



## Brief research report

## Perceptions of parental attitudes toward body and eating: Associations with body image among Black and White college women

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## ABSTRACT

This study examined Black and White young women's perceptions of parental body- and eating-related attitudes and behaviors from growing up and the relations of these parental factors with their current body image. Female undergraduates (97 Black women, 179 White women) completed questionnaires of perceptions of parental attitudes/behaviors related to body image and eating and of their current body image, operationalized as weight/shape concern. Results indicated that perceived parental communication was more strongly related to body image than perceived parental modeling in both ethnic groups, and that there were some differences in how frequently Black and White women reported encountering specific maternal messages about the body or eating. Perceived parental modeling and communication constructs were related to body image in similar ways for both ethnic groups after controlling for BMI. Future research directions are discussed.

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## Introduction

Factors influencing body image require elucidation. Not only is body dissatisfaction distressing in its own right, but meta-analytic work (based on primarily White samples) has highlighted a robust link between body dissatisfaction and eating pathology (Stice, 2002), and among Black adolescent females there is evidence that body dissatisfaction is positively correlated with disordered eating (White & Grilo, 2005). At the same time, meta-analytic work finds that Black females exhibit less body dissatisfaction than White females (Grabe & Hyde, 2006), although the effect size is small ( $d = .29$ ). Interestingly, while differences in body dissatisfaction in these ethnic groups are most pronounced during the college years (early 20s), there has been a trend of decreased ethnic differences in weight dissatisfaction (Roberts, Cash, Feingold, & Johnson, 2006).

While various factors have been examined to understand this apparent, but perhaps diminishing, discrepancy in body dissatisfaction (e.g., female body preferences of Black and White males, media representation), much less is known about the influence of parents' messages regarding body image and eating. This is important since attitudes and behaviors related to one's body can be learned via parental modeling, such as a parent expressing concern about her own weight, and by parental communication, such as a parent expressing concern about her daughter's weight (Wertheim, Martin, Prior, Sanson, & Smart, 2002).

Parental messages and their influence on young women's body image could theoretically operate in different ways in Black and White young women. For example, the greater acceptance of larger and more diverse body types in the Black community (Parker, Nichter, Nichter, Vuckovic, Sims, & Ritenbaugh, 1995) may mean that Black parents are less likely to pressure their daughters to lose weight, which may protect daughters from negative body image. However, given concerns about obesity and related health risks in the Black population (Hedley, Ogden, Johnson, Carroll, Curtin, & Flegal, 2004), parents may exert pressure on their daughters to lose weight which may have implications for their body image. The current study examined parental body- and eating-related attitudes and behaviors as perceived by Black and White young women from their childhood/adolescence and examined the relations between these parental factors and current body image.

Most of the research on parental attitudes and behaviors related to the body and eating has focused on primarily White samples. These studies have found more consistent and stronger effects of parental communication (e.g., encouragement to lose weight) on daughters' body image than parental modeling (Baker, Whisman, & Brownell, 2000; Rodgers & Chabrol, 2009). For example, using a primarily Caucasian sample, Baker et al. (2000) found college females' perceptions of parental criticism were more strongly associated with their attitudes toward their bodies than were young women's perceptions of parental modeling. Additionally, limited research has generally found support for greater maternal than paternal influence (Baker et al., 2000; Wertheim et al., 2002).

Limited existing research examining these sorts of parental influences in Black female samples has generally found similar

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patterns (Brown, Schreiber, McMahon, Crawford, & Ghee, 1995; Thompson & Sargent, 2000). For example, Thompson and Sargent (2000) found that increased weight concern was associated with the perception of high levels of maternal criticism about childhood appearance for both Black and White adult women. However, in a community sample Striegel-Moore, Wilfley, Caldwell, Needham, and Brownell (1996) found that, among Black and White women dieters, Black women were less likely to report being criticized by a parent for being overweight.

### The current study

Parental attitudes and behaviors toward the body and eating, such as parental weight loss efforts and expressed concerns about children's weight, may model or reinforce values that increase risk for negative body image. The current exploratory study sampled a group of Black and White female undergraduates with the following aims in each ethnic group: (1) to examine perceptions of parental attitudes/behaviors about the body and eating while growing up; and (2) to determine the associations between these parental factors and young women's current body image, operationalized here as weight and shape concern.

## Method

### Participants and procedure

Participants were 276 women attending a large Midwestern university with students from both urban and rural settings; 97 (35%) self-reported as African American (Black) and 179 (65%) as Caucasian non-Hispanic (White). Women were recruited, without selection criteria other than self-identifying as Black or White, from Introductory Psychology classes as well as campus-wide (e.g., fliers, listservs). Mean age was 19.04 years ( $SD=1.59$  years) for Black women and 18.58 years ( $SD=1.06$  years) for White women. Highest parental education attained, a proxy for socio-economic status, was 15.80 years ( $SD=2.81$ ) for Black women and 16.42 years ( $SD=2.57$ ) for White women.

