies, researchers tend to find that while females wish for thinner figures, males wish for heavier ones (Cohn, Adler, & Irwin, 1987; Ohtahara, Ohzeki, Hanaki, Motozumi, & Shiraki, 1993). Furthermore, while negative body image tends to increase in girls across the adolescent years, it seems to decrease in boys throughout adolescence who, as they grow older, report more positive body images (Wardle & Marsland, 1990). This finding may reflect that during puberty, males move closer to their ideal body shapes through gaining weight, while for females, the weight gains associated with puberty move them away from their ideal body shapes.

A number of studies have found that for females the onset of puberty is a time linked with a great increase in body dissatisfaction (Adams, Katz, Beauchamp, & Cohen, 1993; Brodie, Bagley, & Slade, 1994; Cohn, Adler, & Irwin, 1987; Fabian & Thompson, 1989; Folk, Pederson, & Cullari, 1993; Gralen, Levine, Smolak, & Murnen, 1990; Rodriguez-Tome, Bariaud, Cohen Zardi, & Delmas, 1993; Salmons, Lewis, Rogers, Gatherer, & Booth, 1988). For males, the opposite is seen, with post-pubertal

males generally having greater body satisfaction than pre-pubertal males, which, again, is likely due to the males gaining weight around puberty (Folk, Pederson, & Cullari, 1993). Early-maturing females tend to exhibit greater body dissatisfaction than other females (Alsaker, 1992; Koff & Rierdan, 1993). Likewise, greater body satisfaction tends to be found in early-maturing males and late-maturing females (Alsaker, 1992; Cok, 1990).

Negative body image in females appears to increase with age from childhood through adolescence, up until the twenties or thirties, after which it declines slightly (Davies & Furnham, 1986; Eisele, Hertsgaard, & Light, 1986; Gralen et al., 1990; Ohtahara et al., 1993; Phelps, Johnston, Jimenez, & Wilczenski, 1993; Richards, Casper, & Larson, 1990; Thelen et al., 1992). One study comparing college-age males and females to males and females over the age of 39 years of age found that the college-age females were most dissatisfied with their bodies, followed by the older females (Lamb, Jackson, Cassiday, & Priest, 1993). This means that, overall, females had greater body dissatisfaction than males, and the college-age females had greater body dissatisfaction than the older females. What we see then is a trend for women to show increased body dissatisfaction probably into their late twenties or early thirties. However, for men, body dissatisfaction decreases at puberty and stays low throughout adulthood.

Approximately 44 to 55% of girls between the ages of 7 and 12 years reported wishing to be thinner, while only 28 to 31% of the same-aged boys wished to be thinner (Davies & Furnham, 1986; Hill, Draper, & Stack, 1994; Maloney, McGuire, Daniels, & Specker, 1989; Thelen & Cormier, 1995). Similar to the data presented from the adult

and adolescent research, the opposite response is seen when measuring children's desire to gain weight: approximately 11% of girls and 29 to 41% of boys wish to gain weight (Hill, Draper, & Stack, 1994; Thelen & Cormier, 1995).

While not directly implicated in any serious medical complications, research has found that a negative body image is often associated with psychological distress and depression in adults and adolescents (Kishchuk, Gagnon, Belisle, & Laurendeau, 1992; McCabe & Marwit, 1993; Richards, Casper, & Larson, 1990; Rierdan, Koff, & Stubbs, 1989). Another problem with negative body image, particularly when one feels overweight, is that it may lead to dieting, which, as presented earlier, can also have many adverse physical and psychological effects (Attie & Brooks-Gunn, 1989; Lundholm & Littrell, 1986; Page, 1991).

Understanding Negative Body Image, Dieting, and Eating Disorders

The previous review of research has provided information on the prevalence, age of onset, gender differences, and negative outcomes associated with eating disorders, dieting, and negative body image. However, little is known about the interrelationships among these three areas, and even less about their etiology and development. While the data suggest that a negative body image may lead to dieting, which, in turn, may lead to an eating disorder, the exact nature of this progression is unclear. Understanding the relationships among eating disorders, dieting, and negative body image is a necessary step

in developing an effective prevention program. Hence, it is not surprising that there are currently no effective prevention programs for eating disorders, dieting, and negative body image in children (Killen et al., 1993). For a prevention program to be effective, it must ideally occur at the age when these beliefs and behaviors are first developing, and it must be comprehensive in targeting all factors associated with the development of such behaviors and beliefs. In order to intervene and prevent negative body image, dieting, and eating disorders in children, it is first necessary to design and to empirically test a developmental model. The first step in designing a developmental model is to specify the age group for which the model will be applied.

Previous research has shown that negative body image is present in children as young as 7 years of age, but it has not clearly shown negative body image to be present prior to age 7. Theory and research in child development suggest that children do not have the capacity to experience a negative body image prior to age 7 or 8. This can be seen in the age when children: a) are able to reliably identify their own and/or another's body shape, b) begin adopting adult or cultural standards of attractiveness, c) develop a self-concept or self-understanding, and d) begin to engage in social comparisons. These are all prerequisites for the development of body image.

Ability to identify own body shape

Children can only have a negative body image when they are able to reliably identify their own body shapes. Story (1979) found that children between the ages of 3

and 5 years were able to accurately and reliably (i.e., across time) identify their own body shapes when shown an array of different sized figures. However, Lerner and Gellert (1969) found that only about half of 5 to 6 year olds were able to reliably identify their own body shapes, with females performing slightly better than males. These two studies present somewhat different findings, leaving us without a definitive conclusion on when body image develops. Numerous researchers report that children are able to accurately identify their body shapes by age seven, however (Davies & Furnham, 1986; Hill, Draper, & Stack, 1994; Maloney, McGuire, Daniels, & Specker, 1989; Thelen & Cormier, 1995).

When do children begin using adult or cultural standards of attractiveness?

It is important to determine when children begin applying adult standards of attractiveness to themselves. Society has deemed that we should look a certain way, and these prescriptions most likely play a part in the development of body image. Since the dominant western cultural ideal for women is to be thin, this cultural ideal presumably plays a part in females' body images and dieting behaviors. When is it that children internalize these stereotypes of beauty and begin to judge themselves against them? One way to understand the process is to see when children are able to apply the cultural stereotypes to their evaluations of others.

Researchers have found great consistency in adults' opinions of attractiveness. Adults shown photographs of persons of various ages tend to prefer thin and average

body types over heavier body types (Butler & Ryckman, 1993). This same method has been used for children with results comparable to the adult studies. Researchers have found that children as young as 6 (Cavior & Lombardi, 1973) and even 3 years of age (Dion, 1973) have reliably identified photographs using adult standards of attractiveness. Researchers have reported strong aversions to heavier figures in children aged five to eight years, similar to the adult research (Feldman, Feldman, & Goodman, 1988; Kirkpatrick & Sanders, 1978; Lawson, 1980; Lerner & Gellert, 1969; Stager & Burke, 1982). Thus, it appears that by age 6 or 7, children are aware of and have incorporated adult standards of attractiveness. In fact, this internalization might even be present sooner, such as at age 3 or 5. Although children might be aware of the cultural standards of beauty and be able to apply these to their evaluations of others, there is no research to suggest that they are applying these cultural standards to their own self-evaluations prior to age 7.

When do children first develop a self-concept?

The self-concept is the sum of beliefs about oneself (Wylie, 1974). These beliefs may range from the very general (“I am good”), to the very specific (“I am bad at underwater basket-weaving”). General body image is, therefore, a middle level aspect of the self-concept. Other bodily evaluations (“My nose is too large”) would be more specific.

The self is defined in different ways for different ages. For instance, a child's self-understanding is likely different from an adult's. Understandably, the younger the age sampled, the more difficult for the researcher to find ways to measure self-concept. This is particularly true when researching an infant's self-concept. Adults, adolescents, and older children are generally able to verbalize their sense of self, or communicate it through some form of language. This is, of course, not possible with pre-verbal humans, forcing researchers to become ever more creative.

The most common methodology used to measure self-understanding in infants, is to measure visual self-recognition abilities (Damon & Hart, 1982). This takes the form of studying infants' reactions to viewing themselves in a mirror. Researchers postulate that when an infant responds in a manner symbolizing recognition, he or she has a rudimentary understanding of him or herself as a unique individual. Using this technique, researchers have postulated that a self-understanding might develop anywhere from 6 to 12 months (Dixon, 1957), 15 months (Lewis & Brooks-Gunn, 1979), or 20 to 24 months (Amsterdam, 1972; Kagan, 1981). Hence, despite the use of the same methodology, researchers have obtained vastly differing results, resulting in findings speculating that self-understanding develops anywhere within the range of 6 to 24 months of age.

But are these studies of visual self-recognition using an appropriate definition of self-concept? Kagan (1981) argued for a different definition for self-concept in young children. He believed that a child's increased use of self-descriptive statements

demonstrated a self-understanding. He found that this increase appeared around 24 months of age. It could reasonably be argued, though, that Kagan's findings merely show an increase in language abilities, and might be missing out on an earlier manifestation of a self-understanding. However, both Kagan and the self-recognition researchers agree that a child has developed a recognizable self-concept by age 2 years (Damon & Hart, 1982).

Models of the differentiation and development of the self-concept also show a high degree of consensus in the literature. Research into the development of childhood self-concept reveals that children's self-concepts tend to be based primarily on physical features and activities in the early childhood years (ages 3 to 5 years) (Broughton, 1978; Keller, Ford, & Meachum, 1978). Thus, children in this age range are showing increased body awareness. But these statements are not necessarily evaluations. In fact, they tend to be mostly nonevaluative statements, unlike body image which always involves an evaluation of one's body. It is not until approximately 8 years of age that children develop the ability to differentiate and evaluate different aspects of the self (Broughton, 1978; Selman, 1980). Such differentiation and evaluation are logical prerequisites to the development of a bodily self-concept.

Social Comparison

Social comparisons are another important influence in the development of the self. This area seems particularly relevant to the study of body image, as a large part of body

image involves comparing the self to the cultural standards of beauty and to others. While somewhat present in early childhood, children generally show an increase in comparing self to others around age seven (Livesly & Bromley, 1973; Secord & Peevers, 1974).

In sum, two lines of evidence point towards the fact that body image first develops at ages seven to eight. First, this is the earliest age at which children have the cognitive capacity to evaluate and differentiate their bodies from their overall sense of self. Second, this is the age at which children begin comparing their own bodies to those of others.

Implications for the Present Research

From the different studies looking at children's abilities to reliably and accurately identify their own body shapes, children's abilities to apply adult standards of attractiveness, and the age at which a self-concept and social comparisons develops, it seems appropriate to measure body image and body satisfaction in children age seven and above. Although research has suggested that body image and body satisfaction might be present in children as young as three, little research has examined this age group, and much of it has differing results. Furthermore, the research on the development of the self does not suggest a capacity for body image prior to age seven. For these reasons, caution should be used when interpreting data on body image in children younger than seven years.

Predictors of Eating Disorders, Dieting, and Negative Body Image

There is a clear path linking negative body image and dieting with eating disorders. Negative body image is consistently the best predictor of dieting, and is seen as a necessary component in the initiation of dieting (Attie & Brooks-Gunn, 1989; Field, Wolf, Herzog, & Cheung, 1993; Lundholm & Littrell, 1986; Nassar, Hodges, & Ollendick, 1992; Page, 1991). Dieting often appears to be a first step in the development of an eating disorder (Duchmann, Williamson & Stricker, 1989; Hill, 1993; Huon, 1994; Levine, Smolak, & Hayden, 1994; White, 1992). Furthermore, negative body image predicts eating disorders in both adolescents and adults (Bell, Kirkpatrick, & Rinn, 1986; Bunnell, Cooper, Hertz, & Shenker, 1992; Garfinkel et al., 1992; Huon & Brown, 1989; Lundholm and Littrell, 1986; Thompson, 1991). However, this research has not taken into account the fact that negative body image might show all of its effects on eating disorders through dieting. In fact, most research has not examined the unique contributions of each variable. Past research has mostly examined the correlations between the variables. In any case, negative body image appears to be a precursor to both dieting and eating disorders. Therefore, a model seeking to understand dieting and eating disorders must explicate the factors leading to the development of negative body image.

The causes of negative body image have not been well documented. The literature presents a vast array of correlations between negative body image and other

variables without placing these in any theoretical context. Further, most research on body image has been conducted on adolescents and adults. If, as argued previously, negative body image develops at age 7 or 8, then research with this age group may be more informative than is that with older populations. To truly explore the development of a negative body image we must look for factors associated with negative body image and dieting in an age when negative body image and dieting are first developing.

A large number of factors have been found to be associated with negative body image. The factors found can be divided into two groups: a) intrapersonal variables, which refer to variables that generally cannot be changed, such as gender, age, ethnicity, and weight; and b) variables outside of the person. The research examining these factors has been largely an atheoretical presentation of simple correlations.

Intrapersonal Variables

Gender and Age

Gender has consistently been one of the strongest predictors of body image at all age levels. As presented previously, body image research has been conducted on males and females ranging in age from 3 to over 70 years of age. Overall, researchers have found that females of all ages are more dissatisfied with their bodies than males (Adams et al., 1993; Collins, 1991; Folk, Pedersen, & Cullari, 1993; Levinson, Powell, & Stellman, 1986; Paxton et al., 1991; Story, 1979; Streligel-Moore, Silberstein, & Rodin, 1986; Wardle & Marsland, 1990). Of those with negative body image, adult females

tend to report wishing to be thinner more often than males, who are equally likely to wish to lose or gain weight (Altabe & Thompson, 1993; Betz, Mintz, & Speakmon, 1994; Cash & Brown, 1989; Fallon & Rozin, 1985; Streigel-Moore, Silberstein, & Rodin, 1986).

The same type of gender differences found in adult body image are seen in adolescents. Female adolescents tend to report more negative body image than male adolescents, and similar to adult females, more adolescent females than males report wishing to be thinner (Adams et al., 1993; Levinson, Powell, & Stellman, 1986; Paxton et al., 1991; Phelps et al., 1993; Richards, Casper, & Larson, 1990). Similar gender differences have been found for children's body images, with girls showing significantly greater body dissatisfaction than boys (Folk, Pedersen, & Cullari, 1993; Hill, Draper, & Stack, 1994; Lawrence & Thelen, 1995; Salmons et al., 1988; Thelen et al., 1992).

The genders also differ in the way that body satisfaction changes throughout the lifetime. It appears that females' body dissatisfaction increases with age at least into the twenties, while for males body dissatisfaction tends to either decrease or stay the same after puberty (Davies & Furnham, 1986; Eisele, Hertsgaard, & Light, 1986; Gralen, Levine, Smolak, & Murnen, 1990; Salmons et al., 1988; Wardle & Marsland, 1990). Females over sixty report a more positive body image than females between the ages of 18 and 40 years of age (Hetherington & Burnett 1994). Similarly, another study found college-age women had greater body dissatisfaction than middle-aged women (Lamb, Jackson, Cassiday, & Priest, 1993).

Weight

The next potential predictor variable to be examined is weight. Specifically, does one's actual weight affect how one feels about his or her body? It would logically seem that actual weight would predict body image, with overweight persons exhibiting greater body dissatisfaction. However, this is not necessarily the case. While a number of studies have shown that heavy weight was positively correlated with negative body image (Field et al., 1993; Garner, Garner, Van-Egeren, 1992; Hill, Draper, & Stack, 1994; Hill, Rogers, & Blundell, 1989; Kolody & Sallis, 1995; Lee, 1993; Mendelson & White, 1982; Rosen et al., 1988; Wardle & Marsland, 1990), there have also been a number of studies finding that actual weight was not correlated with body image in children, adolescents, or adults (Eisele et al., 1986; Hill, Oliver, & Rogers, 1992; Ohtahara et al., 1993; Rosen & Gross, 1987; Stein & Brinza, 1989).

What could be the cause of these mixed findings? Greenfeld and colleagues (1987) found that body image was highly associated with perceived weight, but not actual weight for a sample of high school girls. In other words, regardless of actual weight, if a subject had specific feelings of being overweight she would likely have a negative general body image. This association between perceived weight and body image, as opposed to actual weight and body image, has been supported by other researchers, as well (Hill, Oliver, & Rogers, 1992; Stager & Burke, 1982). A natural question arising from these

findings is whether or not perceived weight is associated with actual weight, but unfortunately the researchers did not examine this relationship.

Even those who perceive themselves to be of normal weight may not be satisfied with their bodies. For example, Koff and Rierdan (1991) found that while some of their sample of adolescent girls felt that they were "normal weight," they still wanted to weigh less -- in other words, they wanted to be underweight. Similarly, Davies and Furnham (1986) found that the adolescent females who reported the greatest body satisfaction rated themselves as "underweight," and that 1/3 of the adolescents who felt they were an "o.k." weight still wanted to lose weight.

From these studies it seems as if actual weight has considerably less effect on body image than would be expected. It seems that subjective weight might be more related to body image than is one's actual weight, particularly when studying people in the average weight ranges. It is possible that extremely heavy weights might be more correlated with body dissatisfaction than average weights, but this relationship has not been examined. Clearly, the relationship between weight and body image needs further exploration through research.

Self-esteem

Self-esteem and perceptions of attractiveness are strongly linked. A decade of work by Harter (1990), for example, argues that such perceptions are, in fact, the primary determinant of self-esteem in both children and adults. Because perceptions of

attractiveness and body image are strongly linked, it would appear that self-esteem and body image should be associated. However, few researchers have examined the relationship between self-esteem and body image, and those that have generally presented a simple list of zero-order correlations.

Findings in adult body image research have been mixed. In one study, low self-esteem was found to be associated with negative body image more for women than men (Furnham & Greaves, 1994). Another study found the opposite results: weight dissatisfaction was not associated with low self-esteem in women, while it was for men (Silberstein, Stregel-Moore, Timko, & Rodin, 1988). Silberstein et al. (1988) suggested that it is actually the norm for women to feel dissatisfied with their bodies, and that this general feeling of weight dissatisfaction might reduce the effects on self-esteem. Hence, it is still unclear how body image is related to self-esteem in adults.

The relationship between body image and self-esteem is clearer for adolescents. Researchers report that high self-esteem is associated with positive body image in adolescent females (Blythe, 1982; Fabian & Thompson, 1989; Grant & Fodor, 1986; Mallick, Whipple, & Huerta, 1987; Nassar, Hodges, & Ollendick, 1992), and to a lesser degree in adolescent males (Grant & Fodor, 1986). Further, this association between body image and self-esteem does not appear to change in girls as a result of the onset of puberty (McGrory, 1990).

A relationship between low self-esteem and negative body image similar to that found in adolescents appears to be present in children, despite the small amount of research devoted to this topic. Mendelson and White (1982) found that body satisfaction and self-esteem were positively correlated for children aged 7 to 12 years across a wide range of weights. Low self-esteem was also associated with body dissatisfaction in both boys and girls in the third and sixth grades in another study (Folk, Pedersen, & Cullari, 1993).

