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Correlates of self worth and body size dissatisfaction among obese Latino youth

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Abstract

The current study examined self-worth and body size dissatisfaction, and their association with maternal acculturation among obese Latino youth enrolled in a community-based obesity intervention program. Upon entry to the program, a sample of 113 participants reported global self-worth comparable to general population norms, but lower athletic competence and perception of physical appearance. Interestingly, body size dissatisfaction was more prevalent among younger respondents. Youth body size dissatisfaction was associated with less acculturated mothers and higher maternal dissatisfaction with their child's body size. By contrast, although global self-worth was significantly related to body dissatisfaction, it was not influenced by mothers' acculturation or dissatisfaction with their own or their child's body size. Obesity intervention programs targeted to Latino youth need to address self-worth concerns among the youth as well as addressing maternal dissatisfaction with their children's body size.

Keywords

self-worth; body size dissatisfaction; acculturation; obese Latino youth

The prevalence of childhood obesity has increased steadily, reaching epidemic proportions in the United States (Van Cleave, Gortmaker, & Perrin, 2010). Childhood obesity carries significant health consequences concurrently and into adulthood, including diabetes, hypertension, and coronary artery disease, leading to increased risk of mortality (Daniels, 2006). Overweight and obesity are not equally distributed across ethnic groups, but are especially prevalent amongst minorities, including Latino children and adolescents (Calzada & Anderson-Worts, 2009).

Notably, Latino youth have especially high risk of body image disturbance since not only are they disproportionately affected by obesity, but in common with other obese youth, they experience lower self esteem, both generally and in relation to their bodies and appearances (Israel & Ivanova, 2002; Mirza, Davis, & Yanovski, 2005; Vander Wal, 2004). Studies have shown that for Latino youth, weight dissatisfaction is on a par with, or even greater than, for

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non-Latino whites (Altabe, 1998; Gardner & Friedman, 1999; Robinson et al., 1996; Shaw, Ramirez, Trost, Randall, & Stice, 2004). This has serious health implications because poor self esteem and body size dissatisfaction are risk factors for co-morbidities such as depression (Stice, Hayward, Cameron, Killen, & Taylor, 2000; Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich, & Bryant, 2009) and eating disorders (Killen et al., 1994).

Because the attitudes and preferences that influence obesity vary depending on an individuals' culture or community (Kumanyika, 2008), effective clinical interventions require an understanding of the particular contexts of at-risk populations. However, there has been little research to assist clinicians seeking to deepen their understanding. Further, there is limited research on body image which includes both girls and boys, although existing literature suggests that there are similar rates of body image disturbance among obese boys and girls (e.g., Dalton, Johnston, Foreyt, & Tyler, 2008; Jones & Crawford, 2006). The present study is intended to help fill this gap, based on a sample survey of obese, inner city, Latino boys and girls and their parents. The study was designed to probe further areas where the existing literature is especially weak or inconclusive.

Maternal Factors

Maternal attitudes and behaviors have been found to be important in the development of eating and self esteem issues in youth. Specifically, maternal perceptions of their daughters' bodies and maternal self esteem have been linked to their daughters' body and self esteem (Cooley, Toray, Wang, & Valdez, 2008; Hall, Cousins, & Power, 1991). However, there are limited data pertaining to the intergenerational transmission of body size dissatisfaction and self esteem in Latino youth, particularly in samples that include both boys and girls.

A further limitation of the literature on Latino adolescents and adults with regards to body size dissatisfaction and obesity is that it generally ignores the wide variation in cultural backgrounds, and differences in acculturation of participants (Cachelin, Rebeck, Chung, & Pelayo, 2002; Joiner & Kashubeck, 1996; Olvera, Suminski, & Power, 2005). Where these factors are studied, findings are mixed. Some studies have reported no association between acculturation and body satisfaction or self esteem in Mexican American adolescents (Joiner & Kashubeck, 1996). For adult women, some studies have found no differences among ethnic groups in body size preference (Cachelin et al., 2002). However, other studies have shown that with higher levels of acculturation, girls identify thinner figures as being more attractive (Olvera et al., 2005).