After providing written consent, participants completed a set of questionnaires that included the topics of body image, family experiences, and demographics. Questionnaire completion occurred in groups of 5–20 and lasted from 45 to 60 min. Participants were compensated with course credit or a gift certificate to a local mall. This study was approved by the university's human ethics committee.

### Measures

#### Perceptions of parental attitudes/behaviors related to body image and eating

Participants completed a questionnaire created for this study regarding how frequently their parents engaged in certain behaviors or displayed certain attitudes, all related to the body or eating. All questions were in reference to when the participant was "growing up," which was defined as "before you came to college," and items referred separately to mothers and fathers. Six questions were about parental attitudes/behaviors geared to her/himself, intended to reflect parental modeling (e.g., mother was on a diet), and six were about parental attitudes/behaviors geared toward the participant, intended to reflect parental communication (e.g., father worried about my weight). Participants responded using a 1 = *never* to 5 = *almost always* scale.<sup>1</sup>

### Body image

Body image was assessed using the Weight Concern and Shape Concern subscales of the Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 1994) with participants reporting on the past 28 days using a 7-point scale. The Weight Concern subscale taps into weight dissatisfaction and over-valuation of weight in self-evaluation; the Shape Concern subscale assesses these aspects related to shape. To more comprehensively capture body image related to size and shape, and given research suggesting that these two EDE-Q subscales reflect one factor (Peterson et al., 2007), we combined these two measures to create a weight/shape concern subscale (items averaged to obtain a final score). Reliability and validity are well-established for the EDE-Q for White females (Black & Wilson, 1996; Luce & Crowther, 1999), with emerging psychometric support for Black women (Bardone-Cone & Boyd, 2007). In this study, alpha was .93 for Black women and .94 for White women.

### Body mass index

Body mass index (BMI) was computed based on self-reported weight and height, and provides an index of relative weight.

## Results

### Descriptive data

For descriptive purposes, Table 1 displays, separately for Black and White women, the proportion who endorsed the parental items as occurring frequently (defined as "often" or "almost always"), along with comparisons of these proportions. A pattern of ethnic differences emerged in the endorsement of frequent maternal modeling/communication.

Black women had lower levels of weight/shape concern than White women,  $t(274)=-3.76$ ,  $p<.001$  (Black women:  $M=2.19$ ,  $SD=1.60$ ; White women:  $M=2.91$ ,  $SD=1.48$ ), and a larger average BMI,  $t(134)=3.80$ ,  $p<.001$  (Black women:  $M=24.18$  kg/m<sup>2</sup>,  $SD=4.66$ ; White women:  $M=22.22$  kg/m<sup>2</sup>,  $SD=2.79$ ). Of the Black women, 13.4% reported what are generally considered clinically significant levels on the combined EDE-Q subscales reflecting weight/shape concern ( $\geq 4$ ; Mond, Hay, Rodgers, & Owen, 2006); most women in this group were overweight (BMI  $\geq 25$ ; Bjorntorp, 2002). In contrast, 24.6% of White women had clinically significant levels of weight/shape concern, with most falling in the normal weight category.

### Factor analysis of perceived parental attitudes/behaviors items

Given the exploratory nature of this study, an exploratory factor analysis was conducted on the parental items using oblimin rotation, separately in the Black and Whites samples. In both samples, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was moderate per Field (2009): .65 and .66 for the White and Black samples, respectively. Further, the correlations between items were adequate for factor analysis per significant Bartlett's tests of sphericity (White sample:  $\chi^2=895.97$ ,  $p<.001$ ; Black sample:  $\chi^2=491.68$ ,  $p<.001$ ). In an initial factor analysis, the face-valid modeling items all loaded onto one factor and the face-valid communication items onto another for the White women. For the Black women, the same pattern of modeling and communication items

<sup>1</sup> In some cases, participants did not have a parent they could report on because a parent was not present in their lives while growing up (e.g., left the family, deceased).

All the Black women in this sample ( $n=97$ ) provided data on mothers, and 93 of them provided data on fathers. Of the White women, 178 of 179 provided data on mothers and 177 provided data on fathers.

**Table 1**  
Proportion of each ethnic group endorsing frequent parental modeling and communication related to body and eating along with statistical comparisons.