When examining the relationship between body image and self-esteem, it is important to also examine the relationship between weight and self-esteem, as it may be that body image has no direct effect on self-esteem independently of weight. As noted above, the relationship between weight and body image was unclear in the literature, and the same is true for self-esteem and weight. Mendelson and White (1982) found that while negative body image was associated with heavier weight, self-esteem was not associated with weight. Similarly, Lawson (1980) and others (Klesges, Haddock, Stein, & Klesges, 1992) found that self-esteem was not related to body shape for children. However, some studies have found heavier children and teens to have lower self-esteem (Blythe, 1981; Kolody & Sallis, 1995). Another study found that weight correlated with self-esteem for girls in the fourth through sixth grade, but not for the same-aged boys (Guyot, Fairchild, & Hill, 1981).

Although this area has received little research, there appears to be a strong relationship between low self-esteem and dieting for both adults and children. Low self-

esteem has been documented in adults who reported engaging in a high number of diets (McAllister & Caltabiano, 1994). Dieting and low self-esteem also appear to be related in children from specific ethnic groups. Lawrence and Thelen (1995) found that a low global self-worth was associated with greater dieting in Caucasian boys and girls in the third and sixth grades, but not for the same-aged African-American boys and girls. They also found that global self-worth was related to body dissatisfaction for the Caucasians, but not for the African-Americans.

While the relationship between negative body image and self-esteem is unclear, self-esteem appears to be more clearly associated with eating disorders. According to one study, low self-esteem was related to disturbed eating in adolescent males and females (Mallick, Whipple, & Huerta, 1987), while another study found this relationship only in females (Nassar et al., 1992). One study found that self-esteem was the single best predictor of Anorexia Nervosa, clearly showing the strong relationship between self-esteem and disordered eating (Grant & Fodor, 1986).

Ethnicity

Although most research on body image, dieting, and eating disorders has been conducted with samples of Caucasian, middle-class females living in the U.S., there appear to be differences in body image for different ethnic groups. This section will compare the research on body image for persons across the major ethnic groups living in

the U.S., and will then examine ethnic differences in body image and eating behaviors world-wide.

African-American women have more positive body images than Caucasian women (Harris, 1994; Rucker & Cash, 1992). Similar differences are found in adolescents, with African-American adolescent girls being more satisfied with their bodies than Caucasian adolescent girls (Huenemann, Shapiro, Hampton, & Mitchell, 1966). Despite having overall lower rates of negative body image, African-American adolescent boys and girls are still more likely than Caucasian adolescents to choose a heavier "ideal" figure (Levinson, Powell, & Stellman, 1986; Rosen & Gross, 1987). Lawrence and Thelen (1995) found that Caucasian children in the third and sixth grades had more body dissatisfaction than African-Americans, and that the Caucasian girls had the greatest body dissatisfaction of all. Collins (1991) found that in children aged 6 to 9 years, African-Americans chose a heavier "ideal" figure than Caucasians, but that females of both races still desired thinner figures.

Hispanic adolescents report levels of negative body image and dieting similar to Caucasian adolescents (Rosen & Gross, 1987), and sometimes even greater dieting and binge-eating than Caucasian adolescents (Smith & Krejci, 1991). Pumariega (1986) found that although his sample of Hispanic adolescents had comparable reports of body dissatisfaction as Caucasian adolescents, there was also a significant correlation between body dissatisfaction and acculturation. That is, the more acculturated a Hispanic adolescent was, the more likely she was to have a negative body image. These findings

suggest that the dominant Western cultural ideals are playing a part in the high reports of negative body image in these adolescents.

Little research has measured body image of Asian-Americans. One study conducted nearly 30 years ago showed that Asian adolescents living in the U.S. had been found to have reports of negative body image, dieting, and eating disorders comparable to Caucasian adolescents (Huenemann et al., 1966).

Only a few studies have been conducted on body image, dieting, and eating behaviors of Native Americans. These studies are alarming because they are showing comparable and sometimes more extreme levels of negative body image and dangerous weight loss techniques in adolescent and adult Native American females compared to Caucasian females (Rosen et al., 1988; Smith & Krejci, 1991). These researchers also reported that the higher rates of body dissatisfaction and disordered eating were not due to the higher body-mass-indexes found in Native Americans.

Overall, it appears that in the U.S. African-American females have more positive body images than Caucasian, Asian, Hispanic, and Native American females at all age levels. It also appears that Asian, Caucasian, and Hispanic females have similar levels of negative body image and dieting, with Native Americans appearing more extreme in their dieting and weight loss behaviors. Although some studies have reported no significant differences in body image and eating behaviors across different ethnicities in the U.S. (Gross & Rosen, 1988), most studies have consistently found the above-mentioned

effects. Further studies should include an acculturation measure in any study using ethnicity as a predictor variable. Without a measure of acculturation or ethnic identity, it is difficult to determine how much one's ethnicity is contributing to their behaviors and attitudes (Pumariega, 1986).

Problems with negative body image, dieting, and eating disorders are not limited to the U.S. Caucasian females of all ages in Great Britain, France, Canada, and Australia exhibit similar levels of negative body image as Caucasian females in the U.S. This is true for adults (Furnham & Baguma, 1994; Kishchuk et al., 1992; Lawson, 1980; Steiger, Leung, Puentes-Neuman, & Gottheil, 1992; Tiggemann & Pennington, 1990), adolescents (Paxton et al., 1991, Tienboon, Rutishauser-Ingrid, & Wahlqvist, 1994; Tiggemann & Pennington, 1990), and children (Rodriguez-Tome et al., 1993; Tiggemann & Pennington, 1990)

While some of these countries tend to be ethnically homogenous, some are not. Great Britain is similar to the U.S. in having a number of different ethnic groups and a fair amount of research on body image, dieting, and eating disorders. Specifically, researchers have studied body image in Caucasians, Afro-Caribbeans, and Asians living in Great Britain. In one study, the Caucasian adult females showed the greatest body dissatisfaction and more dieting than both the Afro-Caribbeans and Asians (Wardle & Marsland, 1990). In the same study, the male Afro-Caribbeans were more satisfied with their weight than Caucasian or Asian males. Other studies have found that Asian women and preadolescent girls living in Great Britain actually have greater body dissatisfaction

and choose a slimmer ideal figure than the Caucasian females living in Great Britain (Ahmad, Waller, & Verduyn, 1994; Wardle, Bindra, Fairclough, & Westcombe, 1993). Thus, there appear to be some mixed results when comparing Caucasians and Asians living in Great Britain.

As for other areas of Europe, Raich and colleagues (1992) reported that rates of eating disorders in Western Europe are fairly comparable to rates in the U.S. They also found that for Spanish adolescents, boys reported similar body images as U.S. Caucasian boys, but girls in Spain reported more positive body images than U.S. Caucasian girls.

While research has found many similarities in eating disorders, dieting, and body image among Westernized countries. Much less research has been devoted to examining eating disorders, dieting, and body image in non-Westernized countries. Rates for eating disorders are low in the Middle East (Nasser, 1988), and extremely rare in Africa (Famuyiwa, 1988) and China (Lee, Chiu, & Chen, 1989). Body dissatisfaction is also much lower in Jamaica than in the U.S. (Smith & Cogswell, 1994). However, in Egypt eating disorders appear to be increasing for adolescent girls (Nasser, 1994).

In Israel, while most adolescents report lower levels of negative body image than U.S. adolescents, the adolescents most exposed to Western culture showed the most negative body image and were at the highest risk for developing an eating disorder (Apter, Shah, Iancu, & Abramovitch, 1994). This study again points to the importance of measuring acculturation into the dominant Western ideals when measuring body image.

Turkish adolescents were also found to show gender effects on body dissatisfaction similar to adolescents in the U.S., although at slightly lower levels (Cok, 1990).

Unlike other Eastern countries, Japanese children and adolescents reported similar levels of body dissatisfaction with the same age and gender difference as their U.S. counterparts (Ohtahara et al., 1993). Similarly, Lee (1993) found that female college students in Hong Kong were underweight by Western standards but still desired to lose weight and to diet, while most males wished to gain weight. But overall, the rates of eating disorders in Hong Kong are lower than the rates in Western countries (Lee, Chiu, & Chen, 1989). It could be said that of all the Eastern and Asian countries, Japan and Hong Kong are the wealthiest and most Westernized, which may explain the high rates of dieting and negative body image in those countries. From the research examining the influence of ethnicity on eating disorders, dieting, and body image, it appears that the more a country is Westernized, the greater that country's incidence of body dissatisfaction and disturbed eating. Thus, it seems clear that some components or values of Western culture are having a strong influence on body image and eating behaviors.

Variables Outside of the Individual Associated with Body Image

Socio-cultural Influences

Western culture places pressure on women to achieve a certain look. The current ideal female figure is thin and athletic, and this "ideal" female figure is often an unrealistic expectation for the vast majority of women. To illustrate this point,

researchers have found a steady decrease in the body weights and measurements of Miss Americas over the past few decades, while at the same time the average weight for American women has steadily increased (Garner, Garfinkel, Schwartz, & Thompson, 1980; Wiseman, Gray, Mosimann, & Ahrens, 1992). This research shows the incongruence between the "ideal female figure" and the "real female figure."

Researchers have documented an increase in the number of dieting and weight loss advertisements and articles in popular women's magazines over the last 30 years (Anderson & DiDomenico, 1992; Garner et al., 1980; Klassen, Wauer, & Cassel, 1991; Snow & Harris, 1986; Wiseman, Gray, Mosimann, & Ahrens, 1992). Despite the high prevalence and concentration of these ads, other researchers remind us that the diet ads make false claims about the effectiveness of their products, and that research is actually unclear as to the effectiveness of dieting (Brownell, 1993; Knuf & Caughlin, 1993). Thus, it appears that females in the U.S. are bombarded by messages of how they should look, and how they can achieve that look. These messages, however, tend to be unrealistic and false.

The cultural standards of beauty for women in the U.S. may actually have negative effects on women. In fact, some researchers theorize that these standards are leading to negative body image, dieting, and eating disorders (Boskind-Lodahl, 1976; Clifford, 1971; Feldman et al., 1988; Freedman, 1984; Garner et al., 1980; Green & McKenna, 1993; McKie, Wood, & Gregory, 1993; Nasser, 1988; Nichter & Nichter, 1991; Streigel-Moore, Silberstein, & Rodin, 1986; Toro, Salamero, & Martinez 1994).

Despite this extensive theorizing, little actual empirical work has examined cultural or media influence on children's, adolescents', and adults' body images or eating behaviors.

Some researchers have attempted to measure the effects of popular culture on females' body images and eating behaviors by exposing research participants to media containing these cultural messages and then measuring their responses. Researchers actually found an increase in body dissatisfaction after exposing female children and adolescents (Irving, 1990; Levine, Smolak, & Hayden, 1994) and female adults (Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Stice & Shaw, 1994) to pictures of thin models. It is not clear if these events would lead to feelings of body dissatisfaction outside of a laboratory setting, however.

Other researchers have attempted a more naturalistic approach to the study of cultural influences on body image. They have surveyed subjects on their exposure to media promoting cultural ideals in their daily lives. This line of research, however, has produced mixed results. Cok (1990) was not able to find any significant relationships between media exposure (television, radio, magazines) and Turkish children's body images. Paxton and colleagues (1991) asked Australian dieting adolescents to name their most important source of information about dieting with the following results: females reported being most influenced by magazines (40.6%), parents (29.2%), school (14%), television (12.6%), and friends (3.6%); Males reported being most influenced by parents (34.2%), television (29.9%), school (24.4%), magazines (9.5%), and friends (2%). The extent of media's influence on females dieting is not clear, however, because these

researchers did not find a relationship between actual exposure to media and body dissatisfaction or dieting. One study, however, did find a link between behaviors and media exposure. Levine, Smolak, and Hayden (1994) found that while only 12.5% of early adolescent girls reported reading at least one fashion magazine per week, the importance that the girls placed on these magazines as a source of information on ideal shape and dieting was the best predictor of body dissatisfaction.

Media exposure has been found to affect attitudes and behaviors in a number of areas besides body image and eating. Past research has found that television viewing in parents and children can predict racial and sexual prejudices (Zuckerman, Singer, & Singer, 1980). Ten-year-old girls were found to be influenced by television commercials by making them perceive products such as lipstick to be positively associated with being an adult (Gorn & Florsheim, 1985). Research has found that sex stereotypes in media can affect children, particularly preoperational children who “have developed a sense of gender identity but do not yet consider television characters in abstract or psychological terms...[sex stereotypes] also affect adolescents who face the demands of peers” (Perloff, Brown, & Miller, 1982, p. 270).

From the research on how mass media can affect various behaviors and attitudes, it is reasonable to assume that the mass media’s presentations of female beauty standards are having a negative effect on women. However, virtually all females in the U.S. are exposed to culture and mass media, yet not all women and girls are reporting negative

body images. It is likely, then, that while the culture and media affect body image, they do not appear to be solely responsible.

It may be that as one grows older, socio-cultural ideals exert greater influence, but that when one is a child, the family's ideals and messages would carry greater importance. This should particularly be the case for the age at which body image appears to first develop. In essence, it might be that the cultural ideals are filtered through the family. Hence it might be more telling to measure the families' ideals, as well as their messages and behaviors towards the child. Along these lines, researchers have proposed that family members might actually amplify the sociocultural importance of attractiveness in women, which could then lead to negative body image, dieting, and/or eating disorders (Streigel-Moore, Silberstein, & Rodin, 1986).

Family Influences on Body Image

Some research has been conducted on the influence of the family on eating disorders, dieting, and body image. This research has found some factors that correlate with disordered eating and body image in children. These factors fall into two main categories: a) parental behaviors and characteristics, and b) parental messages or appraisals of children.

Most researchers and clinicians agree that there are certain familial traits or characteristics in "eating disordered families" (Minuchin, Rosman, & Baker, 1978). Typical characteristics of eating disordered families include: family history of affective

disorder or eating disorder, alcohol or substance abuse, overcontrol of emotions, conformity, parental discord, enmeshment, perfectionism, feelings of emptiness, overprotectiveness, rigidity, and higher socioeconomic status (Dolan, Lieberman, Evans, & Lacey, 1990; Kog & Vandereycken, 1985; Lask & Bryant-Waugh, 1992; White, 1992). These traits are generally found across the family as a whole when there is a daughter with an eating disorder.

Since eating disorders tend to occur mostly in females, some research has looked specifically at mother-daughter relationships. In families with a adolescent daughter with an eating disorder, it has been found that maternal negative body image and maternal depression predicted problem-eating in the daughters (Attie & Brooks-Gunn, 1989). The exact nature of how maternal negative body image and depression affect daughters' eating behaviors is unclear, however.

Much less research has examined family characteristics and behaviors associated with a negative body image. However, one study did find that girls with more negative body images tended to come from single-parent households, and families that did not sit down for meals together (Eisele, Hertsgaard, & Light, 1986).

A number of studies have attempted to determine if parents of children with eating disorders are more likely to have eating disorders themselves. It has been found that mothers of eating disordered daughters had a higher incidence of dieting and eating disorders in themselves (Pike & Rodin, 1991). It has been proposed that such

correlations between a parent and child's eating disorders suggest that parents may be modeling eating disorders to their children (Ordman & Kirshenbaum, 1986; Streigel-Moore et al., 1986). However, correlations between parents' and children's eating disorders provide far from definitive support for the existence of parental modeling of eating disorders.

Hill, Weaver, and Blundell (1990) found a strong association between dieting in mothers and their 9 to 11 year old daughters. They found that daughters who dieted shared with their mothers a susceptibility to diet and binge in response to negative mood states. Another study looking at adolescents found that dieting in parents was associated with dieting in adolescent daughters (Paxton et al, 1991).

There does not appear to be a relationship between parental and child negative body image. Thelen and Cormier (1995) did not find correlations between parents' and fourth grade children's reports of body image. No other studies have specifically examined correlations between parents' and children's body images. It would appear, then, that there are more likely to be correlations between behaviors such as dieting and eating disorders between parents and children, but not for attitudes, such as body image.

Parents may influence a child's body image and eating behaviors in at least two other ways. The first, parental messages, refers to the direct messages a parent gives to her child, such as "you should lose some weight." The second, parental appraisals, refers to what the parent thinks of the child's weight and shape, with or without telling the child

directly. It is likely that both parental messages and appraisals may influence a child's body image and subsequent eating behaviors.

Paxton and colleagues (1991) found that Australian adolescents were influenced by parental messages in their dieting behaviors. Those whose parents encouraged them to diet reported a higher frequency of dieting than those whose parents had not encouraged them to diet. Overall, 22% of females and 11% of males reported dieting. The majority of the dieting females reported receiving parental encouragement to diet, as did the majority of the dieting males.

A study with Japanese adolescent girls found that a high number reported parental encouragement to diet. Forty-one percent of the girls reported having been encouraged to lose weight, and, of those, 50% reported that most of the encouragement came from their mothers (Mukai, Crago, & Shisslak, 1994). More importantly, the girls who reported having been encouraged to lose weight had higher levels of body dissatisfaction, dieting, and eating disorders than the girls who reported that they had not been encouraged to lose weight, despite the fact that 90% of them were classified as normal weight or underweight, based on objective measurements taken by the researchers. Hence, we again see a strong relationship between reported parental encouragement to diet and actual body image and eating behaviors.

Levine, Smolak, and Hayden (1994) found further support that parental messages influence early adolescent girls' body images. The girls in their study who received the

strongest messages from parents regarding the ideal thin female body reported the most symptoms of body dissatisfaction, dieting, and eating disorders. Further, receiving a high level of parental encouragement to diet was not associated with any particular body weight, similar to the Japanese study.

Finally, a study comparing adolescents with bulimia to adolescents without bulimia found that the adolescents with bulimia received more parental encouragement to diet than the adolescents without bulimia, suggesting that this parental encouragement to diet might contribute to disordered eating (Thelen & Cormier, 1993). Hence, it appears that parental messages encouraging dieting are associated with greater body dissatisfaction, dieting, and eating disorders in children and adolescents.

Similar to parental messages, parental appraisals are associated with children's body image and eating behaviors. One study found that parental appraisals of children's weights were related to eating disordered behaviors in preadolescent children (Moreno & Thelen, 1993). Specifically, the researchers found that mothers of daughters with bulimia rated their daughters as more overweight than the fathers, and more than the parents of non-eating-disordered children.

Another study found similar results, in that mothers of daughters with eating disorders, when compared to mothers of daughters without eating disorders, were more likely to think that their daughters should lose weight, and they rated their daughters as less attractive than the daughters rated themselves (Pike & Rodin, 1991).

While parents' appraisals of children's weights appear to be related to eating behaviors, research also suggest these appraisals may be related to body image.

Levinson, Powell, and Stellman (1986) found that parental assessment of the body weights and shapes of adolescents between 12 and 17 years of age was the strongest predictor of body image, and that the effect was stronger in females than in males.

