

Body Image Perceptions of Adolescent Daughters and Their Mothers in U.S.

Seunghee Lee[†] · Pamela V. Ulrich* · Lenda J. Connell*

Dept. of Clothing & Textiles, Sookmyung Women's University

*Dept. of Consumer Affairs, Auburn University

미국내 청소년기 여학생과 어머니의 신체이미지 개념에 대한 연구

이승희[†] · Pamela V. Ulrich* · Lenda J. Connell*

숙명여자대학교 의류학과, *Dept. of Consumer Affairs, Auburn University

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Abstract

Women's perceptions of body size and body image are important topics for researchers in multiple fields. The terms body image or body self refer to perceptions and beliefs that an individual holds about his or her body (Rosenbaum, 1979; Schilder, 1953). Few studies have focused on body image perceptions as they relate to parent-child pairs. This study investigated the perceptions that mothers and daughters each had of their own body, the other's body, and their ideals for the same. The purposive sample used in this study consisted of 41 mother-daughter pairs. The sampled focus was girls between ages 9 and 14, and their mothers. Significant differences between how mothers saw their daughters and how daughters saw themselves emerged only for the plus size group. The clearest significant difference between mothers and daughters was in their dissatisfaction with themselves. The mothers were more dissatisfied. Plus-size girls were significantly more dissatisfied with their mothers' bodies than normal size girls were with their mothers' bodies. The mothers of plus size girls were significantly more dissatisfied with their daughters' bodies than were the mothers of normal size daughters.

Key words: Body image, Body image perception, Adolescents, Tweens; 신체이미지, 신체이미지 개념, 청소년, 트윈

I. Introduction

For many years, the perceptions expressed by women regarding body size, weight, thinness, and body image have been important topics for researchers in multiple fields besides clothing, including psychology, pediatrics, nutrition, health and fitness, social psychology, cross-cultural psychology, neuro-

science, and psychiatry. These studies have tended to focus primarily on adolescents' dieting or eating behaviors, and the findings indicate that among females, adolescence is the period of greatest risk for developing eating disorders(Agras & Kirkley, 1986) and body-image problems(Cash et al., 1986). Body-image studies in these fields have been largely conducted in relation to dieting and eating behaviors, and depression is increasingly recognized as a significant problem for children and adolescents(French & Berlin, 1979; Rierdan et al., 1987, 1988).

[†]Corresponding author

E-mail: leeseul@sookmyung.ac.kr

The terms body image or body self refer to the perceptions and beliefs that an individual holds about his or her body (Rosenbaum, 1979; Schilder, 1953). Many studies have examined the relationships between body image, self-esteem, and gender roles of adolescents, particularly girls, as well as adolescents' relationships with their mothers or both parents (Massara & Stunkard, 1979; Usmiani & Daniluk, 1997; Wilson et al., 1994). For example, Usmiani and Daniluk (1997) reported that adolescents with high self-esteem displayed positive body image perceptions and positive attitudes toward their mothers. Cohn et al. (1987), and Collins (1991) studied body figure perceptions or preferences among young children and adolescents.

1. Statement of the Problem

Research has shown that mothers can influence adolescent children, but there has been little work focused specifically on adolescent girls and their mothers in relation to body image and body image perceptions. This study investigated the perceptions that mothers and daughters each had of their own body, the other's body, and their ideals for the same.

This study focuses on appearance as an indicator of body image and the ways that mothers and daughters communicate with each other by means of body image. Through their interactions with their mothers, daughters learn their mothers' values regarding body image, and attractiveness, which may influence their own attitudes about their gender and approaching womanhood. Therefore, the purpose of this study was to explore interactions between tween girls (aged 9 to 14) and their mothers in relation to body image, and body satisfaction.

2. Research Questions

The following research questions guided the study:

1. Is there a difference between mothers' perceptions of their daughters' body image and the daughters' self-defined body image?
2. Is there a difference between daughters' perceptions of their mothers' body image and the

mothers' self-defined body image?