The linkage between acculturation and attitudes may help explain perceptions of obesity within the Latino community (Cooley et al., 2008; Hall et al., 1991), though to date there are limited data with inconclusive findings. In a sample of both normal and overweight children, Olvera and colleagues (2005) reported that maternal acculturation may be related to girls' choice of a thinner figure as ideal, but is unrelated to boys' choices. As already noted, obese Latino youth are at heightened risk for low self esteem and body size dissatisfaction (Mirza et al., 2005) and probing further into this topic is one of the main interests of the present study.

Current Study

The current study examines self-worth and body size dissatisfaction in a sample of treatment-seeking obese Latino youth. We hypothesized that this group would report lower global self-worth relative to norms from non-obese groups but that there would be no gender differences in self-worth or body size dissatisfaction. Additionally, we examined the role of maternal acculturation and maternal dissatisfaction with their own and their child's body size in predicting self-worth and body size dissatisfaction of the obese youth. We

hypothesized that youth with more acculturated mothers and whose mothers had higher body size dissatisfaction for themselves and their children, would report lower self-worth and greater body size dissatisfaction, as they would more likely have internalized standards for attractiveness prevalent in American culture that are inconsistent with obesity.

Method

Participants

Participants were 113 Latino children (51% male), ages 7–15 years (M age = 11.7, SD = 2.1) and their mothers (21–59 years, M age = 38.9, SD = 7.3) enrolling in a comprehensive community-based obesity intervention program. Participants were recruited through advertisements placed at community facilities such as clinics, schools, and churches in an urban, Mid-Atlantic city. Eligibility requirements included being a Latino child age 7 to 15 years with Body Mass Index (BMI) $\geq$ 95th percentile for age and sex, who was otherwise healthy (M BMI = 30.23, SD = 5.21). Latino ethnicity was determined by the parent, who identified themselves, their spouse and both sets of grandparents with the Hispanic or Latino cultural group. Most of the families were of El Salvadoran origin (70 %) or other South and Central American origin (15%), 11% were of Dominican origin, and only 4% were of Mexican origin. Mothers reported a mean income of \$29,227 (SD = \$17,390) and had a mean BMI in the obese range, comparable to their children (M = 30.34, SD = 5.94). For the current study, data were obtained from only one child from each family.

Procedure

The study was approved by the Children's National Medical Center Institutional Review Board. Written consent was obtained from parents and assent from children. All data were collected at baseline prior to participation in the comprehensive treatment program. Participants were admitted to the clinical research center at Children's National Medical Center for their anthropometric assessments, questionnaire completion, and interviews.

Measures

Physical assessments of the participants included height, weight, and waist circumference measurements. The assessments were done with subjects in minimal clothing (hospital gown and underwear). Height was measured using a wall-mounted stadiometer (SECA 216, Hanover, MD). Weight was measured on a digital scale (Scale-Tronix Inc., 5002, Wheaton, IL). BMI was calculated. For both BMI and waist circumference, z -scores were calculated to standardize the measures for age and sex.

To assess socioeconomic status and acculturation, mothers completed questionnaires (generally administered in Spanish by a fluently bilingual trained research assistant) derived from validated surveys (2001 Youth Risk Behavior Survey and the Bicultural Involvement Questionnaire; Szapocznik, Kurtines, & Fernandez, 1980). Acculturation was measured via seventeen items assessing constructs including linguistic fluency and comfort level in Spanish and English, language use at home, and with work and friends, and preferences in music, books, magazines and visual media. The items were rated on a scale with a maximum score of 4 for 14 items, 3 for 2 items, and 5 for 1 item. The acculturation scale is a summation of all items. Total scale scores ranged from 17 to 67, with higher scores reflecting greater acculturation to American culture. In the current study, the acculturation scale demonstrated adequate internal consistency (α = .77).

Child self-worth was measured using the Harter Self-Perception Profile for Children (HSPPC; Harter, 1985). This 36-item instrument contains six separate subscales tapping five specific domains as well as global self-worth. The three domains utilized for the current

study were athletic competence, perception of physical appearance, and global self-worth. Each of the subscales contains six items. The athletic competence scale assesses perception of one's physical ability to play sports and outdoor games. The perception of physical appearance scale assesses the degree to which a child is pleased with his/her physical appearance including weight, height, and if the child feels that he/she is good-looking. The global self-worth scale assesses the extent to which the child likes himself/herself as a person. Mean scores were calculated for each domain, and the higher the score, the greater the esteem in the area-specific domain. This measure has demonstrated good reliability and validity (Harter, 1985). In the current study, each subscale demonstrated slightly less than adequate internal consistency ($\alpha = .63-.67$). This suggests that this measure may not be wholly appropriate for use with an obese Latino population. However, given that previous research has demonstrated good internal consistency using this measure (e.g., Muris, Meesters, & Fijen, 2003), the current study utilized the scales in the analyses; however, results should be interpreted with caution.