While the studies examining parental appraisals present interesting evidence concerning the association between parental appraisals on body image and eating behaviors, none of these studies have made it clear how these appraisals are communicated to the child. Parental messages are communicated directly to the child, but the communication of parental appraisals is less clear. For example, it is unclear if the child is aware of the parental appraisals, or if the appraisals exert their effects in some other manner. To investigate this issue, some researchers have attempted to measure the children's perceptions of their parents' appraisals.

Thelen and Cormier (1995) measured dieting and body image in both parents and children, as well as the parents' reports of whether or not they encouraged their children to diet, and the children's perceptions of whether or not the parents encouraged them to diet. They found that children perceived greater encouragement to diet from mothers, but that only for the daughters was a high perception of mother's encouragement to diet related to increased dieting. But overall, the parents' actual reports of whether or not they encouraged their daughters to diet were more correlated with the daughters' dieting than were the daughters' perceptions of whether or not the parents encouraged dieting.

Levine, Smolak, Moodey, Shumann & Hessen (1994) found that early adolescent girls' perceptions that their mothers were highly invested in thinness was correlated with dieting, but not negative body image. However, the authors reported that this variable only accounted for a small proportion of the variance when put into a regression equation (4%). It appears that after puberty, parental influence is not the most significant predictor of body image and eating. It is possible that parents are more influential before puberty, when children generally are more tied to their families, as is evidenced in the study by Thelen and Cormier (1995).

Thelen and Cormier's (1995) research appears to be the first study in the body image literature to examine children's perceptions of parental appraisals and to examine their relationship to body image. While other studies also have measured the child's perception of the parental appraisals, these studies never measured the parents beliefs directly and so seem to have assumed that the child's perceptions were accurate. In fact, the accuracy of children's perceptions of their parents' appraisals of their body have never been investigated.

It is clear that parental appraisals and messages have some effect on body image in children, but it is currently unclear how these parental opinions and evaluations are being conveyed to and received by the children. Specifically, we do not really know how children are internalizing these messages and behaviors into their own self-appraisals. While little research in the area of body image has examined these areas, a substantial body of research in the self-concept literature has examined the influence of others'

opinions on the self. We will now briefly look at this area of research by examining some historical perspectives on how the self-concept is developed, and how it is influenced by others' opinions.

Historical Perspectives on Self-Concept and Reflected Appraisals

Cooley (1902), a symbolic interactionist, held that our sense of self comes from others' opinions of us, and particularly from the attitudes of significant others. In essence, Cooley postulated that we infer how others see us, and incorporate this perception into our sense of self. Cooley referred to these perceptions of the appraisals of others as our "reflected appraisals" and felt these reflected appraisals summed to form our "looking glass self." Another symbolic interactionist, Mead (1934), also felt that others' appraisals influenced our self-concepts. Mead introduced the idea of the appraisals of a "generalized other," which refers to how we believe others in general think of us.

In an extensive review, Harter (1990) presented data where she tested the established theories of self-concept empirically with children across different ages. Harter found that the self-concept model of Cooley was active in elementary school-aged children. In particular, she found support for Cooley's reflected appraisals model, and provided further information on the reflected appraisals process. Through a path analysis, Harter found that children first incorporated into their sense of self what they perceived to

be others' opinions of them, and later developed their self-esteem based on these reflected appraisals. Harter (1990) reported that perceived appraisals of parents' and classmates' opinions had the greatest effect on children's global self-esteem. Related to body image, Harter reported finding that one's evaluations of physical appearance contributed most to overall self-esteem for all age groups.

The research presented on reflected appraisals assumes that self-appraisals are accurate representations of the actual appraisals of others. Harter (1990), for example, measured reflected appraisals, but wrote as if she has measured objective parental or classmate appraisals. Later researchers began to examine this idea of assumed accuracy in reflected appraisals; as it turns out, reflected appraisals are not always an accurate reflection of other's appraisals (Kenny & DePaulo, 1993). These researchers agree with the early theorists that reflected appraisals directly influence the self-concept, but in contrast with these theorists, they argue that reflected appraisals are not an accurate reflection of the objective environment (Shrauger & Schoeneman, 1979). Instead, it might be that the reflected appraisals are a result of our self-appraisals, meaning that if we think highly of ourselves, we will assume others do also (Kenny & DePaulo, 1993).

Felson has extensively tested the accuracy of the reflected appraisals model in children (Felson, 1985; 1989; Felson & Reed, 1986). Felson (1989) reported that children's reflected appraisals of their parent's opinions were more predictive of the children's self-appraisal than were the actual appraisals by the parents. This means that children's opinions of their attractiveness are more closely tied to what they think their

parents think, than to what their parents actually think. This relationship has been found for attractiveness, self-esteem, athletic abilities, intelligence, and popularity (Felson, 1985, 1989; Felson, & Reed, 1986). Further, Felson (1989) found that children do not appear to differentiate the reflected appraisals of each parent, similar to Mead's (1934) idea of the "generalized other."

Felson has shown support for the theory that reflected appraisals are inaccurate representations of the actual appraisals of others. He did not, however, address whether reflected appraisals lead to self-appraisals or whether self-appraisals lead to reflected appraisals.

We have seen that parents definitely have an influence on a child's body image and eating behaviors through their appraisals and messages. However, other areas of research suggest that a more important predictor of body image in children might be the child's reflected appraisals of the parent's opinion. It might be that the child's reflected appraisals are more predictive of body image than the actual parental appraisals.

Research Proposal

The previously reviewed research clearly demonstrated that dieting is often a first step towards an eating disorder. It has also been clearly demonstrated that negative body image can be a precursor to dieting. Previous research has also shown that a number of factors appear to be associated with negative body image. Among these are gender,

ethnicity, age, weight, self-esteem, sociocultural factors, and certain parental behaviors and messages. Some of the factors also appear to have an effect on dieting. It is, however, unclear if these variables affect dieting directly or if they directly affect negative body image, which, in turn, affects dieting. Further, these many factors appear to be interrelated, making each of their independent contributions towards negative body image and dieting unclear.

To clarify the relationship between negative body image, dieting, and eating disorders, it is necessary to conduct empirical research to determine which factors are related to negative body image, dieting, and eating disorders. This research will need to examine the independent contributions of the variables currently believed to be related to dieting and negative body image. It will also need to clarify which variables have a direct relationship with dieting versus which variables affect dieting indirectly through body image. Additionally, the previously reviewed research suggests that some of the paths to body image are also indirect. For example, parental appraisals may only affect body image to the extent that they alter the child's perception of what his or her parents think - child's reflected appraisal may be the immediate precursor to a child's body image.

Target Sample

The present study intends to explicate the various relationships discussed above. A sample of 8-to 10- year old, non-referred, predominately Caucasian girls participated.

Investigated parental effects were restricted to the mother. This sample was chosen for the following reasons:

The sample was limited to girls and their mothers. The connection between negative body image and dieting has been found most strongly in females. Further, much of the previously reviewed research, on which the predictor variables of the current study are based, were similarly restricted to mothers and daughters. Although fathers probably play a role in the development of daughters' body images, it is likely that different factors determine the fathers' roles in the development of the daughter's body images. These other factors would be worthy of a separate research project.

This sample was drawn from Washington state, where the dominant cultural ideals are Western-European. Therefore, the sample was limited to Caucasians in order to best represent community norms. Other ethnic groups likely would have different norms, and so have different paths and variables predictive of negative body image and dieting.

Prepubertal girls between the ages of eight and eleven were sampled. This is an age period when negative body image and disturbed eating are first developing, while at the same time, these girls are old enough to have a clear sense of body image.

Since research has already clearly shown that dieting can be a first step towards the development of an eating disorder, this study did not attempt to measure eating disorders or work exclusively with an eating disordered sample. There is such a small

number of young girls with eating disorders that attempting to measure from an eating disordered sample would have severely limited the sample size and not allowed us to understand and examine negative body image in young girls.

Proposed Model

Past research suggests that the following variables are predictors of negative body image and dieting in girls: daughter's weight, daughter's self-esteem, mother's body image, mother's dieting, and mother's appraisals of daughter's weight and shape. The purpose of the present research was to document the independent contributions of each of these factors to body image and dieting. Both indirect contributions to dieting (i.e., those that occur because the factors affect body image, which in turn affects dieting) and direct contributions will be assessed. Further, the relative importance of each contributor will be determined.

In addition to disentangling the factors presented above, this study examined two additional areas. First, it also tested the hypothesis, drawn from the self-concept literature, that parental appraisals exerted their effects through child's reflected appraisals. Second, it examined a new potential predictor of body image and dieting: mother's actual weight. This factor has somehow been overlooked in prior research, but might have an effect on the mother's own evaluations and behaviors.

Based upon the findings of prior research, it was predicted that child's weight, mother's weight, child's self-esteem, mother's body image, mother's dieting, and

mother's appraisals of daughter's weight and shape would all predict child's body image (see Figure 1). Independent contributions to body image, however are another matter. With the exception of parental appraisals, which probably affect body image indirectly through reflected appraisals, there is little prior research to suggest which factors exert independent effects and which exert indirect effects. The close link between perceived physical appearance and self-esteem (Harter, 1990) argues that self-esteem may be a powerful, independent contributor to body image, but there has been no research that explicitly examines this conjecture. Therefore, based on the previous research it was predicted that the only variables that would have a direct effect on daughter's body image would be the daughter's reflected appraisals and the daughter's self-esteem. There is little basis in previous research on which to hypothesize about the relative strength of contributions, or direct versus indirect effects on body image, of the remaining factors. For the purposes of this model, it was predicted that the remaining predictors would show indirect effects on daughter's body image through the reflected appraisals. In this study, these relationships were tested through regression modeling.

The situation is more clear in the prediction of dieting. Past research suggested that negative body image will be the single best predictor of dieting. It was hypothesized that, with two exceptions, all the other factors should exert their effects on dieting through negative body image. The most likely exception to this generalization was expected to be parental dieting. Correlations between mothers' and daughters' dieting has been documented in past research, and there is no reason to think that it was mediated

by negative body image. A child who views her mother dieting may begin to diet to be like her mother or because she concludes that dieting is a good behavior, not because she concludes that she is obese. The other possible exception, though the case is not as strong, is self-esteem. Self-esteem has been implicated in a wide variety of behaviors, including a tendency to conform to situational pressures despite internal beliefs (Brockner, 1984). Girls with low self-esteem may thus diet to fit in with peer or culturally mandated behaviors, despite thinking that they are in fact a reasonable weight.

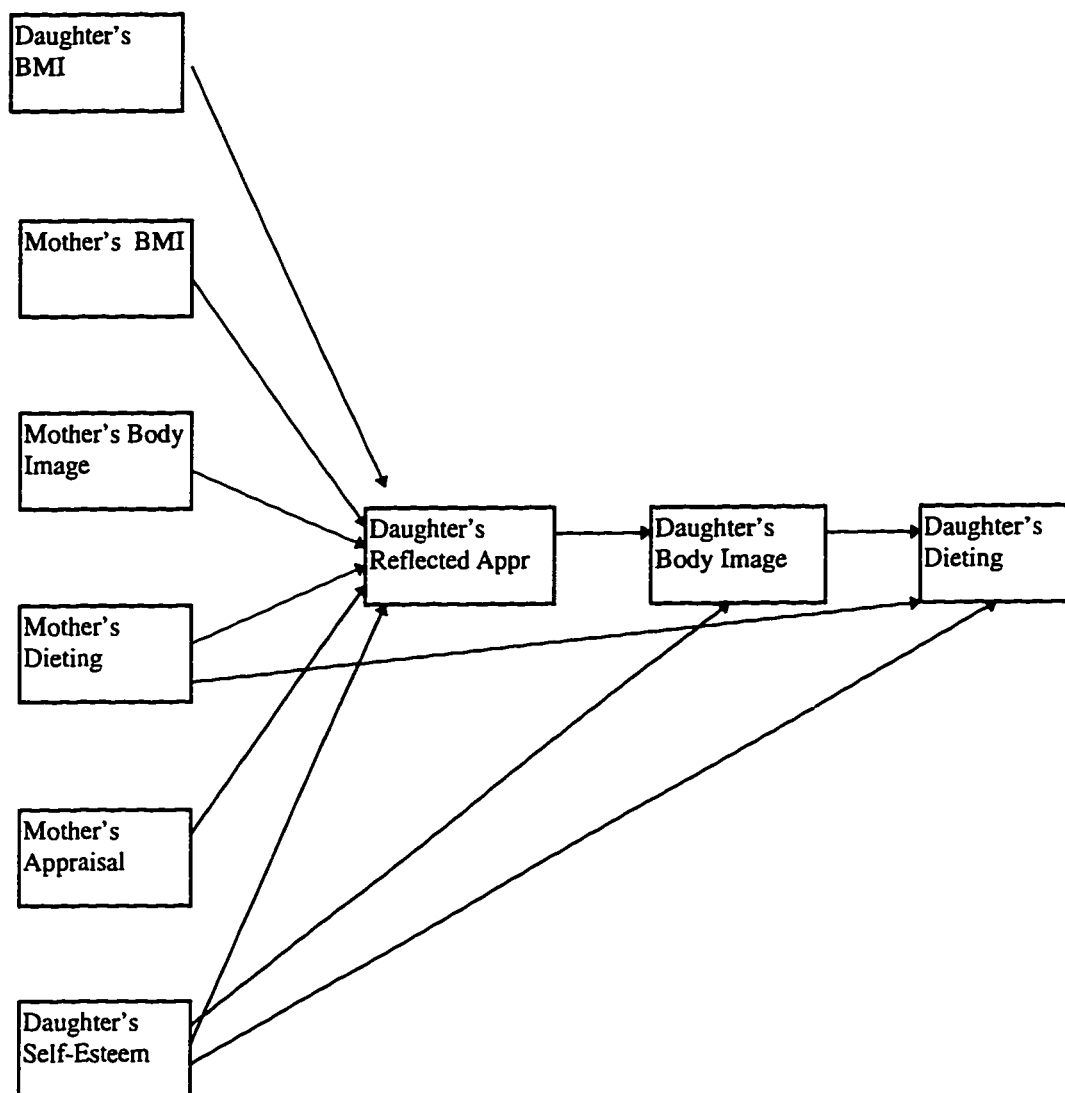


Figure 1: Proposed Path Model of Daughter's Dieting

Key:

BMI=body-mass-index

appraisal=mother's actual appraisal of daughter's weight and shape

reflected appr=reflected appraisal

Chapter 2: Method

Subjects

Research participants were 77 third-, fourth-, and fifth-grade girls and their mothers. "Mothers" included biological mothers, adoptive mothers, and stepmothers who had lived with the girls the majority of the girls' lives. All the girls attended public school in two separate school districts near Seattle, Washington. One district was a nearby suburb, and the other was in a rural area approximately 45 miles outside of Seattle.

Subjects were recruited by first obtaining permission from the school districts. Two out of the four school districts contacted agreed to participate. Once district approval was secured, individual elementary school principals were contacted. Approximately 60% of all principals contacted agreed to allow their schools to participate. Principals who were interested in participating in the study contacted their third-, fourth-, and fifth-grade teachers. No teachers refused to participate. The teachers were given packets to be sent home with each girl in their classrooms. The packets contained a letter explaining the study, two copies of consent forms, and a self-addressed stamped envelope. Interested parents were instructed to mail back a signed consent form in the self-addressed stamped envelope to the investigator.

A total of 13 schools agreed to participate, with a total of 82 teachers. Packets were distributed to approximately 960 girls and their parents, and 79 consent forms were returned (8.2% of total). Two mothers did not return their questionnaires and were dropped from the study, leaving a total of 77 subjects. See Tables 1 and 2 for a description of subject demographics, such as age, ethnicity, socioeconomic status (SES), mother's education level, mother's marital status, mother's relationship to daughter, number of years mother and daughter have lived together, number of other adults living in the home, number of other children living in the home, mother's occupation, and father's occupation (if applicable).

Measures

This study utilized both written and pictorial measures. The pictorial measures followed the format first developed by Stunkard and colleagues (1983) in his studies on obesity and body image, and later adapted into adult and child figures by Collins (1991), who used the figures with children 5 to 10 years of age. The pictorial measures showed a series of seven line-drawn female figures ranging in weight from extremely thin to extremely heavy with a number from 1 through 7 beneath each figure. The number "1" was placed beneath the thinnest figure and the number "7" was beneath the heaviest. Research participants were asked to answer questions (e.g., "How I look") by circling the figure corresponding to their perceptions. The daughters used child figures to rate themselves and adult figures to rate their mothers; the mothers used adult figures to rate

themselves and child figures to rate their daughters. See Table 3 for descriptive statistics on each of the measures used.

Mothers' Measures

Demographic data. Mothers were given a brief demographic questionnaire developed for this study (Appendix A). The questionnaire asked for mother's and daughter's birthdates, mother's and daughter's ethnicities, relationship to daughter, number of years lived with daughter, marital status, income, occupation of mother and father (if applicable), and mother's height and weight. Mothers' Body-Mass Index (BMI) was calculated by converting standard measures to metric and then dividing the weight in kilograms by the height in meters squared ($\text{height}/\text{weight}(2)$) as described for adults by Najjar and Rowland (1987). Weight, by itself, is an inappropriate measure because it does not take into account the height differences that affect overall shape. Body-Mass Index does, however, take into account both height and weight, leading to a more accurate estimates of body shape.

Mother's body image. Two measures were used to obtain maternal body image, one written and one pictorial.

Written. Mothers reported on their own body images by filling out the Parent Body Image Scale (PBI) (Appendix B). The PBI was adapted for this study from a body image scale designed by Mendelson and White (1982). The original questionnaire

contained 23 questions concerning body image to which respondents answered “yes” or “no.” For this study, the question: “I want to gain weight” was dropped from analyses because the purpose of the current study was to measure perceptions of weighing too much. Hence, the PBI contained 22 “yes” or “no” questions measuring overall body satisfaction and body image where a high score indicated a high level of negative body image. The PBI had a Cronbach’s alpha of .92, indicating high internal consistency.

Pictorial. The mothers also reported on their own body images by circling the adult female figure to answer: 1) “How I look,” and 2) “How I want to look” (Appendix C). The response to question #2 was subtracted from the response to question #1 to derive the pictorial body image score. A positive score indicated that the subject wished to lose weight and a negative score indicated that the subject wished to gain weight.

Mother’s dieting. Mother’s dieting was measured by one written measure, the “Eating Behaviors Questionnaire” (EBQ; Hill, Rogers, & Blundell, 1989) (Appendix D). The EBQ has seven questions concerning dieting. For each question, subjects indicate how often they engage in certain dieting behaviors (“never,” “sometimes,” or “very often”) where a high score indicates a high amount of dieting. The EBQ was found to have adequate internal consistency with a Cronbach’s alpha of .83.

Mother’s appraisal of daughter’s weight and shape. Mothers were asked to give appraisals of their daughters’ weights and shapes by completing one written and one pictorial measure.