3. Is there a difference between mothers' identification of the ideal body size for themselves and their daughters' identification of the ideal body size for adult women?
4. Is there a difference between daughters' identification of the ideal body size for themselves and their mothers' identification of the ideal body size for girls their daughters' age?
5. Is there a difference between mothers' and daughters' dissatisfaction with their own bodies?
6. Is there a difference between mothers' dissatisfaction with their daughters' bodies and daughters' dissatisfaction with their mothers' bodies?

II. Review of the Literature

1. Body image and the mother-daughter relationship

Body image is what the mind does to the body in translating the experience of physical embodiment into its mental representation. In a study of adolescent girls, Nichter and Nichter (1991) described the ideal girl as 5 feet 7 inches tall, 100 pounds, size 5, with long blond hair and blue eyes. Curtis (1991) studied 36 mother-daughter pairs. The adolescents in the group were identified as at risk for delinquent or maladaptive behavior and were between the ages of 11 and 15 years. The study found that the mothers' self-concepts were related to their daughters' self-concepts.

One of the recent big issues in the area of adolescent studies is obesity and recent findings indicate that obese mothers are more likely to have obese children (Whitaker, 2004). Paxton et al. (1991) found that the relationship between parental encouragement and frequency of dieting held for girls but not boys when Body Mass Index (BMI) was accounted for. Those girls who reported a parent who dieted, dieted more frequently themselves; this was not, however, the case for boys. The Body Mass Index, used to express the relationship of weight-to-height. The body mass index is calculated by an individual's weight in kilograms divided by the square of their height in meters. Body mass index is used to assess

an individual's underweight or overweight status, as well as their risk of becoming overweight ("BMI for Age," 2005).

In a study of elementary school children (Thelen et al., 1992), fourth-grade girls expressed concern about being overweight and reported engaging in dieting behaviors. Lawrence (1991) found that third grade girls desired to be thinner and engaged in dieting behaviors significantly more often than boys of the same age. According to the Centers for Disease Control and Prevention (CDC) ("BMI for Age," 2005), the past 20 years has seen a dramatic increase in obesity in the United States and the rate of obesity among adolescents has tripled over the last two decades.

In 1991, only four states reported obesity prevalence rates of 15-19% and no states reported rates at or above 20%. In 2002, 18 states reported obesity prevalence rates of 15-19%; 29 states had rates of 20-24%; and 3 states had rates over 25%, as indicated on the map in <Fig. 1>. Many researchers, from medical doctors to psychologists, have studied the relationship between obesity and adolescence and the related issues of self-esteem, body image, and binge eating.

BMI ≥ 30 , or ~ 30 lbs. overweight for 5'4" woman

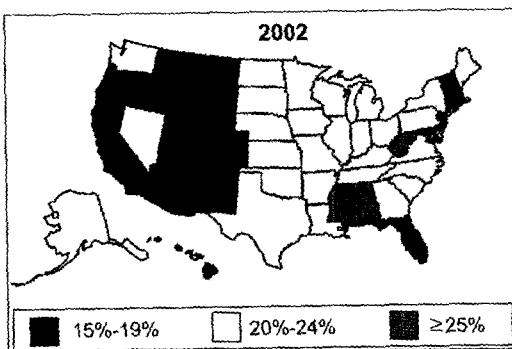


Fig. 1. U.S. Obesity Trends 1985 to 2002.

2. Body Image Perception and Body Satisfaction in Adolescents

Paxton et al. (1991) studied body image and weight loss beliefs and behaviors among 341 female and 221 male high school students. In this study, girls

were significantly more dissatisfied with their bodies than boys, although BMI was positively related to body dissatisfaction in both girls and boys. Nearly two thirds of the girls and boys believed that being thinner would have an impact on their lives, but girls believed being thinner would be more positive than did boys.