To measure body size dissatisfaction, youth were presented with sets of drawings of eight gender-specific body silhouettes from the Kids Eating Disorder Survey (Childress, Brewerton, Hodges, & Jarrell, 1993). Youth indicated the drawing that most resembled their current size and the drawing that resembled their ideal size. Body size dissatisfaction score was calculated by subtracting the current size from the ideal size. All youth rated their current size as larger than their ideal size; therefore, all scores were negative which were indicative of being dissatisfied with the larger size of one's body.

Maternal body size dissatisfaction was assessed using the Stunkard Figure Rating Scale (Stunkard, Sorensen, & Schulsinger, 1983), with mothers rating their own current body size and their ideal body size from a range of nine figure drawings. Body size dissatisfaction was calculated by subtracting their current rating from their perception of their ideal size. Maternal dissatisfaction with her child's body was assessed using gender-specific child figures from the Kids Eating Disorder Survey (Childress et al., 1993), with which mothers rated their child's current and ideal body size. Maternal dissatisfaction with her child's body size was similarly calculated by subtracting the current ranking from the ideal ranking. For all ratings of body size dissatisfaction, the more negative the value, the greater the dissatisfaction.

Statistical Analyses

Statistical analyses were performed using PASW version 18 (SPSS, Chicago, IL). Descriptive statistics are presented as means, standard deviations, and range. Mean differences were tested for significance using two-sample *t*-tests. Pearson correlations were calculated to examine bivariate associations. Because of the number of correlations conducted, a conservative *p*-value of .01 was used to evaluate significance. A hierarchical linear regression analysis was performed to examine the relationship of maternal characteristics to child body dissatisfaction. Specifically, the first step included child characteristics significantly correlated with predictor and outcome variables of interest (i.e., child age, sex, and waist circumference) and was utilized to control for the variability in child body dissatisfaction accounted for by these child factors. The second step of the regression included maternal acculturation, and maternal dissatisfaction with her child's and her own body size.

Results

The distributions of key study variables are presented in Table 1. Study subjects had a mean BMI and waist circumference *z*-scores of 2.2 and 1.5 respectively. There were no significant differences in age, BMI, or waist circumference between boys and girls. Of note, mothers

reported very high dissatisfaction with their children's body size, with a mean of -6.2 , indicating that almost all mothers reported near the maximum discrepancy between their child's ideal size and current size. In fact, 95% of all mothers reported within two ratings of the maximum discrepancy between ideal and current figures.

With regard to body size dissatisfaction and self-worth, there were no significant differences between boys and girls except for perception of physical appearance, on which girls scored significantly lower than boys $t(110) = 1.99, p \leq .05$, Cohen's $d = .38$ (Table 2). We next compared our study sample's mean global self-worth score with published norms from the HSPPC (Harter, 1985). Sixth grade published norms for HSPPC were used, as that was the mean age of our study sample. Two-sample t-tests were conducted separately for boys and girls, as norms are only available separately (Table 2). Mean scores for both boys and girls were lower than the general community norms for perception of physical appearance $t(262) = 3.26, p = .001$, Cohen's $d = .40$; $t(278) = 2.47, p = .01$, Cohen's $d = .30$, respectively, and athletic competence $t(262) = 4.01, p < .001$, Cohen's $d = .50$; $t(278) = 2.41, p = .02$, Cohen's $d = -.30$, respectively (Table 2). There were no significant differences in global self-worth between the study sample and the general norm values.