Parental influence	White women	Black women	$\chi^2$
Mother on diet	25.8% (n = 46)	15.5% (n = 15)	$\chi^2(1, N = 275) = 3.92, p = .048$
Father on diet	4.0% (n = 7)	6.5% (n = 6)	Fisher's Exact $p = .380$
Mother emphasized her appearance	27.5% (n = 49)	41.2% (n = 40)	$\chi^2(1, N = 275) = 5.39, p = .020$
Father emphasized his appearance	8.5% (n = 15)	30.9% (n = 29)	$\chi^2(1, N = 271) = 22.60, p < .001$
Mother emphasized her fitness	21.3% (n = 38)	23.7% (n = 23)	$\chi^2(1, N = 275) = .20, p = .652$
Father emphasized his fitness	32.8% (n = 58)	37.6% (n = 35)	$\chi^2(1, N = 270) = .64, p = .424$
Mother worried about daughter's weight	7.9% (n = 14)	15.5% (n = 15)	$\chi^2(1, N = 275) = 3.84, p = .050$
Father worried about daughter's weight	5.6% (n = 10)	5.4% (n = 5)	$\chi^2(1, N = 270) = .01, p = .926$
Mother pressured daughter to lose weight	3.4% (n = 6)	9.3% (n = 9)	$\chi^2(1, N = 275) = 4.25, p = .039$
Father pressured daughter to lose weight	2.3% (n = 4)	3.2% (n = 3)	Fisher's Exact $p = .695$
Mother teased daughter about weight	2.2% (n = 4)	7.2% (n = 7)	Fisher's Exact $p = .056$
Father teased daughter about weight	2.3% (n = 4)	2.2% (n = 2)	Fisher's Exact $p = 1.00$

Note: Chi square statistics are reported except when small cell counts required Fisher's Exact Test. The percentages represent the percentage in each ethnic group that reported that the parental influence occurred "often" or "almost always" while growing up.

**Table 2**  
Factor loadings of perceived parental attitudes/behaviors toward body/eating items onto communication and modeling factors, separately by ethnic group.

Item	White women		Black women	
	Communication	Modeling	Communication	Modeling
Growing up, my mother pressured me to lose weight	<b>.91</b>	-.13	<b>.95</b>	-.13
Growing up, my mother worried about my weight	<b>.82</b>	.003	<b>.88</b>	-.04
Growing up, my father worried about my weight	<b>.71</b>	.08	<b>.79</b>	.01
Growing up, my father pressured me to lose weight	<b>.59</b>	.11	<b>.65</b>	.06
Growing up, my mother teased me about my weight	<b>.31</b>	-.01	<b>.61</b>	.10
Growing up, my father emphasized his appearance	-.07	<b>.73</b>	-.16	<b>.67</b>
Growing up, my mother emphasized her fitness	.004	<b>.57</b>	.10	<b>.37</b>
Growing up, my father emphasized his fitness	-.04	<b>.56</b>	.02	<b>.72</b>
Growing up, my mother emphasized her appearance	.24	<b>.47</b>	.15	<b>.53</b>
Growing up, my father was on a diet	.03	<b>.46</b>	-.05	<b>.43</b>
Coefficient alpha	.81	.70	.88	.68

Note: The bold and underlined factor loadings indicate which factor (communication or modeling) a given item loaded onto most highly within ethnic group.

emerged except: the paternal teasing (communication) item did not load clearly onto either factor (loadings of .25 and .23) and the maternal dieting (modeling) item loaded onto a communication factor rather than a modeling factor (loadings of .44 and .15, respectively). Thus, factor analysis was performed again, this time excluding these two items, resulting in the same 2-factor model of modeling and communication for Black and White women.<sup>2</sup> The factor loadings for each sample are displayed in Table 2. In the White sample, the communication factor accounted for 31.1% of the variance and modeling accounted for 11.0% (total variance: 42.1%). In the Black sample, the communication factor accounted for 32.1% of the variance and modeling accounted for 15.2% (total variance: 47.3%).

#### Parental modeling and communication and body image

The relation between perceived parental modeling and body image was similar in both groups:  $r = .23$  for Black women ( $p = .021$ ; 6% of the variance in body image explained by modeling) and  $r = .19$  for White women ( $p = .011$ ; 4% of the variance). For perceived parental communication, the correlation with body image for Black women was  $r = .55$  ( $p < .001$ ; 31% of the vari-

ance in body image explained by communication); for White women it was  $r = .37$  ( $p < .001$ ; 13% of the variance). However, controlling for BMI substantially reduced the magnitude of the correlation between communication and body image for Black women ( $r_p = .35, p = .001$ ), bringing it more in-line with the correlation for White women ( $r_p = .33, p < .001$ ). Thus, for both Black and White women, elevated levels of perceived modeling and communication were associated with greater weight/shape concern.

