

The Role of Family Status and Ethnic Group on Body Image and Eating Behavior

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Abstract: **Objective:** to examine the role of ethnic group and family status on body dissatisfaction and eating behavior. **Method:** One hundred women (Asian mothers and daughters, $n = 50$; white mothers and daughters, $n = 50$) completed a questionnaire about their perceived ethnic identity (acculturation), body image, and eating behavior. **Results:** The results showed no matching between mothers and daughters and no effect of acculturation on body image and eating behavior. However, mothers reported greater body dissatisfaction and white subjects reported higher levels of restrained eating. In addition, the results showed a significant Ethnic Group \times Family Status interaction for both body image and eating behavior irrespective of body mass index (BMI). Accordingly, white daughters were found to be the most dissatisfied with their bodies and most concerned with the calorie content of their food, followed by the Asian mothers. White mothers were found to be the most satisfied with their body and Asian daughters were the least concerned with calories. **Discussion:** The results are discussed in terms of the changing nature of media images in both Asian and white cultures and the impact of the transition between these two cultures. © 1998 by John Wiley & Sons, Inc. *Int J Eat Disord* 23: 309–315, 1998.

Key words: ethnicity; mothers/daughters; weight concern

INTRODUCTION

Research has examined weight concern within a range of different populations. One focus of this research has been the mother-daughter relationship. For example, a longitudinal study reported that maternal body image was predictive of problem eating in daughters at 16 years old (Attie & Brooks-Gumm, 1989). Further, using a cross-sectional design, Pike and Rodin (1991) showed that mothers of girls with disordered eating reported a greater propensity to be eating disordered themselves. Research, however, has also indicated no relationship between mothers' and daughters' body image and eating concerns. For example, Garfinkel et al. (1983) reported similarities between parents of girls

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with anorexia and control parents when tested on measures of weight concern and Halmi, Struss, and Goldberg (1978) reported similarities in actual weight.

In an alternative approach to understanding weight concern, research has examined the role of ethnicity. Akan and Grilo (1995) reported that although the African-American subjects in their college sample had a significantly higher body mass index (BMI), the white subjects showed higher degrees of disordered eating. Similarly, white subjects have frequently been found to report greater body dissatisfaction and eating concerns than both Asian and Black subjects (Powell and Kahn, 1995). However, in contradiction to this, Hill and Bhatti (1995) reported that 9-year-old British-Asians showed higher dietary restraint scores than their white contemporaries and a survey of 15-year-olds revealed a higher prevalence of eating disorders in Asian than white girls (Mumford, Whitehouse, & Platts, 1991).

The literature has, therefore, examined the role of both mother/daughter relationships and ethnicity on body image and eating behavior. However, neither approach has produced consistent or conclusive findings. The present study primarily aimed to examine both these perspectives individually in terms of the matching between mothers and daughters and the role of ethnicity on body image and eating behavior. In addition, the present study aimed to transcend this perspective and to integrate these literatures by examining the interaction between family status and ethnicity on these variables.

METHODS

Subjects

One hundred subjects took part in the study: Asian mothers ($n = 25$), Asian daughters ($n = 25$), white mothers ($n = 25$), and white daughters ($n = 25$). The Asian subjects were of Indo-Asian origin, including India ($n = 32$), Pakistan ($n = 2$), Sri Lanka ($n = 6$), and other neighboring countries ($n = 10$). The daughters ranged in age from 18 to 26 (mean age 20.02 years \pm 1.75) and their mothers ranged in age from 39 to 60 (mean age 48.74 years \pm 4.98). A medical school setting was chosen in an attempt to control for class as these students are predominantly from middle to upper socioeconomic groups and as previous studies have identified a relationship between social economic status and eating concerns.

Procedure

The daughters were recruited before a lecture and told that the study was examining cultural differences in weight concern. Only Asian and white female students who believed that their mothers would be willing to complete the questionnaire and who were UK residents were asked to participate. The subjects were given a stamped addressed envelope containing two questionnaires, one for themselves and one for their mother, before the Christmas holidays in order to increase the response rate as it was assumed that most students would return home during the vacation.