Correlations between the key variables in the study reveal important linkages between perceptions, attitudes and biometric data (Table 3). BMI and waist circumference z-scores were highly correlated with each other. Waist circumference was negatively related to both the child's and mothers' dissatisfaction with the child's body size (Child BD and Mother Child BD respectively), whereas BMI was negatively related only to Mother Child BD. Maternal dissatisfaction with her own body size was positively correlated with maternal BMI and Mother Child BD. BMI and waist circumference z-scores were unrelated to age, but interestingly, younger children tended to have greater body dissatisfaction. In terms of self-worth, the three subscales (perception of physical appearance, athletic competence and global self-worth) were strongly correlated with each other, but only global self-worth was significantly correlated with Child BD, with the higher the global self-worth, the lower the Child BD. Youth with higher waist circumferences reported lower athletic competence. The self-worth variables were not significantly associated with any of the maternal characteristics.

To assess further the relationship of maternal characteristics (acculturation, maternal body size dissatisfaction, and maternal dissatisfaction with her child's body) to child body size dissatisfaction, a hierarchical linear regression was performed, controlling for child's age, sex, and waist circumference (Table 4). The regression equation was significant ($F(5, 106) = 6.12, p < .001$). Specifically, younger children, youth with less acculturated mothers, and youth with mothers who reported greater dissatisfaction with their child's body size, reported greater body size dissatisfaction.

Discussion

Minority youth with obesity may experience difficulties with self-worth and body size dissatisfaction (Mirza et al., 2005), placing them at greater risk for depression (Stice et al., 2000) and disordered eating (Killen et al., 1994). With rates of obesity increasing, especially amongst minority youth, examining self-worth, body size dissatisfaction, and their correlates in this population is of particular importance. To our knowledge, the current study is the first to report on facets of self-worth and body size dissatisfaction of mother-child dyads among treatment-seeking Latino boys and girls with obesity. As noted earlier, we hypothesized that this group would report relatively low self-worth, there would be no differences in body size dissatisfaction between boys and girls, and that child's body size dissatisfaction would be associated with maternal acculturation and satisfaction with their own and their child's body

size. Our findings are broadly consistent with those expectations, though a few questions remain indicating a need for further research.

Self-worth

Studies dating back as far as the 1960s have reported the negative effects of overweight and obesity on children's psychological well-being (Richardson, Goodman, Hastorf, & Dornbusch, 1961). Consistent with this research, our study sample reported significantly lower self-worth in the perception of physical appearance and athletic competence domains compared to general community norms. In addition, as with the general population (Harter, 1985), girls in the current sample had significantly lower perceptions of physical appearance compared to boys.

However, some of our results concerning self-worth appear inconsistent with our hypothesis and previous research. For example, Hesketh and colleagues (2004) report low self esteem for obese youth (Hesketh, Wake, & Waters, 2004). Further, Strauss (2000) found that overweight or obese female Hispanic youth showed significantly lower global self-worth on the HSPPC than non-obese Hispanic female peers (Strauss, 2000). Our comparison differed from Strauss' in two key ways: the current comparison was to a less recent, Caucasian sample and the youth in the current study were seeking treatment for their weight. Therefore, the current results may indicate that treatment-seeking obese youth have better self-worth as compared to non-treatment-seeking youth, perhaps because they are more optimistic at the initiation of treatment and about their ability to change their weight status. Alternatively, the comparison to Caucasian youth may be different than the comparison to Latino youth, as there could be cultural factors which influence responses to items on the global self-worth scale. This hypothesis may be supported by the fact that the current study found less than adequate reliability on this scale, as compared to the good reliability estimates found in Caucasian samples. Therefore, future research should utilize culturally-sensitive measures to compare global self-worth in obese youth, both seeking treatment and not, as well as non-obese youth.

Although BMI was not related to self-worth indicators, we found a significant negative association between waist circumference, a measure of central adiposity, and athletic competence. A possible explanation is that youth are more aware of their waist circumference than their BMI, because clothing sizing, with which many youth are familiar, is based on waist circumference rather than BMI. Psychologically, that may give waist circumference, a more immediate and visual indicator of obesity, greater significance in youths' perception of his/her ability to engage in athletic activity. Conversely, it is possible that a youth's perception of his/her ability to engage in sports limits their interest in doing so which decreases physical activity and becomes a contributor to increased waist circumference. In order to assess these hypotheses, future research should examine both BMI and waist circumference and their relationships to youths' perceptions as well as the mechanisms by which each are associated with measures of self-worth.