Rucker and Cash (1992) studied perceptions of body image and body size, in particular body image attitudes, body image perceptions, weight concerns and eating behaviors, and judgments of the thinness or fatness of varying body sizes. One of the interesting approaches taken by this study was to determine racial differences between African American and white female college students regarding body image and eating behaviors. Several very high BMIs among blacks and several low BMIs in whites were found in the sample. The instrument included the 69-item Multidimensional Body Self Relations Questionnaire (MBSRQ), the Body Image Automatic Thoughts Questionnaire (BIATQ), the Body Image Avoidance Questionnaire (BIAQ), and the Goldfarb Fear of Fat Scale (GFFS). African American college females evaluated positively their overall appearance, expressed fewer negative thoughts about their bodies, and had fewer concerns about dieting, fatness, and weight concerns. White women desired thinner bodies and their ideal body was significantly thinner than their perceived size.

III. Methods

1. Sample Description

The purposive sample used in this study consisted of 41 mother-daughter pairs. The participants were recruited by an independent contractor, [TC]² (Textile/Clothing Technology Corporation), in Cary, North Carolina.

There are more than 23 million tween consumers in the U.S. ("Special Youth Demographic Series," 2005). Thus, many market researchers of consumer goods have an increasing interest in tweens' consumer behavior. In addition, members of this age group have a particular interest in their appearance

Table 1. BMI range for sample by age

Age	BMI range 6 th to 84 th percentile	BMI range 85 th to 94 th percentile	BMI range over the 95 th percentile
9	14.6-18.9 (4)		31.4 (1)
10	17.1-19.5 (3)	20.1-23.0 (3)	27.3-39.8 (3)
11	16.6-20.0 (3)	20.8 (1)	30.2 (1)
12	17.7-18.9 (4)	24-24.1 (2)	31.2 (1)
13	17.6-21.8 (4)	23.9-26.2 (3)	
14	18.2-20.4 (3)	24.5-27 (2)	38.4-43.3 (3)
Total	21	11	9

because of the dramatic physical changes that accompany puberty and their potential impact on the establishment of a body ideal (Cohn et al., 1987).

The sampled focus was girls between ages 9 and 14, and their mothers, who ranged in age. These adolescents, often called tweens by marketers, were picked because they represent an important transitional period for children maturing towards adulthood. Subject pairs were assigned to normal and plus-sized groups according to the daughters' body mass index (BMI) scores (Table 1). The Body Mass Index, used to express the relationship of weight-to-height. The body mass index is calculated by an individual's weight in kilograms divided by the square of their height in meters.

In recruitment, mothers were asked their daughters' heights and weights so that their BMI scores could be calculated. Group assignments were made according to the U.S. Centers for Disease Control and Prevention's guidelines for the dividing line between normal and overweight adolescents.

During the research sessions, mothers and daughters separately completed questionnaires that included

the Stunkard et al. (1983) figure scale. During the completion of the questionnaire, each did not see the other's responses.

Sixty-one percent of the girls who participated in this study were Caucasian; 29.3% were African American; 2.4% were Hispanic, and 2.4% were Native American. The mean age for all girls was 12 years (144.02 months), and the mothers' mean age was 41.63 years. Twenty-one girls were in the 6th to 84th percentile (normal size). Twenty girls were considered plus size (either 85th to 94th percentile, or at risk of overweight, and over the 95th percentile, overweight). The girls' grades ranged from the 4th to the 10th. Tween girls in the 6th grade were slightly underrepresented. Approximately 46% of the daughters had had their first period prior to the study, and 54% of the daughters had not. None of the girls had started their first period at age 9 or 14. The majority of the mothers (78.1%) were married. About 20% were either single or divorced. Professional categories (lawyer, accountant, teacher) made up 31.7%, followed by homemaker (24.4%) and other (14.6%).