Written. The written measure was a questionnaire entitled the “Parent Appraisal Scale,” which was developed for this study (Appendix E). This is a 4-item scale asking mothers to indicate their opinions of their daughters’ attractiveness, weight, and eating behaviors. Respondents were given the following five choices per question: “strongly agree,” “agree,” “neutral,” “disagree,” and “strongly disagree,” with a high score indicating a high level of negative appraisals of the daughter. The questionnaire showed an adequate internal consistency of .65 as measured by Cronbach’s alpha.

Pictorial. Mothers were also shown child figures and asked to indicate: 1) “How my daughter looks,” and 2) “How I would like my daughter to look” (Appendix F). The response to question #2 was subtracted from the response to question #1 to derive the pictorial mother appraisal score. A positive score indicates a high level of negative mother appraisals.

Daughters’ Measures

Body-Mass Index (BMI). Daughter’s BMI was calculated by taking standard measurements of each girl’s height and weight during data collection. These measures were then converted to metric equivalents of weight (kilograms) and height (meters). BMI was calculated by dividing the weight in kilograms by the height in meters squared (height/weight(2)) as described for children by Hammer, Kraemer, Wilson, Ritter, and Dornbusch (1991).

Daughter's body image. Similar to maternal body image, both a written and a pictorial measure were used to assess the daughters' body images.

Written. The daughters filled out the Child Body Image Scale (CBI) (adapted from Mendelson & White, 1982) (Appendix G). The CBI is essentially the same as the PBI with some questions being more applicable to children. As with the PBI, the question stating: "I wish to gain weight" was not included, leaving a 22-item scale, with subjects responding either "yes" or "no" to each item. A high score on the CBI indicated a high level of negative body image. The CBI showed a high degree of internal consistency (Cronbach's alpha = .92).

Pictorial. Body image was also measured by showing girls the pictorial figures with the questions: 1) "How I look," and 2) "How I want to look" (Appendix H). The response to question #2 was subtracted from the response to question #1 to derive the pictorial body image score. A positive score indicated that the subject wished to lose weight and a negative score indicated that the subject wished to gain weight.

Daughter's dieting. Daughter's dieting was measured by having the daughters fill out the EBQ, the same measure given to the mothers, with a high score indicating a high level of dieting behaviors in the daughters (Appendix D). Cronbach's alpha for the daughters' EBQ was .89.

Daughters' self-esteem. Daughter's self-esteem was measured by having the girls fill out the "Rosenberg-Simmons Self-Esteem Scale" (Rosenberg, 1979) (Appendix I).

This scale is a 6-item questionnaire measuring global self-esteem, with a high score indicating high self-esteem. Cronbach's alpha was .74.

Daughters' reflected appraisals. Reflected appraisal refers to what the daughter thought her mother thought of her weight and attractiveness. Both written and pictorial measures were used to assess the daughters' reflected appraisals.

Written. Reflected appraisals were measured by having the daughters answer two questions which were designed for this study: 1) "I think that my mother likes the way I look," and 2) "I think that my mother would like me to lose weight." Question number 1 was reverse-scored so that a high score indicated a high level of negative reflected appraisals.

Pictorial. The daughters were shown child figures and asked to respond to the following questions: 1) "How I look," and 2) "How my mom wants me to look" (Appendix J). The response to question #2 was subtracted from the response to question #1 to derive the pictorial reflected appraisal score. A positive score indicates a high level of negative reflected appraisal.

For constructs on which both written and pictorial data were gathered, the written and pictorial data were combined to form one variable. First, it was necessary to determine whether the written and pictorial measures could be combined by determining whether they were correlated with one another. The written and pictorial measures did correlate for each of the variables: a) daughter's body image ($r=.43$), b) mother's body

image ($r=.71$), c) mother's appraisal of daughter's weight and shape ($r=.60$), and d) daughter's reflected appraisal of what the mother thought of the daughter's weight and shape ($r=.48$). The written and pictorial measures were then standardized and summed to create one uniform variable for data analysis. See Table 4 for descriptive statistics on the combined variables.

Procedure

After the initial recruitment of districts, schools, teachers, and subjects, data collection proceeded as follows:

1) *Scheduling*. Two to four weeks after the initial parent packets were sent home with the girls, the teachers of girls whose mothers had returned the consent forms were contacted by either the investigator or a research assistant to schedule a time for data collection. Participating schools were informed that girls whose parents gave consent would be taken from the classroom for approximately 20 to 30 minutes to participate in the study. Schools were asked to provide a quiet space where approximately five girls could sit at individual desks. Data collection was scheduled during times that were most convenient for the teachers.

2) *Child data collection*. Data were collected from the girls in groups of two to seven while they were in school. The girls completed the questionnaires while sitting at individual desks. One research assistant read standardized instructions explaining the procedures. Girls were given the opportunity to refuse participation or to ask questions.

The girls were then asked to fill out the questionnaire packet independently (as described in the “Measures” section and shown in Appendices D, G, H, I, and J).

The girls were instructed to turn in their completed packets to a second research assistant. The second research assistant then measured each girl’s height and weight in a separate area, being careful to keep the measures concealed from the other subjects. The research assistant recorded each girl’s height and weight on the space provided on each subject’s questionnaire packet.

At the completion of data collection, girls were allowed to choose a sticker and a word puzzle to take home. The girls were also given a packet containing the mother’s questionnaires in a sealed envelope (as explained in the Measures section and shown in Appendices A-F). These packets included a brief letter explaining the procedure for completing the questionnaires, the questionnaires, and a self-addressed-stamped envelope for the mothers to return their questionnaire packets. The girls were instructed to give the packet to their mothers that evening, and to not look inside the envelope. Girls then returned to their classrooms.

3) *Mother data collection.* The evening of the daughter data collection, mothers received a telephone call from a research assistant to inform them that their daughters were given the questionnaires at school that day. Mothers were asked if they had received the questionnaire packet. Mothers were then asked to complete the

questionnaires and return them within 1 week. Mothers whose packets were not received within 2 weeks were telephoned by a research assistant as a reminder.

Table II

Ethnicity, Marital Status, Mother-Daughter Relationship, and Number of Years**Mother and Daughter Have Lived Together**

<u>Category</u>	<u>Frequency</u>	<u>%age</u>
<u>Daughter's Ethnicity</u>		
Caucasian	63	82.9
African-American	2	2.6
Asian	3	3.9
Native American	1	1.3
Mixed (half Caucasian)	7	9.2
<u>Mother's Ethnicity</u>		
Caucasian	69	90.8
African-American	2	2.6
Asian	3	3.9
Mixed (half Caucasian)	1	1.3
Mixed (other)	1	1.3
<u>Mother's Marital Status</u>		
Single	3	3.9
Separated	2	2.6
Divorced	12	15.8
Married to Daughter's Biological Father	54	71.1
Married but not to Daughter's Biological Father	5	6.6
<u>Mother-Daughter Relationship</u>		
Biological Mother	72	94.7
Adoptive Mother	2	2.6
Step-Mother	1	1.3
Biological Maternal Grandmother	1	1.3
<u>Number of Years Mother and Daughter Lived Together</u>		
2	1	1.3
4	1	1.3
8	12	15.8
9	24	31.6
10	25	32.9
11	13	17.1

Table III

Descriptive Statistics of Measures

Variable	M	SD	Min	Max
Mother's Body-Mass-Index	26.16	8.01	17.36	60.53
Daughter's Body-Mass-Index	17.61	2.74	12.40	27.97
Mother's Body Image^a	10.20	6.16	.00	22.00
Mother's Body Image (Pictorial)^a	1.11	1.15	-2.00	5.00
Daughter's Body Image^a	6.63	5.22	.00	20.00
Daughter's Body Image (Pictorial)^a	.47	1.11	-2.00	6.00
Mother's Dieting^b	7.00	3.13	.00	14.00
Daughter's Dieting^b	4.08	3.65	.00	14.00
Daughter's Self-Esteem^c	5.84	2.14	.00	8.00
Mother's Appraisal^d	4.93	2.87	.00	13.00
Mother's Appraisal (Pictorial)^d	.16	.54	-1.00	2.00
Daughter's Reflected Appraisal^e	.25	.52	.00	2.00
Daughter's Reflected Appraisal (Pictorial)^e	.29	.93	-1.00	5.00

^a A high score indicates greater negative body image.

^b A high score indicates greater dieting.

^c A high score indicates high self-esteem.

^d A high score indicates a high level of negative maternal appraisals of the daughter.

^e A high score indicates a high level of negative reflected appraisals.

Table IV**Descriptive Statistics of Measures after Z-Scoring**

Variable	M	SD	Range	Min	Maximum
M's Body Image	.00	1.85	8.14	-3.00	5.14
D's Body Image	.00	1.66	9.39	-2.59	6.79
M's Appraisal	.00	1.79	7.97	-2.81	5.16
D's Refl Appr	.00	1.71	8.40	-1.88	6.53

Chapter 3: Results

Preliminary Analyses

Prevalence of Dieting and Negative Body Image in Sample

One purpose of this study was to measure and document the prevalence of dieting in mothers and their 8- to 11- year old daughters. The EBQ assessed dieting in both the mothers and daughters. Subjects' responses on the EBQ were generally consistent with prevalence estimates of dieting found in other studies (Hill, Oliver, & Rogers, 1992; Mellin et. al., 1992) (see Table 5). Eighty-four percent of mothers and 32% of daughters reported that they had "tried to lose weight". Eighty-eight percent of mothers and 63% of daughters reported that they avoided fattening foods. However, in some areas a higher proportion of the sample reported engaging in dieting behaviors than had been found in previous research (Hill, Oliver, & Rogers, 1992; Mellin et al., 1992). For instance: 78% of mothers and 45% of daughters reported engaging in restrictive eating for weight loss. Similarly, 79% of mothers and 61% of daughters reported engaging in exercise for weight loss. For a summary of subjects' responses on all items of the EBQ, refer to Table 5.

Interrelationships Among Variables

The first step in analyzing the numerous variables in this study involved examining their interrelationships by using zero-order correlations. The main analyses examined each variable's independent contribution to the development of negative body

image and dieting. The results of these initial correlational analyses will be presented as follows. First, I examined which variables correlated among themselves (Table 6). These analyses showed a number of interrelationships among the variables. Next, I determined which variables correlated with the daughter's reflected appraisals, with the daughter's body image, and with the daughter's dieting (Table 7).

Correlations with Daughter's Reflected Appraisals

As can be seen in Table 7, several variables were related to the daughter's reflected appraisals. Girls who perceived more negative appraisals from their mothers (a) tended to have a heavier shape ($r = .42, p < .001$), (b) had mothers who were more critical of the daughters' shapes ($r = .53, p < .001$), and (c) had lower self-esteem ($r = -.45, p < .001$). It appears, from these analyses that a girl who felt that her mother made negative evaluations of her body was heavier, had lower self-esteem, and was somewhat accurate in her perceptions, meaning that her mother did make negative evaluations of her body. In sum, several variables that have been previously linked to body image (Field et al., 1993; Hill, Rogers, & Blundell, 1989; Levinson et al., 1986; Mendelson & White 1982) were found to be associated with reflected appraisals.

Correlations with Daughter's Body Image

Several variables were related to the daughter's body image (see Table 7). In general, girls with negative body images (a) had higher BMIs ($r = .27, p < .05$), (b) had mothers with higher BMIs ($r = .31, p < .01$), (c) had mothers with more negative body

images ($r = .43, p < .001$), (d) had mothers who evaluated them relatively negatively ($r = .43, p < .001$), (e) had lower self-esteem ($r = -.54, p < .001$), and (f) thought that their mothers evaluated them negatively ($r = .69, p < .001$). The profile that emerges from these analyses is one in which a negative body image in daughters is linked to heavier weight in both mothers and daughters, negative actual and perceived appraisals from mothers, negative body image in mothers, and low self-esteem in the girls.

In sum, a wide range of measures was found to be associated with body image. The fact that reflected appraisals accounted for twice as much variance ($r^2 = .48$) as the next most powerful predictor provides encouraging, though far from definitive, support for the theoretical model's position that reflected appraisals are a crucial factor in the prediction of body image.

Correlations with Daughter's Dieting

Again referring to Table 7, we see that a number of variables were related to the daughters' dieting. Specifically, girls who dieted (a) were heavier ($r = .23, p < .05$), (b) had mothers who were heavier ($r = .23, p = .05$), (c) had mothers who dieted more ($r = .29, p = .01$), (d) had mothers with more negative body images ($r = .24, p < .05$), (e) had mothers who gave more negative appraisals of the daughters ($r = .40, p < .001$), (f) tended to have lower self-esteem ($r = -.48, p < .001$), (g) had more negative reflected appraisals ($r = .42, p < .001$), and (h) had more negative body images ($r = .61, p < .001$).

We are seeing factors associated with dieting coming from both the mother and the daughter. It appears that girls who dieted were heavier, had lower self-esteem, had negative perceived appraisals, and had negative body images. These girls also had mothers who were heavier, had negative body images, dieted, and gave negative evaluations of their daughters' weights. In accord with the proposed theoretical model, the variable believed to be most predictive of dieting in the daughters (daughter's body image) showed the highest correlation with the daughter's dieting.

Main Analyses

The preliminary analyses pointed out many predictors of the daughter's reflected appraisals, body image, and dieting. However, since many of the predictors were inter-correlated, it was unclear how many of these correlations were actually pointing to independent relationships, and how many were due to associations with other variables. In order to better understand the unique contributions of each variable, multiple regression analyses were employed to examine the independent associations of each variable.

The theoretical model proposed in this paper predicted that only a few of the variables would have a direct relationship with the daughter's dieting and body image (Figure 1). For example, it was predicted that the only variables that would have a direct

relationship with daughter's dieting would be the daughter's body image, daughter's self-esteem, and mother's dieting. Likewise, it was hypothesized that the only variables that would have a direct relationship with the daughter's body image would be the daughter's reflected appraisals and the daughter's self-esteem.

As a reminder, the basic reflected appraisal model looks like this:

actual appraisals ---> reflected appraisals -----> self-appraisals

This means that the relationship of the actual appraisals to the self-appraisals will only occur indirectly through the reflected appraisals. When applied to the current model this would mean that the mother's appraisal of daughter would be related to the daughter's perception of the mother's appraisal, which would, in turn, be related to the daughter's body image. Simultaneous regressions were used to test the proposed relationships in this study because this type of regression allows the partialling out of the independent effects of each predictor variable. Although stepwise regression is sometimes used to pick out the most important predictors from a larger set, stepwise regression does not partial out the effects of all other variables, only those that are selected for inclusion in the model¹. The regression analyses for this model will be presented in three stages, each of which represents one of the three phases of the model: a) predicting daughter's reflected appraisals, b) predicting daughter's body image, and c) predicting daughter's dieting.

¹Because a plausible case could be made for the use of stepwise regression, a corresponding stepwise regression was performed to validate the results of each simultaneous regression. Stepwise regressions yielded almost identical results (see subsequent footnotes for statistical findings of stepwise regressions).

Predicting Daughter's Reflected Appraisals

The first question was which variables were independently associated with the daughters' reflected appraisals. In order to answer this question, the following variables were regressed on the daughters' reflected appraisals: daughter's BMI, mother's BMI, mother's dieting, mother's body image, mother's appraisal of daughter's weight and shape, and daughter's self-esteem. The overall regression yielded a multiple $R = .65$, accounting for 43% of the variance in the daughter's reflected appraisals. Only two of the variables were found to have an independent relationship with reflected appraisals: mother's appraisals ($Beta = .34, p=.01$) and daughter's self-esteem ($Beta = -.33, p<.01$). (These paths are shown in Figure 2)². The R^2 change due to adding the mother's appraisals to the set of other predictors was .06. The R^2 change due to adding the daughter's self-esteem to the other predictors was similarly low at .09.

Predicting Daughter's Body Image

The second phase of the model involved examining which variables were independently associated with the daughter's body image. The following seven variables were regressed on the daughter's body image: daughter's BMI, mother's BMI, mother's dieting, mother's body image, mother's appraisals, daughter's self-esteem, and daughter's reflected appraisals. The overall multiple regression analysis yielded a multiple $R = .83$, accounting for 69% of the variance in daughter's body image.

Three of the variables had independent relationships with daughter's body image, as shown in Figure 2. Negative body image in the daughter was likely to occur when the daughter (a) had negative reflected appraisals ($\text{Beta} = .51, p < .001$), (b) had a mother who reported a negative body image in herself ($\text{Beta} = .53, p < .001$), and (c) had lower self-esteem ($\text{Beta} = -.35, p < .001$)³. The R^2 change due to adding the mother's body image to the other set of predictors was .06. The R^2 change due to adding the daughter's self-esteem was .09. Daughter's reflected appraisals showed the largest R^2 change at .15.

Predicting Daughter's Dieting

The third step was to determine which variables had an independent relationship with the daughter's dieting. To test this third step of the path model, daughter's body image, along with daughter's reflected appraisals, daughter's BMI, mother's BMI, mother's body image, mother's dieting, mother's appraisals, and daughter's self-esteem were regressed on the daughter's dieting. A multiple regression analysis yielded a multiple R of .71, accounting for 51% of the variance in the daughter's dieting.

Girls who reported the most dieting tended to have (a) negative body images ($\text{Beta} = .54, p = .001$), (b) lower self-esteem ($\text{Beta} = -.26, p < .05$), and (c) mothers who dieted

²The results were substantially similar when a stepwise, rather than a simultaneous, regression analysis was used. Only mothers' appraisals and daughters' self-esteem were significant, with Betas of .45 ($p < .001$) and $-.33$ ($p < .001$), respectively.

³A stepwise regression analysis produced similar results with the same three variables showing significance, as follows: daughter's reflected appraisals ($\text{Beta} = .50, p < .001$), mother's body image ($\text{Beta} = .32, p < .001$), and daughter's self-esteem ($\text{Beta} = -.32, p < .001$).

(Beta = .32, $p < .01$) (see Figure 2)⁴. From these results, it is apparent that the daughter's body image had the strongest association with the daughter's dieting, showing support for the theoretical model. This is also apparent when looking at the R² changes which occurred when adding daughter's body image, daughter's self-esteem, and mother's dieting into the multiple regression analysis with the other predictor variables: these variables produced R² changes of .09, .04, and .07, respectively.

⁴The stepwise regression analysis again produced similar results, with the same three variables showing significance: mother's dieting (Beta = .26, $p < .01$), daughter's body image (Beta = .41, $p < .001$), and daughter's self-esteem (Beta = .26, $p < .01$).