Design

The study included a between-subject factor (white vs. Asian) and a within-subject factor (mother vs. daughter). All subjects completed a structured questionnaire about

their ethnic group, perceived ethnic identity (acculturation), body image, and eating behavior.

Questionnaire

The questionnaire consisted of the following sections: (1) Profile characteristics: The subjects recorded their age, height and weight, and their ethnic group: white, Indian, Pakistani, Bangladeshi, Asian other, or other. (2) Acculturation: This section included items in order to assess the subjects' perceptions of their acculturation. (i) Language: The subjects stated their first language and noted any other languages which they spoke fluently. The answers were categorized into four groups: Asian dialect only ($n = 0$), Asian dialect first and fluent English ($n = 27$), English first and Asian dialect fluently ($n = 16$), English only ($n = 57$). This was scored with a higher score reflecting greater westernization. (ii) Friends: Subjects considered their closest set of friends and assessed how many of them were from their ethnic group: 1, none; 2, less than half; 3, half/half; 4, more than half; or 5, all. (iii) Music: Subjects noted the type of music they listened to the most: classical, soul, rock, jazz, pop, reggae, bhangra (an Asian popular music), other. (iv) Radio station: Subjects recorded the radio station they listened to most frequently. These latter two questions were categorized into Asian music/Asian radio and other, respectively, for the acculturation score. These items were summated to produce a measure of acculturation. A higher score indicated a higher degree of westernization and a greater affinity to non-Asian cultural interests. (3) Body image: (a) Body shape questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987): Subjects completed a shortened version of the BSQ. A higher score indicated higher body dissatisfaction. (b) Silhouettes: Subjects examined a set of 12 randomly ordered female body silhouettes ranging from emaciated (1) to very obese (12). The subjects were asked to indicate which figure they thought was most like their shape now and their ideal shape. A relative body dissatisfaction score was computed (shape now-shape ideal). A positive score indicated a wish to be thinner, a score of 0 showed body satisfaction, and a negative score indicated a desire to be fatter. (4) Eating behavior: (a) Restrained eating: Subjects completed the restrained eating section of the Dutch Eating Behaviour Questionnaire (DEBQ; Van Strien, Frijters, Bergers, & Defares, 1986). A higher score indicated higher levels of restrained eating. (b) Calorie concern: Subjects rated the statement, "Has eating sweets, cakes or other high calorie food made you feel fat?" on a 5-point Likert scale from never (1) to very often (5).

RESULTS

The results were analyzed to describe subjects' profile characteristics and acculturation scores using means and analysis of variance (ANOVA), to match mothers' and daughters' body image and eating behavior using Spearman's correlation coefficient, to examine the relationship between acculturation and body image and eating behavior within Asian subjects using Pearson's correlation coefficient, to examine the role of ethnic group and family status on body image and eating behavior using repeated measures ANOVA with family status (mother vs. daughter) as the within-subject factor and ethnic group (Asian vs. white) as the between-subject factor.

Subject Characteristics

The subject characteristics are shown in Table 1. The results showed significant main effects of family status on age [$F(2,98) = 2,562.98, p < .0001$], height [$F(2,98) = 17.00, p <$

Table 1. Profile characteristics ($M \pm SD$)

	Asian Mothers ($n = 25$)	Asian Daughters ($n = 25$)	White Mothers ($n = 25$)	White Daughters ($n = 25$)
Age*	48.92 \pm 5.31	20.21 \pm 1.76	48.56 \pm 4.65	19.92 \pm 1.75
Height (cm)**	157.68 \pm 5.93	161.80 \pm 6.70	165.26 \pm 5.93	167.15 \pm 6.97
Weight (kg)***	62.51 \pm 6.74	54.61 \pm 6.87	62.09 \pm 8.75	60.18 \pm 8.08
BMI***	25.22 \pm 2.91	20.88 \pm 2.57	23.25 \pm 2.56	21.51 \pm 2.14
Acculturation**	10.58 \pm 0.5	10.45 \pm 2.93	7.2 \pm 1.15	7.86 \pm 1.24

Note: BMI = body mass index.