#### Discussion

The associations between perceived parental factors and current body image did not appear to differ by ethnic group. Correlations between perceived parental modeling and body image were modest and similar across ethnic groups, with modeling accounting for about 6% and 4% of the variance in body image in Black and White women, respectively. In terms of perceived parental communication and body image, correlations were larger for both groups with more variance in body image explained for Black women than White women (31% vs. 13%). However, after controlling for BMI, the resultant partial correlations appeared similar for both groups and represented a substantially attenuated relation for Black women. This suggests that ethnic differences in the associations between parental communication and body image appear to be due to ethnic differences in BMI.

Interestingly, the initial factory analysis using all 12 items suggested that maternal dieting fits better as a means of communication than modeling for Black women. We speculate that this is because dieting is rarer in Black communities than White communities, to the point that if a Black woman sees her mother dieting, it is more salient and acts more as a direct message about relevant

<sup>2</sup> In performing the exploratory factor analysis, the following were taken into consideration in determining the number of factors: eigenvalues greater than 1, the Scree plot, the conceptual strength of the factor solution, and the degree to which items clearly loaded on a factor. Based on this approach, a 2-factor solution that reflected a modeling/communication distinction best captured the data. Other solutions were not as meaningful – for example, when not restricting the factor analysis to any set number of factors, 5 factors with eigenvalues greater than 1 emerged in the White sample, but in this scenario four of the 12 items did not clearly load on one factor and, further, one factor had only one item and two factors had only two items.

important behavior than as a more passive model. Replication is clearly needed to follow up on this intriguing finding.

At an item-level, Black and White young women differed in how frequently they reported encountering maternal messages about the body or eating, but were generally similar in frequency of paternal messages. A higher percentage of White women reported having a mother who was often dieting, consistent with the literature (Chao et al., 2008). The finding that Black parents were perceived to have greater emphasis on their appearance fits with evidence for greater investment in appearance among Black women (Smith, Thompson, Raczynski, & Hilner, 1999). Since “appearance” was not explicitly defined, this term may have been interpreted differently, for example, with Black participants more likely to interpret appearance as being broadly inclusive of many aspects besides weight and shape (e.g., attractive grooming) (Parker et al., 1995). A higher percentage of Black women reported having mothers express concerns about their daughters’ weight (e.g., worry, pressure). This could be because the Black participants may have been heavier in childhood/adolescence, but was also possibly due to obesity being a more significant health concern in Black communities (Hedley et al., 2004), providing a backdrop that may have predisposed worry about weight.

Strengths of this study are the inclusion of both: Black and White women, maternal and paternal attitudes/behaviors, and modeling and communication. There were some measurement limitations related to the parental attitudes/behaviors questionnaire, namely, limited psychometric data and the broad range of time covered with the “growing up” instructions. While the retrospective recall required for parental influences may be seen as a limitation, perceptions of parental influence are arguably important and may be more influential than parents’ reported attitudes/behaviors (Baker et al., 2000; Cooley, Toray, Wang, & Valdez, 2008). These perceptions of the past may still shape women’s body image impressions today, although it could also be that current body image colored memories of earlier parental attitudes/behaviors. Another limitation is the small sample size of Black women for the factor analysis; replication is necessary. Finally, the current sample came from a Midwestern, predominantly White university; the findings do not necessarily generalize to young women, Black or White, not attending college or of lower socio-economic levels or living in communities with different ethnic distributions (e.g., Black women attending historically Black colleges).

Future work on perceived parental modeling/communication and Black and White young women’s body image should consider parental influences in the larger context of peer relations, extended family, and media sources. Interactions with important others and the media may serve to reinforce or counter parental messages. It would also be interesting to examine whether there are ethnic differences in positive communications from parents about body/eating, as these messages may provide a form of protection against negative body image (Gross & Nelson, 2000). Mediation models warrant examination to better understand the way in which parental messages may be related to young women’s body image, for example, through body surveillance and appearance comparison (Rodgers, Paxton, & Chabrol, 2009). Lastly, although we reference the “Black community” it will be important to examine whether different subsamples of Black women (e.g., differing in ethnic identity, socio-economic status, ethnic distribution in their communities) differ in the relations between parental modeling/communication and body image.

In conclusion, Black and White undergraduate women had similar relations between perceived parental modeling from growing up and current body image and, after controlling for BMI,

similar relations between perceived parental communication and body image. For both groups, parental communication was more strongly related to body image than parental modeling. There were different rates of certain perceived maternal messages regarding eating and the body, which may warrant further exploration.

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