Table V

Percentages of Mothers and Daughters Dieting

Question	Percentage of Mothers	Percentage of Daughters
If I feel fat I try to eat less	86.8	43.4
I try not to eat foods that might make me fat	88.2	63.2
I have tried to lose weight	84.2	31.6
If I have eaten too much I try to eat less the next day	73.7	39.5
I try not to eat between meals because I want to be thinner	65.8	44.7
I try to eat less because I don't want to get fat	77.6	47.4
I try to get thinner by doing more exercise	79.0	60.6

Table VI**Intercorrelations Among the Predictor Variables**

Variable Name	Daughter's BMI	Mother's BMI	Mother's Diet	Mother's Appraisals	Daughter's Self-Esteem	Mother's Body Image
Daughter's BMI	---	.40***	.16	.61***	-.02	.26*
Mother's BMI	---	---	.18	.16	-.17	.73***
Mother's Dieting	---	---	---	.22*	.13	.48***
Mother's Appraisals	---	---	---	---	-.22*	-.21
Daughter's Self-Esteem	---	---	---	---	---	-.11

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

Table VII

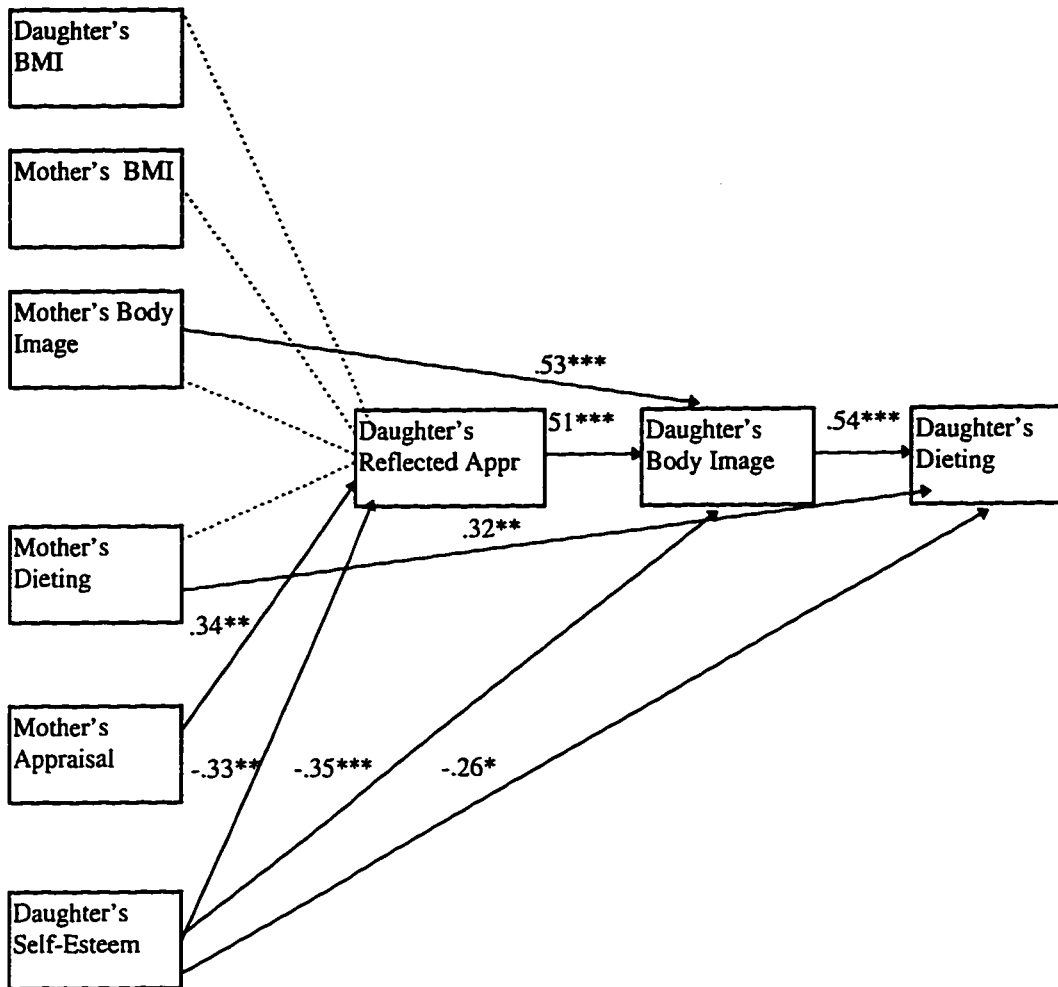
Correlations of Variables with Daughter's Reflected Appraisals, Daughter's Body Image, and Daughter's Dieting

Variable Name	Daughter's Reflected Appraisals	Daughter's Body Image	Daughter's Dieting
Daughter's BMI	.42***	.27*	.23*
Mother's BMI	.22	.31**	.23*
Mother's Dieting	.04	.17	.29**
Mother's Body Image	.17	.43***	.24*
Mother's Appraisals	.53***	.43***	.40***
Daughter's Self-Esteem	-.45***	-.54***	-.48***
Daughter's Reflected Appraisals	---	.69***	.42***
Daughter's Body Image	---	---	.61***

* = $p < .05$.

** = $p < .01$.

*** = $p < .001$.



**Figure 2: Path Model of Daughter's Dieting
(with Betas and P Values)**

Key:

BMI=body-mass-index

appraisal=mother's actual appraisal of daughter's weight and shape

reflected appr=reflected appraisal

---- = nonsignificant relationship

* = $p < .05$

** = $p < .01$

*** = $p < .001$

Chapter 4: Discussion

Dieting and eating disorders are serious problems in today's Western world. In particular, an increasing number of young children are engaging in these behaviors, potentially leading to serious medical and psychological problems. Past research has found that both dieting and eating disorders are linked to negative body image. Specifically, it appears that negative body image can lead to dieting, which, in turn, can lead to an eating disorder. While many factors have been found to be associated with negative body image, past research has failed to examine either the relative strengths or the independent contributions of these factors. Nor has past research examined how some factors might indirectly, as opposed to directly, affect body image and dieting.

The purpose of this research was to address these shortcomings by creating a more comprehensive model of the development of negative body image and dieting in young girls. As discussed previously, although the various predictors identified from past research and used in the current study were expected to be related to body image and dieting, only a few were expected to have unique, direct effects. In the case of dieting, they included daughter's body image, mother's dieting, and daughter's self-esteem. In the case of negative body image, they were limited to daughter's self-esteem and daughter's reflected appraisals. This emphasis on daughter's reflected appraisals, rather than mother's actual appraisals, is consistent with the self-concept literature, but has

never been considered in research on body image. Although reflected appraisals were expected to somewhat accurately reflect the mothers' actual appraisals, reflected appraisals were also expected to be influenced by other factors, including self-esteem.

Summary of Data Analysis

Data analyses generally found support for these predictions. First, the initial zero-order correlations indicated that virtually all of the predictor variables were both related to one another and related to body image and dieting, confirming prior research. These findings also emphasized the importance of examining the independent contributions of the predictor variables to delineate both direct and indirect effects.

A series of multiple regression analyses was used to examine the independent contributions and relationships among variables in the model. According to the model proposed in this study, the first intermediary between the predictor variables and negative body image is the child's reflected appraisals (see Figure 1). For this stage of the model, a regression equation found that only the mother's actual appraisals and the daughter's self-esteem were able to independently predict the daughter's reflected appraisals (Figure 2). Further, mother's actual appraisals and daughter's self-esteem had nearly equal predictive abilities on the daughter's reflected appraisals. These analyses suggest that the daughters' perceptions of maternal criticism may be a function of a combination of actual maternal criticism and low self-esteem.

The proposed research model asserted that the only variables to have a direct effect on negative body image would be the daughter's reflected appraisals and the daughter's self-esteem, while all other variables would show only indirect effects (see Figure 1). These predictions followed the established reflected appraisals model in suggesting that actual appraisals affect reflected appraisals, which in turn affect self-beliefs, but that actual appraisals do not affect self-beliefs directly. These predictions also acknowledge the importance of self-esteem in influencing body image.

The second multiple regression analysis found that the only unique contributors to daughter's body image were daughter's self-esteem, daughter's reflected appraisals, and mother's body image (Figure 2). These findings supported the role of self-esteem, the importance of the mother's own self-appraisals, and the standard reflected appraisals model. Self-esteem, however, had less influence than did the other two factors.

These data support the existing reflected appraisals model, by showing that maternal criticism predicted perceived maternal criticism, which in turn predicted body dissatisfaction, but that maternal criticism did not directly affect body dissatisfaction. However, daughter's body image was strongly related to her mother's own body image. This result is somewhat surprising and unexpected. Although past research has found support for an association between mothers' and daughters' dieting and eating disorders, it has not found support for such a relationship for body image.

The third phase of the model predicted that negative body image, low self-esteem, and maternal dieting would all directly affect daughter's dieting, while the other variables would all have only indirect effects (Figure 1). These predictions were confirmed by the third multiple regression analysis detailed in the results section: daughter's body image, daughter's self-esteem, and mother's dieting were the only independent contributors to daughter's dieting (Figure 2).

Implications of Current Research Findings

Consistent with the proposed model, the present research supported the contention that mothers' behaviors and attitudes were related to their daughter's body images and eating behaviors. Mothers had an indirect relationship to daughters' body images and dieting through their appraisals of their daughters, as these appraisals were related to the daughter's reflected appraisals, which in turn were related to body image. Mothers also had a direct relationship to daughters' body images and dieting through their own body images and dieting. These correlations between the mothers' and daughters' body images and dieting were quite strong, and actually more powerful predictors of body image and dieting than the indirect relationship seen with reflected appraisals.

While previous research found support for a relationship between mothers' and daughters' dieting behaviors, past research has not found a relationship between mothers' and daughters' body images, as this research did. It is possible that the strong maternal links found in this study are a result of the young age being sampled. Some researchers

have postulated that parents have a stronger link to the child's behaviors the younger the child.

It was found that self-esteem was a strong predictor at each phase of the model, showing that self-esteem was closely tied to issues related to body image and eating behaviors. Further, self-esteem consistently showed direct associations with reflected appraisals, body image, and dieting at all phases of the model.

But what happened to the effects of actual body weight as measured through body-weight index? Despite being significantly correlated with reflected appraisals, body image, and dieting at the zero-order level, actual weight did not have a direct relationship with these variables.

A high body weight-index was strongly correlated with negative reflected appraisals at the zero-order level, but it did not show any independent predictive abilities on reflected appraisals. This means that daughter's actual weight must be related to daughter's reflected appraisals indirectly through either the mother's appraisals or the daughter's self esteem, the only two factors directly related to reflected appraisals. In the zero-order correlations daughter's weight had a stronger relationship with mother's appraisals ($r=.61$) than it did to daughter's self-esteem ($r=-.02$). In fact, there appears to be no relationship between daughter's self-esteem and actual weight. So, the indirect relationship occurs through mother's appraisals: daughters who are heavier have mothers

who rate their appearance negatively, which, in turn, seems to lead the daughters to perceive maternal criticism.

Likewise, actual weight appears to have no direct relationship with body image. Instead it appears that actual weight's relationship with body image is indirect: actual weight is related to mother's appraisals, which is related to reflected appraisals, which, in turn is related to body image. Alternatively, perhaps heavier girls receive more maternal criticism, which may lead them to perceive more maternal criticism of weight, which may lead to body dissatisfaction. It is important to point out that despite a significant initial correlation ($r=.23$), daughter's actual weight had no independent association with dieting behaviors. Instead heavy weight was associated with dieting only indirectly through maternal criticism, perceived criticism, and body dissatisfaction.

In summary, although past research has found a large number of factors predictive of negative body image and dieting, this research represents the first time the relative strengths and independent contributions of these factors have been examined. Further, this research was the first time that these many different predictors have been tied together to form a comprehensive, empirical model. This model points out that both objective maternal influences, such as behaviors and appraisals, as well as subjective factors, namely reflected appraisals and self-esteem, were directly related to body image and dieting in young girls. All other variables appear to have only an indirect relationship. This model and the factors suggested by it can serve as a guide for future, theory-driven research.

Implications for Future Research

While the current study has successfully created and validated a model which begins to explain the development of negative body image and dieting, it also opens up a number of possibilities for future research ventures.

Because maternal attitudes and behaviors appear to be exerting such a strong influence on young girls' body images and dieting behaviors, it will be important to conduct further research to increase our understanding of this relationship. In contrast to the present results, previous research has not found support for an association between mothers' and daughters' body images. Future research should first attempt to replicate this finding, and assuming that it is validated, should then attempt to clarify the relationship between mothers' and daughters' body images. This relationship between mothers' and daughters' body images may occur through any of several paths: 1) daughters may hear mothers making statements about their own body images, 2) they may see certain types of body language suggestive of a negative body image in their mother, 3) they may see their mother engaging in certain behaviors (such as dieting) which leads them to assume a negative body image, or 4) they may directly model their mother's dieting, and this new behavior might then affect their body image through the self-perception process (Bem, 1967). Classic modeling theory (Bandura, 1986) asserts that a child will imitate a behavior for which she observes the model being reinforced. While measuring these specific maternal behaviors, it will be extremely important to measure the child's interpretations and perceptions of these maternal behaviors and attitudes,

particularly in light of the fact that the present research shows the importance of child's perceptions and interpretations of the environment. Each of these possibilities presents an area amenable to empirical research.

The present research found that daughters' subjective interpretations of their mothers' appraisals were more predictive of body image than were the actual appraisals. Further, these reflected appraisals were only somewhat related to the mother's actual appraisals. A next step is to determine which factors influence young girls to misinterpret maternal appraisals in a negative direction. The literature has identified a large number of factors that can affect one's interpretation of the environment in general and reflected self-appraisals in particular. Among the most relevant of these are attributions (Weiner, 1986), self-esteem (Brown, 1991), entity versus mastery orientation (Dweck & Leggett, 1988), self-efficacy (Bandura, 1986), generalized rather than specific others (Felson, 1989), and evaluator competence (Felson & Reed, 1986). A first step towards understanding the formation of reflected self-appraisals relevant to body image will require consideration of these factors.

Self-esteem was found to have direct effects on reflected appraisals, body image, and dieting. However, this study was not able to determine directionality or causality. The issues of directionality and causality in regards to self-esteem are highly controversial areas in the self-esteem literature. Researchers are divided on whether self-esteem causes (Brown & Dutton, 1995) or is caused by (Harter, 1990) more specific self-appraisals or perceptions of appraisals of others. In regards to reflected appraisals and body image, it

might be that low self-esteem causes even innocuous body-relevant comments to be interpreted negatively, or it might be that negative reflected appraisals and negative body image lead to or contribute to low self-esteem. Both paths may also operate simultaneously.

Self-esteem's direct link to dieting also needs further elaboration. Although it is conceivable that self-esteem does directly lead to dieting it appears at least as probable that self-esteem exerts its effects through a mediator that was not measured in the present study. For example, low self-esteem may lead to conformity, and conformity may in turn lead to dieting in certain peer and cultural groups. Future research should attempt to identify such potential mediators.

Both past research and the current research has shown that although a large number of persons with negative body image will ultimately diet, not all will. There must be both protective and exacerbating factors that affect this linkage. Identification of these factors through a search for interactions with body image in the prediction of dieting will provide an important start in designing treatments and interventions.

The present model could be the initial piece in a more comprehensive model measuring the development of negative body image and dieting in children. In particular, the next step would be to test the model longitudinally in order to truly measure causality and development of negative body image and dieting. Another step would be to integrate eating disorders into the model to see which steps might then lead to future eating

disorders. It will also be important to incorporate fathers into the model to determine their potential role in daughters' body attitudes and eating. The body images and eating behaviors of boys should also be studied. Finally, this model should be tested, and modified as necessary, for different ethnic groups to determine if different paths lead to the development of negative body image and dieting in non-Caucasian children.

Implications for Treatment and Prevention

The current research has shown that mothers have the ability to influence their daughters' body images and eating behaviors. This information could prove useful for prevention and treatment programs targeting negative body image, which generally have not been successful (Killen et al., 1993). Such programs have been school-based and have incorporated curriculum in the classroom. The current research found that mothers exert both direct and indirect effects on their daughters' body images and dieting. The relationship between mothers' and daughters' body images and dieting was particularly strong, suggesting that it might be extremely difficult to prevent young girls from developing negative body images or dieting behaviors while their own mothers have negative body images or are dieting. For a successful prevention program, mothers will need to be taught about their influences on their daughters and encouraged to modify their behaviors around their daughters. Mothers will also need to understand that their critical remarks might negatively impact their daughters subsequent bodily attitudes and behaviors.

The current research also suggests that it might be fruitful to teach girls to disregard their mothers' body-related negative appraisals and dieting behaviors. This is, however, an unrealistic and controversial expectation to impose onto young girls.

Another approach might be to target reflected appraisals. Because reflected appraisals are only somewhat related to actual parental appraisals, it might be possible to nurture positive reflected appraisals even in girls whose mothers criticize their daughters' bodies. Likewise, prevention programs could add components targeted at increasing girls' overall self-esteem, as self-esteem also had direct effects on both body image and dieting.

Limitations of the Current Study

Although this study has provided a preliminary model of negative body image and dieting, several limitations must be noted. Namely, the research design is not experimental and so does not allow the interpretation of directionality or causality.

Although this research was nominally able to parcel out the direct versus indirect effects of each variable, the relationships remain strictly correlational. For instance, although we know that self-esteem is related to reflected appraisals, we cannot attribute any causality to that relationship based on strictly correlational evidence.

The limited number of subjects, large number of independent variables, and high correlations between these variables makes interpretation of the regression coefficients somewhat problematic. However, the fact that the results were substantially similar whether variables were entered into the regression equations simultaneously or in a

stepwise fashion suggests that the ratio of independent variables to subjects is less serious than might be expected.

Method variance must also be considered. Daughter's self-reports of dieting were predicted by daughters self-reports of body image and daughter's self-reports of self-esteem. Daughter's self-reported body image was predicted by daughter's self-reports of reflected appraisals and daughter's self-reports of self-esteem. Finally, daughter's self-reports of reflected appraisals were predicted by daughter's self-reports of self-esteem. All these predictive relationships might be due to similarities in the act of daughter's self-reporting rather than relationships in the underlying constructs. Future research could address this issue through the use of objective or parental measures of dieting, and through inclusion of logically unrelated daughter self-report measures as controls.

However, the problem is not as severe as it sounds. First, mother-completed self-report measures also show strong, independent predictive power to reflected appraisals, body image, and dieting. Second, although objective measures did not show independent paths to the dependent variables, they were strongly related at the zero-order level. Daughter's objective body mass index, for example, was just as strongly related to self-reported reflected appraisals as was self-reported self-esteem. Clearly, relationships due to factors other than method variance were present. Finally, method variance would be shared in common by all daughter self-report measures. Simultaneous regression partials out common variance. If two variables, such as self-esteem and reflected appraisals, were primarily related due to common method variance, then it would be unlikely that both

would emerge as independent predictors in a simultaneous regression because both could not have independent effects. Yet, both of these factors strongly predicted body image. Method variance is of more concern for zero-order correlations than for partial correlations.

References

Adams, P.J., Katz, R.C., Beauchamp, K., & Cohen, E. (1993). Body dissatisfaction, eating disorders, and depression: A developmental perspective. *Journal of Child and Family Studies*, 2(1), 37-46.