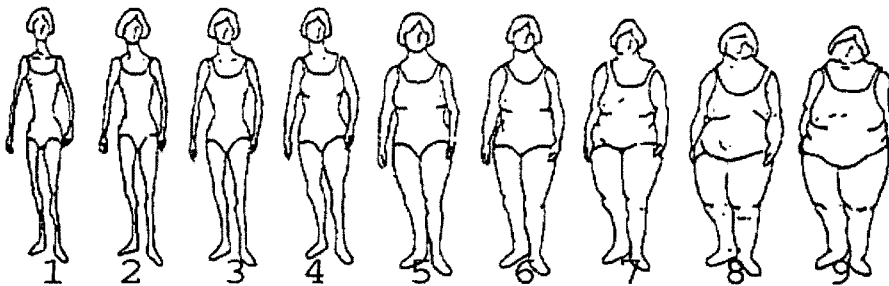


Fig. 2. Female figures (Stunkard et al., 1983).

2. Measures

Nine line drawings of female figures ranging from thin to full-figured (Fig. 2), that were developed by Stunkard et al. (1983), provided the stimulus for a sample of mothers and daughters to separately identify their own figures, the other's figure, their own ideal, and the ideal for the other figure. This instrument has had repeated use in research to measure body size perception, ideal body size, and dissatisfaction with the body. Studies have used it with adolescent samples (Cohn et al., 1987; Stunkard et al., 1983) and male and female undergraduate students (Fallon & Rozin, 1985).

Mean values for mothers' and daughters' selections of body images and body ideals were calculated. Body dissatisfaction scores were determined by finding the difference between perception of actual size and identification of ideal size, and mean dissatisfaction scores were then calculated (Table 1). Mothers and daughters responses for the whole group, normal-size girls, and plus-size girls were compared by using *t* tests.

IV. Results and Discussion

1. The body of the research addressed six questions

1) Research Question 1

Is there a difference between mothers' perceptions of their daughters' body image and the daughters' self-defined body image?

Paired sample *t* tests were performed to determine if there was a difference between mothers' perceptions of their daughters' body image and the daughters' self-defined body image. The difference between the plus-size daughters' self-identification (4.35) and their mothers' identification of their daughters' body image (5.10) was highly statistically significant, at 0.005. Therefore, there appears to be a significant difference between how plus-size girls see themselves and how their mothers see them, with the mothers seeing them as larger.

2) Research Question 2

Is there a difference between daughters' perceptions of their mothers' body image and the mothers'

Table 2. Mothers' and daughters' body image scores

	All groups (N=41/41) Mean	Normal-size groups (N=21/21) Mean	Plus-size groups (N=20/20) Mean
Daughter's self-identification	3.80	3.24	4.35
Mother's identification of daughter	3.98	2.90	5.10
<i>p</i> -value	0.25	0.06	0.005**
Mother's self-identification	4.71	3.83	5.62
Daughter's identification of mother	4.80	4.33	5.30
<i>p</i> -value	0.58	0.02*	0.25
Mother's ideal for self	3.49	3.19	3.80
Daughter's ideal for adult women	4.06	4.11	4.03
<i>p</i> -value	0.01*	0.009*	0.48
Daughter's ideal for self	3.15	3.07	3.22
Mother's ideal for girls the daughter's age	3.02	2.86	3.2
<i>p</i> -value	0.43	0.29	0.91
Daughter's dissatisfaction with self	-0.63	-0.17	-1.13
Mother's dissatisfaction with self	-1.22	-0.64	-1.84
<i>p</i> -value	0.002***	0.08	0.01**
Daughter's dissatisfaction with mother	-0.74	-0.24	-1.27
Mother's dissatisfaction with daughter	-0.95	-0.05	-1.90
<i>p</i> -value	0.40	0.6	0.09

Note. Significant P values are noted by: *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$

self-defined body image?

Paired sample *t* tests were performed to determine if there was a difference between daughters' perceptions of their mothers' body image and the mothers' self-defined body image. There was a statistically significant difference between normal-size daughters' perceptions of their mothers' body image(4.33) and their mothers' self-defined body image(3.83), but not between plus-size daughters' perceptions of their mothers' body image(5.30) and their mothers' self-defined body image(5.62). Normal-size daughters perceived their mothers to be larger than their mothers saw themselves.