Body Size Dissatisfaction

All but one of the youths in our study reported body size dissatisfaction and, as expected, there was no difference in body size dissatisfaction scores between boys and girls, consistent with previous literature (Dalton, Johnston, Foreyt & Tyler, 2008; Jones & Crawford, 2006). However, younger children were more likely to report greater body size dissatisfaction than older youth, which is surprising. An association between body dissatisfaction and obesity has been documented in children as young as 8 years (Hill & Pallin, 1998); however, body dissatisfaction is typically more prevalent amongst older children with obesity (Hill, Draper, & Stack, 1994; Strauss, 2000; Wadden, Foster, Stunkard, & Linowitz, 1989). A possible

explanation for our finding is that the younger obese children may be more likely to be teased and bullied, and therefore more dissatisfied with their body size, as weight-related teasing has been associated with body dissatisfaction (Grilo, Wilfley, Brownell, & Rodin, 1994; Jackson, Grilo, & Masheb, 2000; Thompson, Rafiroiu, & Sargent, 2003). Additionally, older obese children could possibly be more comfortable with their physical appearance and sexual body image (Altabe, 1998). In particular, as peers' bodies also start changing in puberty, the older Latino youth may not feel as different from their peers as the younger Latino youth. Alternatively, it may be that the use of figure drawings to rate body dissatisfaction in the youngest age range (i.e., 7 to 8) in the current sample may not be reliable or valid, making this a spurious finding (Smolak, 2004).

In contrast to the findings for youth, maternal dissatisfaction with the child's body size was negatively correlated with *both* the child's BMI and waist circumference, with higher BMI and waist circumference associated with greater maternal dissatisfaction with the youths' body size. As the majority of the mothers were referred to the community-based weight management program by their child's health care provider, they had likely had recent discussions regarding their child's weight. More familiarity with markers such as BMI and waist circumference cited by health care providers may have contributed to the closer association with dissatisfaction about their child's body size.

As hypothesized, we found a strong positive association between the mothers' dissatisfaction with her child's body size and her child's dissatisfaction with body size, suggesting transference of body size expectation from mother to child, or dissatisfaction on the mother's part because she is aware of her child's dissatisfaction. However, due to the cross-sectional nature of the current study, we were unable to determine the directionality of this relationship. This finding of the interrelationship of maternal and child body size dissatisfaction is consistent with similar findings in the literature regarding younger children's weight (Jaffe & Worobey, 2006). However, data pertaining to older children are limited. Of significant concern is the extremely high rate of dissatisfaction with child's bodies expressed by the mothers in the current study. Even though these levels may be particularly high seeing as these mothers are actively seeking treatment for their children, necessitating at least some level of dissatisfaction with body size, the study finding that maternal dissatisfaction is associated with child body size dissatisfaction is cause for concern. For example, if there is transference of dissatisfaction from mother to child, these youths may then be at very high risk for experiencing body size dissatisfaction. Future research should examine this relationship longitudinally to assess the directionality of transfer of body size dissatisfaction as well as developmental trajectories.

We speculated that greater maternal acculturation should increase maternal dissatisfaction with her child's body size, given the prevalence of the thin ideal in American culture. However, contrary to our hypothesis, these variables were not significantly correlated, although both independently were linked to child's body size dissatisfaction for both boys and girls. Moreover, it was less acculturated mothers who appeared to influence their child's body dissatisfaction. Previous studies have reported inconsistent relationship between Latino culture and weight satisfaction (Robinson et al., 1996; Franko & Herrera, 1997; French et al., 1997; Olvera et al., 2005). While some studies have shown less weight dissatisfaction among Latina women compared to their white counterparts (Franko & Herrera, 1997; French et al., 1997), other studies report greater weight dissatisfaction among Latinos (Robinson et al., 1996). Additionally, studies to date indicate that Latino children and adolescents perceive obese figures as less attractive, similar to their peers from other cultures (Olvera et al., 2005). Although in our study sample obese Latino youth had a higher likelihood of being dissatisfied with their bodies if their mothers were also dissatisfied with their child's body, maternal acculturation actually attenuated the affected youths' body

dissatisfaction. One explanation might be that more acculturated mothers have a better understanding of the pressures and expectations placed upon their children in the American culture and attempt to protect their children from low self-worth and body dissatisfaction. Future research could cast light on this by examining the type and amount of support youths' perceive from their mothers in relation to maternal acculturation and child body dissatisfaction.