Ahmad, S., Waller, G., & Verduyn, C. (1994). Eating attitudes among Asian schoolgirls: The role of perceived parental control. *International Journal of Eating Disorders*, 15(1), 91-97.

Alsaker, F.D. (1992). Pubertal timing, overweight, and psychological adjustment. *Journal of Early Adolescence*, 12(4), 396-419.

Altabe, M., & Thompson, J.K. (1993). Body image changes during early adulthood. *International Journal of Eating Disorders*, 13(3), 323-328.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Amsterdam, B. (1972). Mirror self-image reactions before age two. *Developmental Psychobiology*, 5, 297-305.

Anderson, A.E., & DiDomenico, L. (1992). Diet vs. shape content of popular male and female magazines: A dose-response relationship to the incidence of eating disorders? *International Journal of Eating Disorders*, 11(3), 283-287.

Anderson, I.M., Parry-Billings, M., Newsholme, E.A., Fairburn, C.G., & Cowen, P.J. (1990). Dieting reduces plasma tryptophan and alters brain 5-HT function in women. *Psychological Medicine*, 20, 785-791.

Apter, A., Shah, M.A., Iancu, I., & Abramovitch, H. (1994). Cultural effects on eating attitudes in Israeli subpopulations and hospitalized anorexics. *Genetic, Social, & General Psychology Monographs*, 120(1), 83-99.

Attie, I., & Brooks-Gunn, J. (1989). Development of eating problems in adolescent girls: A longitudinal study. *Developmental Psychology*, 25(1), 70-79.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bell, C., Kirkpatrick, S.W., & Rinn, R.C. (1986). Body image of anorexic, obese, and normal females. *Journal of Clinical Psychology, 42*(3), 431-439.

Bem, D.J. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review, 74*, 183-200.

Betz, N.E., Mintz, L., & Speakmon, G. (1994). Gender differences in the accuracy of self-reported weight. *Sex Roles, 30*(7-8), 543-552.

Blythe, D.A. (1981). The effects of physical development on self-image and satisfaction with body image for early adolescent males. *Research in Community and Mental Health, 2*, 43-73.

Boskind-Lodahl, M. (1976). Cinderella's stepsisters: A feminist perspective on anorexia nervosa and bulimia. *Signs, 2*(2), 342-356.

Brockner, J. (1984). Low self-esteem and behavioral plasticity: Some implications for personality and social psychology. In L. Wheeler (Ed.), *Review of Personality and Social Psychology* (Vol. 4, pp.237-271). Beverly Hills: Sage.

Brodie, D.A., Bagley, K., & Slade, P.D. (1994). Body image perception in pre and postadolescent females. *Perceptual and Motor Skills, 78*(1), 147-154.

Brotman, A.W., Rigotti, N.A., & Herzog, D.B. (1985). Medical complications of eating disorders: Outpatient evaluation and management. *Comprehensive Psychiatry, 26*(3), 258-272.

Broughton, J. (1978). Development of concepts of self, mind, reality, and knowledge. *New Directions for Child Development, 1*, 75-100.

Brown, J.D. (1991). Accuracy and bias in self-knowledge. In C.R. Snyder & D.F. Forsyth (Eds.), *Handbook of social and clinical psychology: The Health Perspective* (pp. 158-178). New York: Pergamon.

Brown, J.D., & Dutton, K.A. (in press). From the top-down: Self-Esteem and self-evaluation. *Journal of Personality and Social Psychology*.

Brown, T.A., Cash, T.F., & Lewis, R.J. (1989). Body image disturbances in adolescent female binge-purgers: A brief report of the results of a national survey in the U.S.A. *Journal of Child Psychology and Psychiatry, 30*(4), 605-613.

Brownell, K.D. (1993). Whether obesity should be treated. *Health Psychology, 12*(5), 339-341.

Bunnell, D.W., Cooper, P.J., Hertz, S., & Shenker, I.R. (1992). Body shape concerns among adolescents. *International Journal of Eating Disorders*, *11*(1), 79-83.

Butler, J.C., & Ryckman, R.M. (1993). Perceived and ideal physiques in male and females university students. *Journal of Social Psychology*, *133*(5), 751-752.

Cash, T.F., & Brown, T.A. (1989). Gender and body images: Stereotypes and realities. *Sex Roles*, *21*(5-6), 361-373.

Cavior, N., & Lombardi, D.A. (1973). Developmental aspects of judgement of physical attractiveness in children. *Developmental Psychology*, *8*(1), 67-71.

Clifford, E. (1971). Body satisfaction in adolescence. *Perceptual and Motor Skills*, *33*(1), 119-125.

Cohn, L.D., Adler, N.F., & Irwin, C.F. (1987). Body-figure preferences in male and female adolescents. *Journal of Abnormal Psychology*, *96*(3), 276-279.

Collins, M.E. (1991). Body figure perceptions and preferences among preadolescent children. *International Journal of Eating Disorders*, *10*(2), 199-208.

Cok, F. (1990). Body image satisfaction in Turkish adolescents. *Adolescence*, *25*(98), 409-413.

Cooley, C.H. (1902). *Human nature and the social order*. New York: Charles Scribner's Sons.

Cooper, P.J., & Fairburn, C.G. (1992). The depressive symptoms of bulimia nervosa. *British Journal of Psychiatry*, *158*, 348-354.

Damon, W., & Hart, D. (1982). The development of self-understanding from infancy through adolescence. *Child Development*, *53*, 841-864.

Davies, E., & Furnham, A. (1986). The dieting and body shape concerns of adolescent females. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, *27*(3), 417-428.

DiNicola, V.F., Roberts, N., & Oke, L. (1989). Eating and mood disorders in young children. *Psychiatric Clinics of North America*, *12*(4), 873-893.

- Dion, K.K. (1973). Young children's stereotyping of facial attractiveness. *Developmental Psychology, 9*(2), 183-188.
- Dixon, J.C. (1957). Development of self-recognition. *Journal of General Psychology, 91*, 251-256.
- Dolan, B.M., Lieberman, S., Evans, C., & Lacey, M.H. (1990). Family features associated with normal body weight bulimia. *International Journal of Eating Disorders, 9*(6), 639-647.
- Drewnowski, A., Kurth, C.L., & Krahn, D.D. (1995). Effects of body image on dieting, exercise, and anabolic steroid use in adolescent males. *International Journal of Eating Disorders, 17*(4), 381-386.
- Duchmann, E.G., Williamson, D.A., & Stricker, P.M. (1989). Bulimia, dietary restraint, and concern for dieting. *Journal of Psychopathology and Behavioral Assessment, 11*(1), 1-13.
- Dweck, C.S., & Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*(2), 256-273.
- Eisele, M., Hertsgaard, D., & Light, H.K. (1986). Factors related to eating disorders in young adolescent girls. *Adolescence, 21*(86), 283-290.
- Fabian, L.J., & Thompson, K.J. (1989). Body image and eating disturbance in young females. *International Journal of Eating Disorders, 8*(1), 63-74.
- Fallon, A.E., & Rozin, P. (1985). Sex differences in perceptions of desirable body shape. *Journal of Abnormal Psychology, 94*(1), 102-105.
- Famuyima, O.O. (1988). Anorexia nervosa in two Nigerians. *Acta Psychiatrica Scandinavica, 78*(5), 550-554.
- Feldman, W., Feldman, M.A., & Goodman, J.T. (1988). Culture versus biology: Children's attitudes towards thinness and fatness. *Pediatrics, 81*, 190-194.
- Felson, R.B. (1989). Parents and the reflected appraisal process: A longitudinal analysis. *Journal of Personality and Social Psychology, 56*(6), 965-971.
- Felson, R.B. (1985). Reflected appraisal and the development of self. *Social Psychology Quarterly, 48*(1), 71-78.

Felson, R.B., & Reed, M. (1986). The effect of parents on the self-appraisals of children. *Social Psychology Quarterly*, 49(4), 302-308.

Field, A.E., Wolf, A.M., Herzog, D.B., & Cheung, L. (1993). The relationship of caloric intake to frequency of dieting among preadolescent and adolescent girls. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(6), 1246-1252.

Folk, L., Pedersen, J., & Cullari, S. (1993). Body satisfaction and self-concept of third- and sixth-grade students. *Perceptual and Motor Skills*, 76(2), 547-553.

Freedman, R.J. (1984). Reflections on beauty as it relates to health in adolescent females. *Women and Health*, 9(2-3), 29-45.

Furnham, A., & Baguma, P. (1994). Cross-cultural differences in the evaluation of male and females body shapes. *International Journal of Eating Disorders*, 15(1), 81-89.

Furnham, A., & Greaves, N. (1994). Gender and locus of control correlates of body image dissatisfaction. *European Journal of Personality*, 8(3), 183-200.

Garfinkel, P.E., Garner, D.M., & Goldbloom, D.S. (1987). Eating disorders: Implications for the 1990's. *Canadian Journal of Psychiatry*, 32(7), 624-631.

Garfinkel, P.E., Goldbloom, D., Davis, R., Olmsted, M.P., Garner, D.M., & Halmi, K.A. (1992). Body dissatisfaction in bulimia nervosa: Relationship to weight and shape concerns and psychological functioning. *International Journal of Eating Disorders*, 11(2), 151-161.

Garner, D.M., Garfinkel, P.E., Schwartz, D., & Thompson, M. (1980). Cultural expectations of thinness in women. *Psychological Reports*, 47(2), 483-491.

Garner, D.M., Garner, M.V., & Van-Egeren, L.F. (1992). Body dissatisfaction adjusted for weight: The Body Illusion Index. *International Journal of Eating Disorders*, 12(3), 263-271.

Gorn, G.J., & Florsheim, R. (1985). The effects of commercials for adult products on children. *Journal of Consumer Research*, 11(4), 962-967.

Gralen, S.J., Levine, M.P., Smolak, L., & Murnen, S.K. (1990). Dieting and disordered eating during early and middle adolescence: Do the influences remain the same? *International Journal of Eating Disorders*, 9(5), 501-512.

- Grant, C.L., & Fodor, I.G. (1986). Adolescent attitudes toward body image and anorexic behavior. *Adolescence, 21*(82), 269-281.
- Green, M.W., & McKenna, F.P. (1993). Developmental onset of eating related color-naming interference. *International Journal of Eating Disorders, 13*(4), 391-391.
- Greenfeld, D., Quinlan, D.M., Harding, P., Glass, E., & Bliss, A. (1987). Eating behavior in an adolescent population. *International Journal of Eating Disorders, 6*(1), 99-111.
- Gross, J., & Rosen, J.C. (1988). Bulimia in adolescents: Prevalence and psychosocial correlates. *International Journal of Eating Disorders, 7*(1), 51-61.
- Guyot, G.W., Fairchild, L., & Hill, M. (1981). Physical fitness, sport participation, body build, and self-concept of elementary school children. *International Journal of Sport Psychology, 12*(2), 105-116.
- Hammer, L.D., Kraemer, H.C., Wilson, D.M., Ritter, P.L., & Dornbusch, S.M. (1991). Standardized percentile curves of Body-Mass-Index for children and adolescents. *American Journal of Diet and Calories, 145*, 259-263.
- Harris, S.M. (1994). Racial differences in predictors of college women's body image attitudes. *Women and Health, 21*(4), 89-104.
- Harter, S. (1990). Causes, correlates, and the functional role of global self-worth: A life-span perspective. In R.J. Sternberg & J. Kolligan Jr. (Eds.), *Competence considered* (pp. 67-97). New Haven, CT: Yale University Press.
- Hawley, R.M. (1985). The outcome of anorexia nervosa in younger subjects. *British Journal of Psychiatry, 146*, 657-660.
- Hetherington, M.M., & Burnett, L. (1994). Aging and the pursuit of slimness: Dietary restraint and weight satisfaction in elderly women. *British Journal of Clinical Psychology, 33*(3), 391-400.
- Hill, A.J. (1993). Pre-adolescent dieting: Implications for eating disorders. *International Review of Psychiatry, 5*(1), 87-99.
- Hill, A.J., Draper, E., & Stack, J. (1994). A weight on children's minds: Body shape dissatisfactions at 9-years old. *International Journal of Obesity, 18*, 1-7.

Hill, A.J., Oliver, S., & Rogers, P.J. (1992). Eating in the adult world: The rise of dieting in childhood and adolescence. *British Journal of Clinical Psychology, 31*, 95-105.

Hill, A.J., Rogers, P.J., & Blundell, J.E. (1989). Dietary restraint in young adolescent girls: A functional analysis. *British Journal of Clinical Psychology, 28*, 165-176.

Hill, A.J., Weaver, C., & Blundell, J.E. (1990). Dieting concerns of 10-year-old girls and their mothers. *British Journal of Clinical Psychology, 29*(3), 346-348.

Huenemann, R.L., Shapiro, L.R., Hampton, M.C., & Mitchell, B.W. (1966). A longitudinal study of gross body composition and body conformation and their association with food and activity in a teenage population. *American Journal of Clinical Nutrition, 18*, 325-338.

Huon, G.F. (1994). Dieting, binge eating, and some of their correlates among secondary school girls. *International Journal of Eating Disorders, 15*(2), 159-164.

Huon, G.F., & Brown, L.B. (1989). Assessing bulimics' dissatisfaction with their body. *British Journal of Clinical Psychology, 28*, 283-284.

Irving, L.M. (1990). Mirror images: Effects of the standard of beauty on the self and body-esteem of women exhibiting varying levels of bulimic symptoms. *Journal of Social and Clinical Psychology, 9*(2), 230-242.

Jacobs, B.W., & Isaacs. (1986). Pre-pubertal anorexia nervosa: A retrospective controlled study. *Journal of Child Psychology and Psychiatry, 27*, 237-250.

Jeffery, R.W., Adlis, S.A., & Forster, J.L. (1991). Prevalence of dieting among working men and women: The healthy worker project. *Health Psychology, 10*(4), 274-281.

Kagan, J. (1981). *The second year: The emergence of self-awareness*. Cambridge, Mass: Harvard University Press.

Keller, A., Ford, L.H., & Meacham, J.A. (1978). Dimensions of self-concept in preschool children. *Developmental Psychology, 14*(5), 483-489.

Kenny, D.A., & DePaulo, B.M. (1993). Do people know how others view them? An empirical and theoretical account. *Psychological Bulletin, 114*(1), 145-161.

Killen, J.D., Taylor, C.B., Hammer, L.D., Litt, I., Wilson, D.M., Rich, T., Hayward, C., Simmonds, B., Kraemer, H., & Varady, A. (1993). An attempt to modify unhealthful eating attitudes and weight regulation practices of young adolescent girls. *International Journal of Eating Disorders, 13*(4), 369-384.

Kirkpatrick, S.W., & Sanders, D.M. (1978). Body image stereotypes: A developmental comparison. *Journal of Genetic Psychology, 132*(1), 87-95.

Kishchuk, N., Gagnon, G., Belisle, D., & Laurendeau, M. (1992). Sociodemographic and psychological correlates of actual and desired weight insufficiency in the general population. *International Journal of Eating Disorders, 12*(1), 73-81.

Klassen, M.L., Wauer, S.M., & Cassel, S. (1991). Increases in health and weight loss claims in food advertising in the eighties. *Journal of Advertising Research, 30*(6), 32-37.

Klesges, R.C., Haddock, C.K., Stein, R.J., & Klesges, L.M. (1992). Relationship between psychosocial functioning and body fat in preschool children: A longitudinal investigation. *Journal of Consulting & Clinical Psychology, 60*(5), 793-796.

Knuf, J., & Caughlin, J. (1993). Weighty issues: Semiotic notes on dieting as a secular ritual. *Health Communication, 5*(3), 161-179.

Koff, E., & Rierdan, J. (1991). Perceptions of weight and attitudes toward eating in early adolescent girls. *Journal of Adolescent Health, 12*(4), 307-312.

Koff, E., & Rierdan, J. (1993). Advanced pubertal development and eating disturbance in early adolescent girls. *Journal of Adolescent Health, 14*(6), 433-439.

Kog, E., & Vandereycken, W. (1985). Family characteristics of anorexia nervosa and bulimia: A review of the research literature. *Clinical Psychology Review, 5*(2), 159-180.

Kolody, B., & Sallis, J.F. (1995). A prospective study of ponderosity, body image, self-concept, and psychological variables in children. *Journal of Developmental and Behavioral Pediatrics, 16*(1), 1-5.

Kreipe, R.E., & Forbes, G.B. (1990). Osteoporosis: A "new morbidity" for dieting female adolescents. *Pediatrics, 86*, 478-480.

- Lamb, C.S., Jackson, L.A., Cassiday, P.B., & Priest, D.J. (1993). Body figure preferences of men and women: A comparison of two generations. *Sex Roles, 28*(5-6), 345-358.
- Lask, B., & Bryant-Waugh, R. (1992). Early-onset anorexia nervosa and related eating disorders. *Journal of Child Clinical Psychiatry, 33*(1), 281-300.
- Lawrence, C.M., & Thelen, M.H. (1995). Body image, dieting, and self-concept: Their relation in African-American and Caucasian children. *Journal of Clinical Child Psychology, 24*(1), 41-48.
- Lawson, M.C. (1980). Development of body build stereotypes, peer ratings, and self-esteem in Australian children. *Journal of Psychology, 104*(1), 111-118.
- Lee, S. (1993). How abnormal is the desire for slimness? A survey of eating attitudes and behavior among Chinese undergraduates in Hong Kong. *Psychological Medicine, 23*(2), 437-451.
- Lee, S., Chiu, H.F., & Chen, C. (1989). Anorexia nervosa in Hong Kong: Why not more in Chinese? *British Journal of Psychiatry, 154*, 683-688.
- Lerner, R.M., & Gellert, E. (1969). Body build identification, preference, and aversion in children. *Developmental Psychology, 1*(5), 456-462.
- Levine, M.P., Smolak, L., & Hayden, H. (1994). The relation of sociocultural factors to eating attitudes and behaviors among middle school girls. *Journal of Early Adolescence, 14*(4), 471-490.
- Levine, M.P., Smolak, L., Moodey, A.F., Shuman, M.D., & Hessen, L.D. (1994). Normative developmental challenges and dieting and eating disturbance in middle school girls. *International Journal of Eating Disorders, 15*(1), 11-20.
- Levinson, R., Powell, B., & Stellman, L.C. (1986). Social location, significant others and body image among adolescents. *Social Psychology Quarterly, 49*(4), 330-337.
- Lewis, M., & Brooks-Gunn, J. (1979). *Social Cognition and the Acquisition of Self*. New York: Plenum Press.
- Livesly, W.J., & Bromley, D.B. (1973). *Person Perception in Childhood and Adolescence*. New York: Wiley.

Lundholm, J.K., & Littrell, J.M. (1986). Desire for thinness among high school cheerleaders: Relationship to disordered eating and weight control behaviors. *Adolescence, 21*, 573-579.

Mallick, M.J. (1983). Health hazards of obesity and weight control in children: A review of the literature. *American Journal of Public Health, 73*, 78-82.