*Main effect of family status ($p < .01$).

**Main effect of ethnic group ($p < .01$).

***Family Status \times Ethnic Group interaction ($p < .01$).

.0001], BMI [$F(2,98) = 45.25, p < .0001$], weight [$F(2,98) = 11.65, p < .0001$], but not on acculturation. This suggests that the mothers were older, shorter, heavier, and had a higher BMI than the daughters but comparable in their ratings of acculturation. The results also revealed a significant main effect of ethnic group on height [$F(2,98) = 12.8, p < .001$] and acculturation [$F(2,98) = 41.49, p < .0001$], indicating that the Asian subjects were significantly shorter than the white subjects and considered themselves less westernized. The results showed no main effect of ethnic group for weight, BMI, and age. The results also showed a significant Family Status \times Ethnic Group interaction for weight [$F(2,98) = 4.29, p < .05$] and BMI [$F(2,98) = 8.08, p < .01$]. The means indicate that Asian mothers were the heaviest followed by white mothers and that Asian daughters were the lightest.

Matching Mothers and Daughters

The results showed no significant correlations between mothers and daughters for measures of either body dissatisfaction or eating behavior for both white and Asian subjects.

The Relationship between Acculturation and Body Image and Eating Behavior

The results showed no significant correlations between acculturation and measures of either body dissatisfaction or eating behavior for the Asian subjects.

The Role of Ethnic Group and Family Status on Body Image and Eating Behavior

The means for body image and eating behavior are shown in Table 2.

Body Image

The results showed significant main effects of family status on the subjects' ratings of their shape now [$F(2,98) = 28.83, p < .0001$], ideal body shape [$F(2,98) = 21.67, p < .0001$], relative shape dissatisfaction [$F(2,98) = 5.39, p < .05$], but not for body dissatisfaction (BSQ). The means indicate that the mothers reported having larger present body shapes, larger ideal body shapes, and greater dissatisfaction with their body as measured by the silhouettes compared to the daughters. The results also showed a significant main effect

Table 2. Body image and eating behavior ($M \pm SD$)

	Asian Mothers ($n = 25$)	Asian Daughters ($n = 25$)	White Mothers ($n = 25$)	White Daughters ($n = 25$)
Body image				
BSO***	28.16 \pm 8.93	25.32 \pm 8.43	24.76 \pm 7.74	32.28 \pm 8.02
Shape now*	7.76 \pm 1.20	6.04 \pm 1.40	6.92 \pm 1.50	6.08 \pm 1.12
Ideal shape***	6.24 \pm 0.88	5.36 \pm 0.81	5.72 \pm 0.89	5.12 \pm 0.88
Relative shape dissatisfaction*	1.52 \pm 1.12	0.68 \pm 1.25	1.20 \pm 1.44	0.98 \pm 1.49
Eating behavior				
Restrained eating**	24.32 \pm 8.45	23.8 \pm 10.14	28.52 \pm 5.25	26.96 \pm 6.73
Calorie concern***	3.28 \pm 1.06	3.04 \pm 1.49	3.08 \pm 1.04	3.29 \pm 1.04

Note: BSQ = Body Shape Questionnaire.

*Main effect of family status ($p < .01$).

**Main effect of ethnic group ($p < .01$).

***Family Status \times Ethnic Group interaction ($p < .01$).

of ethnic group on the subjects' ideal body shape [$F(2,98) = 4.16, p < .05$], indicating that the white subjects preferred a thinner ideal shape compared with the Asian subjects, however, ethnic group was not related to present body shape or either measure of body dissatisfaction. The results also showed a significant Family Status \times Ethnic Group interaction for body dissatisfaction as measured by the BSQ [$F(2,98) = 14.78, p < .0001$]. The means indicated that white daughters had the highest body dissatisfaction followed by Asian mothers and white mothers having the lowest body dissatisfaction. Post hoc t tests showed that the white daughters reported significantly greater dissatisfaction than both the Asian daughters ($t = 8.9, p < .005$) and the white mothers ($t = 4.27, p < .001$). Because of the baseline differences in BMI, the data for body dissatisfaction were reanalyzed using BMI as a covariate. The results showed no main effects of ethnicity or family status, but a significant Ethnicity \times Family Status interaction [$F(2,47) = 14.97, p < .0001$].