3) Research Question 3

Is there a difference between mothers' identification of the ideal body size for themselves and their daughters' identification of the ideal body size for adult women?

The paired sample *t* test was statistically significant at 0.01 between all mothers' identification of the ideal body size for themselves(3.49) and their daughters' identification of the ideal body size for adult women(4.06). There was a statistically significant difference between the mothers of normal size daughters identification of the ideal body size for themselves(3.19) and their daughters' identification of the ideal body size for adult women(4.11), at 0.009.

4) Research Question 4

Is there a difference between daughters' identification of the ideal body size for themselves and their mothers' identification of the ideal body size for girls their daughters' age?

Paired sample *t* tests were performed to determine if there was a difference between daughters' identification of the ideal body size for themselves and their mothers' identification of the ideal body size for girls their daughters' age. The paired sample *t* tests were not statistically significant for any of the subjects, whether in the normal-size group or in the plus-size group.

5) Research Question 5

Is there a difference between mothers' and daughters' dissatisfaction with their own bodies?

A paired sample *t* test was performed to determine if there was a difference between mothers' and daughters' dissatisfaction with their own bodies. The mothers' body dissatisfaction scores were determined by finding the difference between the mothers' identification of their ideal size and their perception of their actual size using Stunkard et al.'s (1983) drawing numbers. The daughters' body dissatisfaction scores were determined in the same way. A positive score for body dissatisfaction signifies that the identification of ideal size was bigger than the perception of actual size, while a score of zero means that actual size and ideal size were the same, in which case there was no body dissatisfaction. A negative score for body dissatisfaction signifies that the identification of ideal size was smaller than the perception of actual size.

The paired sample *t* test showed a statistically significant difference($p=.002$) between all mothers'(-1.22) and all daughters' dissatisfaction with their own bodies(-0.63). There was a statistically significant difference($p=.01$) between plus-size daughters' dissatisfaction with their own bodies(-1.13) and their mothers' dissatisfaction with their own bodies(-1.83), but not between normal-size daughters(-0.17) and their mothers(-0.64).

6) Research Question 6

Is there a difference between mothers' dissatisfaction with their daughters' bodies and daughters' dissatisfaction with their mothers' bodies?

The paired sample *t*-tests were not statistically significant between all mothers' dissatisfaction with their daughters' bodies(-0.95) and all daughters' dissatisfaction with their mothers' bodies(-0.74). This was also true for the comparison of normal-size girls and their mothers and plus-size girls and their mothers.

V. Conclusion and Implication

1. Perceptions of ideals for body image using Stunkard, Sorenson, and Schulsinger's (1983) scale

Significant differences between how mothers saw

their daughters and how daughters saw themselves emerged only for the plus-size group. These girls self-identified their bodies as slightly smaller than the midpoint(4.35) on the nine-point scale, whereas their mothers saw them as slightly larger than the fifth figure. Mothers of normal size girls saw their daughters as being smaller than how the girls saw themselves, and that difference(2.90 vs. 3.24) was almost significant.

When comparing how daughters saw their mothers in relation to the mothers' self-image, significance was found only for the normal-size group. In this case, it was the daughters who saw their mothers as larger by a half-size; the mothers saw themselves as being smaller than the fourth figure, and the girls saw them as being larger than the fourth figure. There was more commonality in identifying ideals for the girls' figures than in perceptions of size. The plus-size girls' ideal for themselves(3.22) was only slightly larger than that for the normal-size girls (3.07), suggesting that larger actual size did not greatly affect the girls' ideal. Cohn et al.'s study (1987) of 10.5 to 15 year old girls found that on average they had a preference for thinness. In this study, the girls' pick was the third of the nine figures. Mothers' ideals for their daughters' size were very similar (2.86 for the normal-size group and 3.2 for the plus-size group). There was no significant difference between girls' ideal for themselves and their mothers' ideal for their daughter's age. Thus, no matter what the daughters' actual size, normal or plus, girls and their mothers appeared to have a relatively narrow range of ideal body sizes. Some studies in the past have suggested body image links between mothers and daughters. Using a different visual scale, Wilson et al.(1994) found that female adolescents' perception of ideal body size appeared to be related to their mothers' size among other factors. Thelen and Cormier(1995) found a relationship between fourth grade girls' weight and desired weight and their mothers' concerns about weight.