Mallick, M.J., Whipple, T.W., & Huerta, E. (1987). Behavioral and psychological traits of weight-conscious teenagers: A comparison of eating disordered patients and high and low risk groups. *Adolescence, 22*(85), 157-168.

Maloney, M.J., & Klykylo, W.M. (1983). An overview of anorexia nervosa, bulimia, and obesity in children and adolescents. *Journal of the American Academy of Child Psychiatry, 22*(2), 99-107.

Maloney, M.J., McGuire, J.B., Daniels, S.B., & Specker, B. (1989). Dieting behavior and eating attitudes in children. *Pediatrics, 84*, 482-489.

McAllister, R., & Caltabiano, M.L. (1994). Self-esteem, body image and weight in noneating-disordered women. *Psychological Reports, 75* (3, Pt 1), 1339-1343.

McCabe, M., & Marwit, S.J. (1993). Depressive symptomatology, perceptions of attractiveness, and body image in children. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 34*(7), 1117-1124.

McGrory, A. (1990). Menarche: Responses of early adolescent females. *Adolescence, 25*(98), 265-270.

McKie, L.J., Wood, R.C., Gregory, S. (1993). Women defining health: Food, diet and body image. *Health Education Research, 8*(1), 35-41.

Mead, G.H. (1934). *Mind, self, and society*. Chicago, IL: University of Chicago Press.

Mellin, L.M., Irwin, C.E. Jr., & Scully, S. (1992). Disordered eating characteristics in girls: A survey of middle class children. *Journal of the American Dietetic Association, 92*, 851-853.

Mendelson, B.K., & White, D.R. (1982). Relation between body-esteem and self-esteem of obese and normal children. *Perceptual & Motor Skills, 54*(3), 899-905.

Mitchell, J.E., Specker, S.M., & deZwaan, M. (1991). Comorbidity and medical complications of bulimia nervosa. Annual Meeting of the American Psychiatric Association, Symposium: Recent advances in bulimia nervosa (1991, New Orleans, Louisiana). *Journal of Clinical Psychiatry*, 52(Supplement), 13-20.

Moreno, A., & Thelen, M.H. (1993). Parental factors related to bulimia nervosa. *Addictive Behaviors*, 18, 681-689.

Mukai, T., Crago, M., & Shisslak, C.M. (1994). Eating attitudes and weight preoccupation among high school students in Japan. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 35(4), 677-688.

Najjar, M.F., & Rowland, M. (1987). *Anthropomorphic reference data and prevalence of overweight: US 1976-1980* (Department of Health, Education and Welfare Publication No. 87-1688, Vital and Health Statistics, Series 11). Hyattsville, MD: National Center for Health Statistics,.

Nassar, C.M., Hodges, P., & Ollendick, T. (1992). Self-concept, eating attitudes and dietary patterns in young adolescent girls. *The School Counselor*, 39, 338-343.

Nasser, M. (1988). Culture and weight consciousness: 31st Annual Conference of the Society for Psychosomatic Research. *Journal of Psychosomatic Research*, 32(6), 573-577.

Nasser, M. (1994). Screening for abnormal eating attitudes in a population of Egyptian secondary school girls. *Social Psychiatry and Psychiatric Epidemiology*, 29(1), 25-30.

Nichter, M., & Nichter, M. (1991). Hype and weight. (Special Issue: Bigger is better? Biocultural dynamics of body shape). *Medical Anthropology*, 13(3), 249-284.

Ohtahara, H., Ohzeki, T., Hanaki, K., Motozumi, H., & Shiraki, K. (1993). Abnormal perception of body weight is not solely observed in pubertal girls: Incorrect body image in children and its relationship to body weight. *Acta Psychiatrica Scandinavica*, 87, 218-222.

Ordman, A.M., & Kirschenbaum D.S. (1986). Bulimia: Assessment, of eating, psychological adjustment, and familial characteristics. *International Journal of Eating Disorders*, 5(5), 865-878.

Page, R.M. (1991). Indicators of psychosocial distress among adolescent females who perceive themselves as fat. *Child Study Journal*, 21(3), 203-212.

Patton, G.C., Johnson, S.E., Wood, K., & Mann, A.H. (1990). Abnormal eating attitudes in London schoolgirls: A prospective epidemiological study: Outcome at twelve month follow-up. *Psychological Medicine*, 20(2), 383-394.

Paxton, S.J., Wertheim, E.H., Gibbons, K., Szmukler, G.I., Hillier, L., & Petrovich, J.L. (1991). Body image satisfaction, dieting beliefs, and weight loss behaviors in adolescent girls and boys. *Journal of Youth and Adolescence*, 20(3), 361-379.

Perloff, R.M., Brown, J.D., & Miller, M.M. (1982). Mass media and sex-typing: Research perspectives and policy implications. *International Journal of Women's Studies*, 5(3), 265-273.

Perry-Hunnicut, C., & Newman, I.M. (1993). Adolescent dieting practices and nutrition knowledge. *Health Values: The Journal of Health Behavior, Education & Promotion*, 17(4), 35-40.

Pike, K.M., & Rodin, J. (1991). Mothers, daughters, and disordered eating. *Journal of Abnormal Psychology*, 100(2), 198-204.

Phelps, L., Johnston, L.S., Jimenez, D.P., & Wilczenski, F.L. (1993). Figure preference, body dissatisfaction, and body distortion in adolescence. *Journal of Adolescent Research*, 8(3), 297-310.

Polivy, J., & Herman, C.P. (1985). Dieting as a problem in behavioral medicine. *Advanced Behavioral Medicine*, 1, 1-37.

Pomeroy, C., & Mitchell, J.E. (1989). Medical complications and management of eating disorders (Special Issue: Eating disorders). *Psychiatric Annals*, 19(9), 488-493.

Prentice, A.W., Goldberg, G.R., Jebb, S.A., Black, A.E., Murgatroyd, P.R., & Diaz, E.O. (1991). Physiological responses to slimming. *Proceedings of the Nutrition Society*, 50, 441-458.

Pugliese, H.T., Lifshitz, F., Grad, G., Fort, P., & Marks-Katz, M. (1983). Fear of obesity: A cause of short stature and delayed puberty. *New England Journal of Medicine*, 309, 513-518.

Pumariega, A.J. (1986). Acculturation and eating attitudes in adolescent girls: A comparative and correlational study. *Journal of the American Academy of Child Psychiatry*, 25(2), 276-279.

- Raich, R.M., Rosen, J.C., Deus, J., Perez, O., Requena, A., & Gross, J. (1992). Eating disorder symptoms among adolescents in the United States and Spain: A comparative study. *International Journal of Eating Disorders*, 11(1), 63-72.
- Richards, M.H., Casper, R.C., & Larson, R.W. (1990). Weight and eating concerns among pre- and young adolescent boys and girls. *Journal of Adolescent Health Care*, 11(3), 203-209.
- Rierdan, J., Koff, E., & Stubbs, M.L. (1989). A longitudinal analysis of body image as a predictor of the onset and persistence of adolescent girls' depression. *Journal of Early Adolescent*, 9(4), 454-466.
- Rodriguez-Tome, H., Bariaud, F., Cohen Zardi, M.F., & Delmas, C., (1993). The effects of pubertal changes on body image and relations with peers of the opposite sex in adolescence. *Journal of Adolescence*, 16(4), 421-438.
- Rogers, P.J., Edwards, S., Green, M.W., & Jas, P. (1992). Nutritional influences on mood and cognitive performance: The menstrual cycle, caffeine and dieting. *Proceedings of the Nutrition Society*, 51, 343-351.
- Rosen, J.C., & Gross, J. (1987). Prevalence of weight reducing and weight gaining in adolescent girls and boys. *Health Psychology*, 6(2), 131-147.
- Rosen, L.W., Shafer, C.L., Dummer, G.M., Cross, L.K., Deuman, G.W., & Malmberg, S.R. (1988). Prevalence of pathogenic weight-control behaviors among Native American women and girls. *International Journal of Eating Disorders*, 7(6), 807-811.
- Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.
- Rucker, C.E., & Cash, T.F. (1992). Body images, body-size perceptions, and eating behaviors among African-American and White college women. *International Journal of Eating Disorders*, 12(3), 291-299.
- Salmons, P.H., Lewis, V.J., Rogers, P., Gatherer, A.J.H., & Booth, D.A. (1988). Body shape dissatisfaction in schoolchildren. *British Journal of Psychiatry*, 153 (suppl. 2), 27-31.
- Secord, P., & Peevers, B. (1974). The development and attribution of person concepts. In T. Mischel (Ed.), *Understanding other persons* (pp. 87-132). Oxford: Blackwell.

- Selman, R. (1980). *The growth of interpersonal understanding*, New York: Academic Press.
- Shrauger, J.S., & Schoeneman, T.J. (1979). Symbolic interactionist view of self-concept: Through the looking glass darkly. *Psychological Bulletin*, 86(3), 549-573.
- Silberstein, L.R., Striegel-Moore, R.H., Timko, C., & Rodin, J. (1988). Behavioral and psychological implications of body dissatisfaction: Do men and women differ? *Sex Roles*, 19(3-4), 219-232.
- Slade, P.D. (1994). What is body image? *Behavioral Research and Therapy*, 32(5), 497-502.
- Smith, D.E., & Cogswell, C. (1994). A cross-cultural perspective on adolescent girls' body perception. *Perceptual and Motor Skills*, 78(3, Pt 1), 744-746.
- Smith, J.E., & Krejci, J. (1991). Minorities join the majority: Eating disturbances among Hispanic and Native American Youth. *International Journal of Eating Disorders*, 10(2), 108-121.
- Snow, J.T., & Harris, M.B. (1986). An analysis of weight and diet content in five women's interest magazines. *Journal of Obesity and Weight Regulation*, 5(4), 194-214.
- Stager, S.F., & Burke, P.J. (1982). A reexamination of body build stereotypes. *Journal of Research in Personality*, 16(4), 435-446.
- Steiger, H., Leung, F.Y.K., Puentes-Neuman, G., & Gottheil, N. (1992). Psychosocial profiles of adolescent girls with varying degrees of eating and mood disturbances. *International Journal of Eating Disorders*, 11(2), 121-131.
- Stein, D.M., & Brinza, S.R. (1989). Bulimia: Prevalence estimates in female junior high and high school students. *Journal of Clinical Child Psychology*, 18(3), 206-213.
- Stice, E., Schupak-Neuberg, E., Shaw, H.E., & Stein, R.I. (1994). Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology*, 103(4), 836-840.
- Stice, E., & Shaw, H.E. (1994). Adverse effects of the media portrayed thin ideal on women and linkages to bulimic symptomatology. *Journal of Social & Clinical Psychology*, 13(3), 286-308.

Story, M.D. (1979). Factors associated with more positive body self-concepts in preschool children. *The Journal of Social Psychology, 108*, 49-56.

Streigel-Moore, R.H., Silberstein, L.R., & Rodin, J. (1986). Toward an understanding of risk factors for bulimia. *American Psychologist, 41*(3), 246-263.

Stunkard, A.J., Sorenson, T., & Schulsinger, F. (1983). Use of the Danish adoption register for the study of obesity and thinness. In S.S. Kety, L.P. Rowland, R.L. Sidman, & S.W. Matthysse (Eds.), *Genetics of neurological and psychiatric disorders* (pp. 115-120). New York: Raven Press.

Thelen, M.H., & Cormier, J.F. (1995). Desire to be thinner and weight control among children and their parents. *Behavior Therapy, 26*, 85-99.

Thelen, M.H., Powell, A.L., Lawrence, C., & Kuhnert, M.E. (1992). Eating and body image concerns among children. *Journal of Clinical Child Psychology, 21*(1), 41-46.

Thompson, J.K. (1991). Body shape preferences: Effects of instructional protocol and level of eating disturbance. *International Journal of Eating Disorders, 10*(2), 193-198.

Tienboon, P., Rutishauser-Ingrid, H.E., & Wahlqvist, M.L. (1994). Adolescents' perception of body weight and parents' weight for height status. *Journal of Adolescent Health, 15*(3), 263-268.

Tiggemann, M., & Pennington, B. (1990). The development of gender differences in body size dissatisfaction. *Australian Psychologist, 25*(3), 306-313.

Toro, J., Salamero, M., & Martinez, E. (1994). Assessment of sociocultural influences on the aesthetic body shape model in anorexia nervosa. *Acta Psychiatrica Scandinavica, 89*(3), 147-151.

Wardle, J., Bindra, R., Fairclough, B., & Westcombe, A. (1993). Culture and body image: Body perception and weight concern in young Asian and Caucasian British women. *Journal of Community and Applied Social Psychology, 3*(3), 173-181.

Wardle, J., & Marsland, L. (1990). Adolescent concerns about weight and eating; a social-developmental perspective. *Journal of Psychosomatic Research, 34*(4), 377-391.

Warren, W. (1968). A study of anorexia nervosa in young girls. *Journal of Child Psychology and Psychiatry*, 9, 27-40.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.

White, J.H. (1992). Women and eating disorders: Developmental, familial, and biological risk factors. *Health Care for Women International*, 13(4), 363-373.

Wiseman, C.V., Gray, J.J., Mosimann, J.E., & Ahrens, A.H. (1992). Cultural expectations of thinness in women: An update. *International Journal of Eating Disorders*, 11(1), 85-89.

Woodside, D.B., & Garfinkel, P.E. (1992). Age of onset in eating disorders. *International Journal of Eating Disorders*, 12(1), 31-36.

Wylie, R. (1974). *The self-concept: A review of methodological considerations and measuring instruments* (Rev. ed. Vol. 1). Lincoln, NE: University of Nebraska Press.

Zuckerman, D.M., Singer, D.G., & Singer, J.L. (1980). Children's television viewing, racial and sex-role attitudes. *Journal of Applied Social Psychology*, 10(4), 281-294.

Appendix A: Demographic Data

1. Your age _____
2. Your birthdate _____
3. Daughter's age _____
4. Daughter's birthdate _____
5. Your ethnicity:
_____ African-American _____ Asian (specify: _____)
_____ Latina _____ Native American
_____ Pacific Islander _____ Caucasian
_____ Mixed race (specify: _____)
_____ other (specify: _____)
6. Daughter's ethnicity:
_____ African-American _____ Asian (specify: _____)
_____ Latina _____ Native American
_____ Pacific Islander _____ Caucasian
_____ Mixed race (specify: _____)
_____ other (specify: _____)
7. Relationship to daughter:
_____ adoptive mother _____ biological mother
_____ step mother _____ other (specify: _____)
8. Number of years you have lived with your daughter _____
9. Marital Status:
_____ single _____ separated
_____ divorced _____ widowed
_____ married to daughter's biological father
_____ married, but not to daughter's biological father
_____ living with daughter's biological father, but not married
_____ living with a romantic partner, but not married
_____ have a romantic partner, but we are not living together
10. Who lives in your home besides you and your daughter?
a. Number of children _____
b. Number of adults _____
11. Approximate yearly household income (optional: just for our records)
_____ under 10,000 _____ 10,000-20,000
_____ 21,000-30,000 _____ 31,000-40,000
_____ 41,000-50,000 _____ 51,000-75,000
_____ 76,000-100,000 _____ above 100,000
12. Your highest level of education:
_____ some elementary school _____ some high school
_____ graduated high school _____ some college
_____ 2 yr college degree _____ Bachelor's Degree
_____ Master's Degree _____ Law Degree
_____ Doctorate or Medical Degree
13. Your current occupation: _____
14. Spouse or partner's current occupation: _____ (if applicable)
15. Your height _____ (please be as accurate as possible)
16. Your weight _____ (please be as accurate as possible)
17. Has your daughter had her first menstrual period? ___ Yes ___ No ___ Don't Know

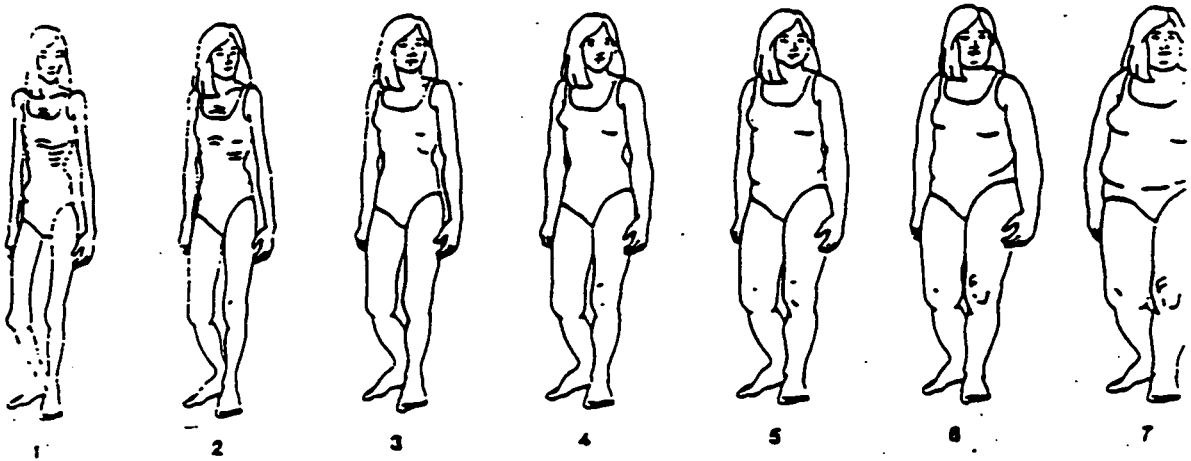
Appendix B: Parent Body Image Scale

Circle the answer that best describes you:

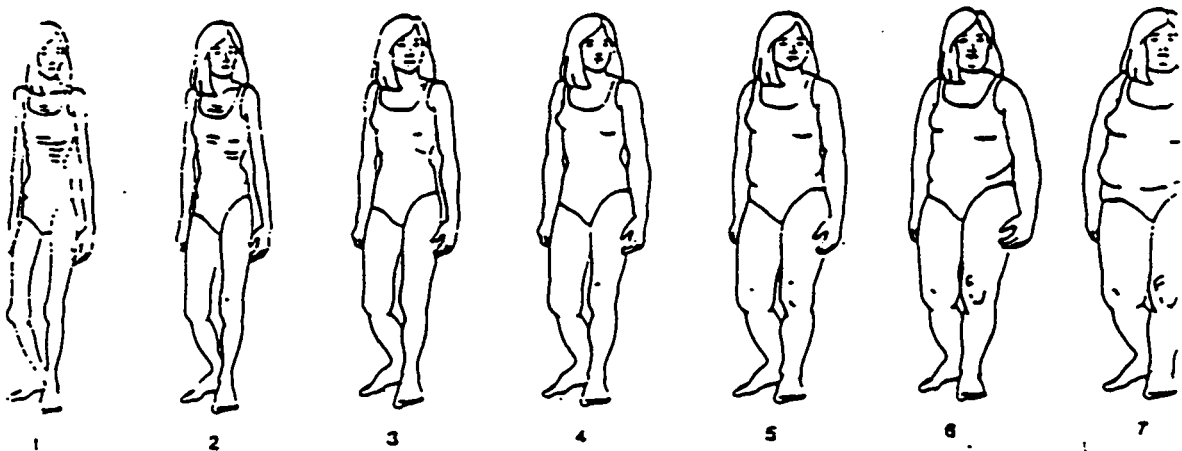
- | | | | |
|-----|--|-----|----|
| 1. | I like what I look like in pictures. | Yes | No |
| 2. | People my own age like my looks. | Yes | No |
| 3. | I'm pretty happy about the way I look. | Yes | No |
| 4. | Most people have a nicer body than I do. | Yes | No |
| 5. | My weight makes me unhappy. | Yes | No |
| 6. | I like what I see when I look in the mirror. | Yes | No |
| 7. | I wish I weighed a lot less. | Yes | No |
| 8. | There are lots of things I'd change about my looks if I could. | Yes | No |
| 9. | I'm proud of my body. | Yes | No |
| 10. | I really like what I weigh. | Yes | No |
| 11. | I wish I looked better. | Yes | No |
| 12. | I often feel ashamed of how I look. | Yes | No |
| 13. | Other people make fun of how I look. | Yes | No |
| 14. | I think I have a good body. | Yes | No |
| 15. | I'm looking as nice as I'd like to. | Yes | No |
| 16. | I often wish I looked like someone else. | Yes | No |
| 17. | My friends/co-workers would like to look like me. | Yes | No |
| 18. | I have a high opinion about the way I look. | Yes | No |
| 19. | My looks upset me. | Yes | No |
| 20. | I'm as nice looking as most people. | Yes | No |
| 21. | My family likes my looks. | Yes | No |
| 22. | I worry about the way I look. | Yes | No |

Appendix C: Parent Pictorial Body Image

How I look:



How I want to look:



Appendix D: Eating Behaviors Questionnaire

Please circle the answer that is true for you.