Eating Behavior

The results showed a significant main effect of ethnic group on restrained eating [$F(2,98) = 4.86, p < .05$], indicating that the white subjects reported higher levels of restrained eating than the Asian subjects, however, the two groups were comparable on calorie concern. The results showed no significant main effects of family status on either measure of eating behavior. However, the results showed a significant Family Status \times Ethnic Group interaction for the level of calorie concern shown by the subjects [$F(2,98) = 6.04, p < .05$]. The means indicate that Asian daughters had the lowest calorie concern, followed by the white mothers, then Asian mothers, with the white daughters showing most concern over the calorie content of their food. Post hoc t tests indicated that the white daughters showed significantly higher calorie concern than the Asian daughters ($t = 5.89, p < .01$), the Asian mothers ($t = 4.64, p < .05$), and the white mothers ($t = 2.93, p < .01$). The data for calorie concern were reanalyzed using BMI as a covariate in order to account for the baseline differences in BMI. The results showed no main effects of ethnicity or family status, but a significant Ethnicity \times Family Status interaction [$F(2,47) = 5.18, p < .05$].

DISCUSSION

The results showed no matching between mothers and their daughters for measures of either body image or eating behavior which supports some previous research (Garfinkel

et al., 1983), but contradicts other studies (Strober et al., 1990). In fact, the results showed some differences, with the mothers reporting their present body shape as larger, preferring a larger body shape, and showing greater relative body dissatisfaction. Perhaps matching between mothers and daughters only exists when younger daughters are examined and within families with other predisposing factors such as a traditional family environment (Hill & Bhatti, 1995).

In terms of ethnic group, the white subjects reported preferring a thinner ideal body and greater levels of restrained eating which supports some previous research (Hill & Bhatti, 1995), but conflicts with others (Akan & Grilo, 1995). It is possible that these contradictions highlight the importance of perceived ethnicity rather than ethnic group per se. However, the results from this study found no relationship between acculturation and weight concern. It is also possible that the contradictions in the literature reflect an interaction between the mother/daughter relationship and ethnic group. The results from the present study provide support for this suggestion for both body dissatisfaction and calorie concern. The results showed that the white daughters were the most dissatisfied with their bodies and the most concerned about high-calorie foods followed by Asian mothers. The group most satisfied with their body was the white mothers, with the Asian daughters reporting least concern about calories. Further, these results remained after accounting for differences in BMI. This interaction between family status and ethnic group may relate to the suggested role of media images in weight concern (Ogden & Munday, 1996). The white daughters were found to have the greatest body dissatisfaction and calorie concern which may reflect their exposure to media images of very thin women as role models. This, however, does not explain why the Asian daughters, who have lived in the same society, showed greater satisfaction with their bodies and lower levels of calorie concern. This may be due to the lack of identification with the media role models who are predominantly white. Perhaps, if the models were Asian they would suffer from the same degree of weight concern. However, why do the white mothers not show high levels of weight concern? Perhaps, this also reflects an absence of identification with the media models, who are not only white, but also young. Accordingly, the white young models are identified with in the main, by white young women—being older or Asian may be protective against this influence. However, the results also showed that the Asian mothers showed high levels of weight concern. Perhaps the Asian mothers became dissatisfied with their bodies whilst still in the Indian subcontinent or by watching Asian films in the West, with Asian models becoming progressively thinner (Hill & Bhatti, 1995). The results from the present study suggest an explanation for the contradictory nature of the research into both the mother/daughter relationship and the role of ethnicity; both family status and ethnic group may be required if the contradictions in the literature are to be clarified. Research is required to explore these suggestions further.

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