Normal and plus-size girls' ideals for adult women were close in number(4.11 and 4.03) and approximately one figure size larger than their ideals for themselves. However, the girls' adult ideals were

larger than their mothers' ideals for themselves, and significantly so for the normal-size group, as well as for the two groups put together. This could mean that the girls did not expect adult women to be as slender as their mothers expected, or it could simply mean that the girls saw themselves as not fully grown.

2. Mothers' and Daughters' Body Dissatisfaction

Application of the visualization scale revealed that the mothers were significantly more dissatisfied with their own bodies than their daughters were with their own bodies. A significant difference held for the plus-size group and nearly did for the normal-size group. The girls and their mothers were not, however, significantly different in their dissatisfaction with each other. Although some researchers have looked at the relationships between mothers and daughters in terms of weight concerns and body size and shape ideals, their levels of dissatisfaction do not appear to have been compared before this study. Since these factors are interrelated, further study could provide more insights.

Although no significant differences between mothers and daughters were found for each one's dissatisfaction with the other, additional independent sample *t*-tests comparing each group of girls and each group of mothers identified differences. Plus-size girls were significantly more dissatisfied with their mothers' bodies than normal size girls were with their mothers' bodies($p=.02$ for respective means of -1.27 and -0.24). The mothers of plus size girls were significantly more dissatisfied with their daughters' bodies than were the mothers of normal-size daughters($p=.00$ for means of -1.90 and -0.05). All of these differences between the normal and plus-size groups provide reasons for further research on this topic.

The small sample size limits the conclusions reached by this study, but the results suggest the value of further study using a larger sample. This sample is limited by gender in order to obtain a better understanding of issues concerning the body image and self-esteem of girls. Since comparable studies of boys do not exist, gender comparisons are limited.

Likewise, though the study included racially mixed participants, the sample was small for any consideration of possible racial implications for body image. This sample is also limited by geographic location.

However, understanding the relationships of mothers and daughters in the tween market segment has direct implications for apparel manufacturers and retailers. In addition, understanding adolescent behavior and what factors influence it are important to companies who develop new products aimed at tweens

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요 약

미국내 9살과 14살 사이의 여학생과 어머니와의 관계가 여학생의 신체이미지와 육체만족도(Body Satisfaction)에 미치는 영향에 관한 연구이다. 총 41쌍의 여학생과 어머니가 미국의 노스 캐롤라이나에 위치한 [TC²]에 의뢰하여 리쿠르트 되었다. 참가자들은 우선 미국 질병관리 및 방지국(CDC)의 자료를 바탕으로 그들의 BMI 점수를 바탕으로 보통체중과 과체중으로 나누어졌다. Stunkard, Sorenson, and Schulsinger (1983)의 9개의 신체이미지 그림을 사용하여 어머니와 딸의 각자의 이상화된 신체이미지(Ideal Body Image), 상대방의 이상화된 신체이미지, 각자의 신체에 대한 만족도, 그리고 서로의 신체에 대한 만족도를 연구하였다. 논의 및 결론부분으로 과체중 여학생과 그들의 어머니의 서로간의 신체이미지 만족도가 보통체중의 여학생과 그들의 어머니의 신체이미지 만족도에 비해 현저히 낮았고, 상대방에 대한 신체이미지 만족도 또한 현저히 낮았다.