1. If I feel fat, I try to eat less.
Never Sometimes Very Often

2. I try not to eat foods that might make me fat.
Never Sometimes Very Often

3. I have tried to lose weight.
Never Sometimes Very Often

4. If I have eaten too much, I try to eat less the next day.
Never Sometimes Very Often

5. I try not to eat between meals because I want to be thinner.
Never Sometimes Very Often

6. I try to eat less because I don't want to get fat.
Never Sometimes Very Often

7. I try to get thinner by doing more exercise.
Never Sometimes Very Often

Appendix E: Parent Appraisal Scale

Please circle the best number using this scale:

Stongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly Disagree (5)
----------------------	--------------	----------------	-----------------	--------------------------

1. I like the way my daughter looks.	(1)	(2)	(3)	(4)	(5)
--------------------------------------	-----	-----	-----	-----	-----

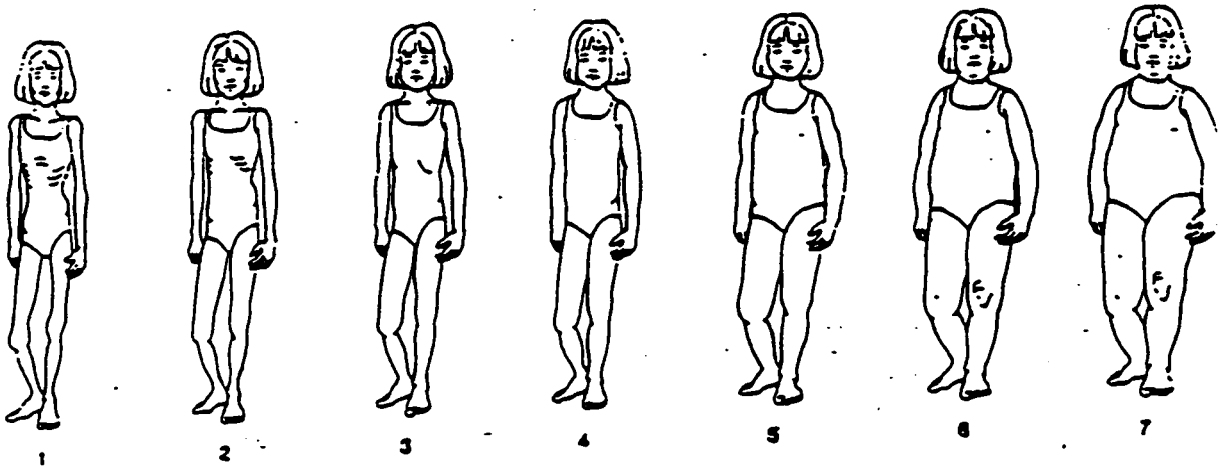
2. I think my daughter should lose some weight.	(1)	(2)	(3)	(4)	(5)
---	-----	-----	-----	-----	-----

3. I think that my daughter has good eating habits.	(1)	(2)	(3)	(4)	(5)
---	-----	-----	-----	-----	-----

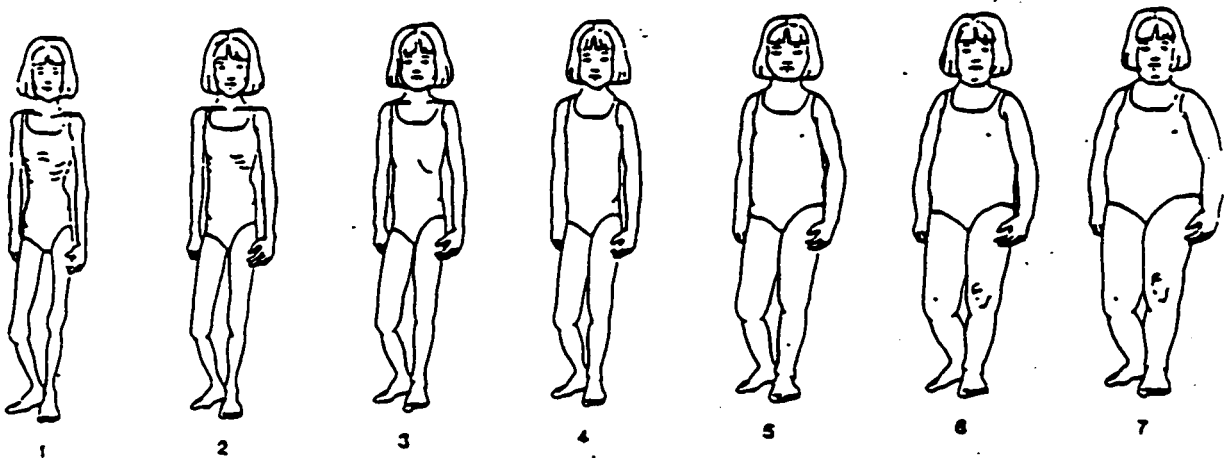
4. I'd like my daughter to exercise more.	(1)	(2)	(3)	(4)	(5)
---	-----	-----	-----	-----	-----

Appendix F: Parent Pictorial Appraisal Scale

How my daughter looks: (circle best number)



How I would like my daughter to look:



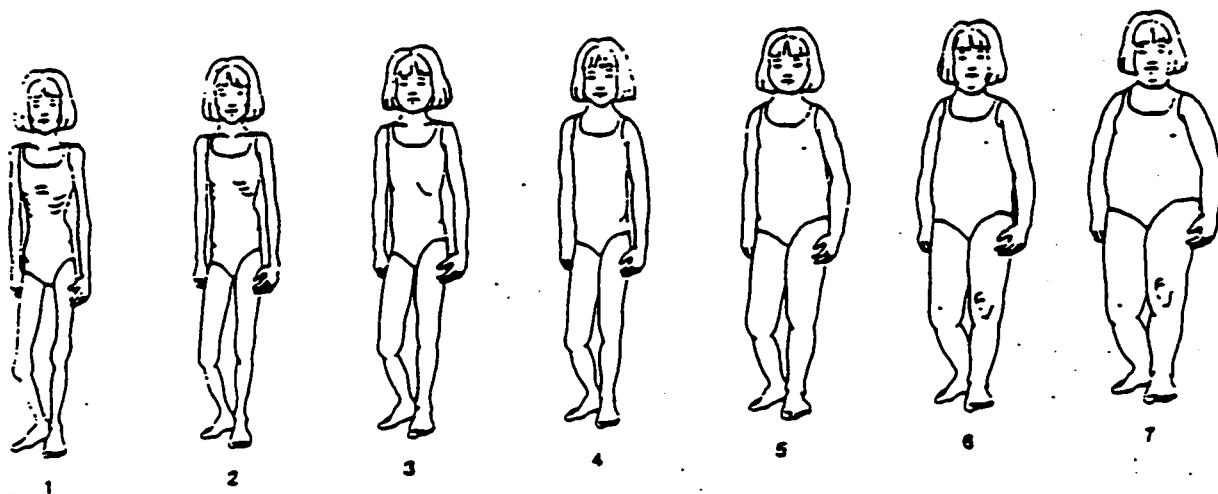
Appendix G: Child Body Image Scale

Circle the answer that best describes you:

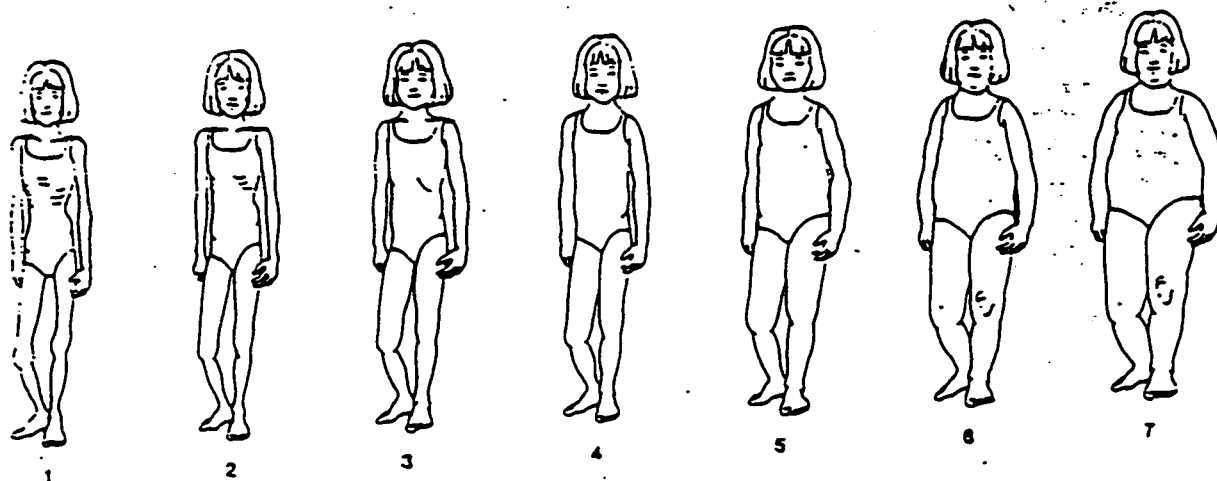
- | | | | |
|-----|--|-----|----|
| 1. | I like what I look like in pictures. | Yes | No |
| 2. | Kids my own age like my looks. | Yes | No |
| 3. | I'm pretty happy about the way I look. | Yes | No |
| 4. | Most people have a nicer body than I do. | Yes | No |
| 5. | My weight makes me unhappy. | Yes | No |
| 6. | I like what I see when I look in the mirror. | Yes | No |
| 7. | I wish I weighed a lot less. | Yes | No |
| 8. | There are lots of things I'd change about my looks if I could. | Yes | No |
| 9. | I'm proud of my body. | Yes | No |
| 10. | I really like what I weigh. | Yes | No |
| 11. | I wish I looked better. | Yes | No |
| 12. | I often feel ashamed of how I look. | Yes | No |
| 13. | Other people make fun of how I look. | Yes | No |
| 14. | I think I have a good body. | Yes | No |
| 15. | I'm looking as nice as I'd like to. | Yes | No |
| 16. | I wish I weighed a lot more. | Yes | No |
| 17. | I often wish I looked like someone else. | Yes | No |
| 18. | My classmates would like to look like me. | Yes | No |
| 19. | I have a high opinion about the way I look. | Yes | No |
| 20. | My looks upset me. | Yes | No |
| 21. | I'm as nice looking as most people. | Yes | No |
| 22. | My parents like my looks. | Yes | No |
| 23. | I worry about the way I look. | Yes | No |

Appendix H: Child Pictorial Body Image

How I look: (circle the best number)



How I want to look:



Appendix I: Rosenberg-Simmons Self-Esteem Scale

Directions: Please circle the best answer.

1. Everybody has some things about him or her which are good, and some things about him or her which are bad. Are more things about you...

Good

Bad

Both about the same

2. Another kid said, "I am no good." Do you ever feel like this?

Yes

No

3. A kid told me: "There's a lot wrong with me." Do you ever feel like this?

Yes

No

4. Another kid said: "I'm not much good at anything." Do you ever feel like this?

Yes

No

5. Another kid said, "I think I am no good at all." Do you ever feel like this?

Yes

No

6. How happy are you with the kind of person you are? Are you...

Pretty happy

A little happy

Not at all happy

Appendix J: Child Pictorial Reflected Appraisals

How my mom wants me to look:



1



2



3



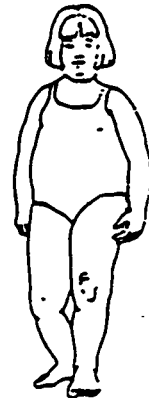
4



5



6



7

Curriculum Vita

Karen E. Lehman

Education:

B.A.	Grinnell College, Grinnell, IA.	5/90	Psychology
M.S.	University of Washington, Seattle, WA	3/93	Child-Clinical Psychology
Ph.D.	University of Washington, Seattle, WA	9/96	Child-Clinical Psychology

Clinical Experience:

Kapiolani Medical Center for Women and Children (9/95 - 8/96) Full-year APA-approved clinical psychology internship training program. Psychotherapy and assessments with children and adults. Supervisors: June W.J. Ching, Ph.D., and Rosemary Adam-Terem, Ph.D.

Psychological Services and Training Center, University of Washington, Seattle WA (1991-present) Conducted various assessments, individual and family therapy with children, adolescents, and adults. Supervisors: Kimberley Barrett, Ph.D., Carla Bradshaw, Ph.D., Wayne Duncan, Ph.D., Corey Fagan, Ph.D., Carol Kusche, Ph.D., Glenn Leichman, Ph.D., Barry Nyman, Ph.D., Albert Paige, Ph.D., Lance Sobel, Ph.D., Theresa Sweeney, Ph.D.

Harborview Medical Center, Seattle, WA; Neuropsychological Testing (1994-Present) Worked as a psychometrist administering full Halsted-Reitan neuropsychological batteries to patients from children to adults. Supervisor: Brenda Townes, Ph.D.

Children's Hospital and Medical Center, Seattle, WA; Department of Rehabilitative Psychology, (1994-present) Worked as a psychometrist administering tests to children and adolescents who had suffered recent head injuries. Supervisor: Deborah Hill, Ph.D.

Adolescent Clinic at the University of Washington Hospital, Seattle, WA (1993-1994). Family therapy team and individual therapy with adolescents, children and adults in a multi-disciplinary setting. Supervisor: Kim Kendall, Ph.D.

Dental Fears Focus Group Leader, University of Washington Dental School, Seattle, WA, (1994). Led two focus groups on the topic of dental fears for a research project. Supervisor: Peter Milgram, D.D.S.

Consultant for a child support group in Seattle, WA (1993-present). A play and support group for children aged 5-12 with a variety of behavioral and emotional difficulties. Supervisor: Barry Nyman, Ph.D.

Children's Hospital and Medical Center, Department of Psychiatry; Seattle, WA (1992-1993). Assessments on inpatient psychiatric children and adolescents. Supervisor: David Breiger, Ph.D.

FAST Track project, Seattle, WA (1991-1992). Co-leader for two weekly parenting skills groups as part of a research project at the University of Washington targeting children aged 6-8 years at risk for developing conduct problems. Supervisor: Robert McMahon, Ph.D.

Teaching Experience:

University of Washington, Course Instructor: Child and Adolescent Behavior Disorders
University of Washington, Teaching Assistant for Graduate Courses: IQ Assessment, Advanced Assessment
University of Washington, Teaching Assistant for Undergraduate Courses: Human Sexuality, Abnormal Psychology, Personality Psychology, Intro Psychology

Bibliography:

Brozoski, T.J., Seeley, R., & Lehman, K.E.. Stereotyped Movements in Children in Stressful and Non-Stressful Situations (submitted for review).

Cole, P.M., Belouad, F.K., Smith, K.D., & Lehman, K.E. (1991). Conflict solutions in preschool children in relation to their behavior problems. Poster presented at the Biennial Meeting for the Society of Research in Child Development.

Lehman, K.E. (1993). Effectiveness of written instructions in teaching mothers to give clear instructions to their children. Unpublished Master's Thesis, University of Washington, Seattle, WA.

Lehman, K.E. (1996). Maternal influence in the development of body image and dieting in young girls. Unpublished Dissertation, University of Washington, Seattle, WA.

McMahon, R. & Lehman, K.E. Teaching mothers to give clear instructions to their children. (Manuscript in preparation).

Zahn-Waxler, C., Cole, P.M., Lehman, K., & Junker, M. (1991). Representations of interpersonal conflict and distress in children at risk for behavior problems. Symposium presented at the Biennial Meeting for the Society of Research in Child Development

Major Grants and Fellowships Awarded:

1990	Advancement of Educational Sciences Biomedical Grant (NIMH)
1989-1990	Grinnell College Student Research Grant

Related Work Experience:

Youth Homes of Mid-America, Johnston, IA (1989), Worked as the primary resident counselor for 5 adolescent boys living in a group home. The adolescents were incarcerated for minor crimes, and lived by a behavioral point system.

Volunteer Work:

1986-1990	Various homeless shelters in Des Moines, IA.
1988-1990	Tutoring children and teens at the Mesquakie Indian Settlement in Tama, IA.
1988-1990	Grinnell College Gay and Lesbian Resource Center in Grinnell, IA.
1989-1990	Jasper County Care Facility in Newton, IA; helped with recreational activities for developmentally delayed adults and children.

Professional Membership:

American Psychological Association
Hawaii State Psychological Association

Recommendations:

Robert J. McMahon, Ph.D. (graduate advisor)
University of Washington
Department of Psychology, NI-25
Seattle, WA 98195
(206)543-5136
mcmahon@u.washington.edu

Ana Mari Cauce, Ph.D. (Director of Clinical Training)
University of Washington
Department of Psychology, NI-25
Seattle, WA 98195
(206)543-6511
cauce@u.washington.edu

June W.J. Ching, Ph.D. (Director of Clinical Internship, and Primary Supervisor)
Kapiolani Medical Center for Women and Children
Kapiolani Counseling Center
1319 Punahou
Honolulu, HI 96826
(808)973-8368

Rosemary Adam-Terem, Ph.D. (Internship Supervisor)
Kapiolani Medical Center for Women and Children
Kapiolani Counseling Center
1319 Punahou
Honolulu, HI 96826
(808)973-8368