Study Strengths and Limitations

Our current study fills a gap in the literature by examining self-worth and body size dissatisfaction of treatment-seeking obese Latino youth and some maternal correlates of these outcomes. However, there are some limitations that need to be considered when interpreting these findings. First, the data are cross-sectional. Therefore, no causal relationships can be assessed. Future research needs to examine these relationships longitudinally. Second, only maternal acculturation was measured. Assessing paternal and child acculturation will be important in future research to examine other mechanisms of parental transmission of attitudes and behaviors regarding weight and appearance. Paternal perspectives and acculturation may also be particularly important for understanding body size dissatisfaction in boys, as fathers may serve as more of a role model for appearance for their sons than their daughters.

Another limitation was the use of the HSPPC. First, internal consistencies for the HSPPC scales were less than adequate. Although previous studies have found the internal consistency of the scale to be adequate (e.g. Muris et al., 2003), it may be less reliable for use with obese Latino youth. Further, the norms used for comparison to the general population are outdated and utilized a primarily Caucasian sample of unknown BMI. Therefore, these findings should be interpreted with caution and future research should utilize more updated and culturally-appropriate measures of self-worth.

In addition, there is some question to the validity of using figure scales. For example, there has been some research suggesting that the order in which the figure drawings are presented influences how an individual perceives their size (Doll, Ball, & Willows, 2004; Nicholls, Orr, Okuo & Loftus, 2006). Future research should use additional measures of body size dissatisfaction.

Finally, care should be exercised in generalizing these findings beyond the specific population of treatment-seeking Latino youth with obesity. As children routinely come to treatment because of parental concerns with their weight, it is also likely that parental dissatisfaction with their child's body (as well as its relationship to child body dissatisfaction) is unusually high in this sample.

Conclusions and Clinical Implications

In conclusion, treatment-seeking obese Latino youth overwhelmingly reported lower perception of physical appearance and athletic competence than youth in the general population. However, we found no differences between the current sample of obese youth and the general population on reports of global self-worth. Mothers of obese youth also reported dissatisfaction with their children's body size. Both maternal dissatisfaction with her child's body size and maternal acculturation were independently associated with the youths' self-reported body size dissatisfaction. Hopefully further studies will expand our understanding of the complex sociological and psychological influences on obesity.

Clinical implications of our findings include the need to address body size dissatisfaction and self-worth concerns of the youth and their parents in obesity intervention programs targeted to Latino youth. Given that previous research has found that Mexican-American

youth in a weight loss intervention program lost less weight as weight dissatisfaction increased (Dalton et al., 2008), addressing child body size dissatisfaction in weight loss programs could help increase success rates in these interventions in a Latino population. The current study elucidates factors associated with risk for body size dissatisfaction. Therefore, identifying youth who may be at higher risk of body size dissatisfaction (i.e., those with less acculturated mothers and those whose mothers have high levels of dissatisfaction with their children's body size) and providing them with additional support, may help to improve weight loss amongst treatment-seeking obese Latino youth.

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Table 1

Characteristics of Study Participants

Study Variable	Mean (SD)	Range
Child Age ^a	11.7 (2.1)	7–15
Child BMI Z-Score ^a	2.2 (0.3)	1.5–2.9
Child Waist Circumference Z-Score ^a	1.5 (0.6)	0.1–3.3
Maternal Characteristics		
Maternal BMI	30.34 (5.94)	18.9 – 49.8
Acculturation ^b	33.3 (7.3)	18–56
Own Body Dissatisfaction ^c	–2.3 (2.1)	–7–2
Dissatisfaction with Child Body ^c	–6.2 (1.1)	–7–0

^a *t*-tests revealed that girls and boys did not differ significantly on any of these Measures

^b Higher scores indicate greater acculturation to American culture

^c More negative scores indicate greater dissatisfaction with body size

Table 2

Self-worth Among Obese Latino Youth Compared to Reference Norm^a

	Boys' Mean (SD)		Girls' Mean (SD)		<i>p</i> value ^b	<i>p</i> value ^c	<i>p</i> value ^d
	Sample	Harter	Sample	Harter			
Global Self-Worth ^e	3.15 (0.54)	3.20 (0.61)	3.07 (0.71)	3.10 (0.65)	.77	.57	.51
Athletic Competence ^e	2.78 (0.66)	3.15 (0.61)	2.55 (0.67)	2.80 (0.69)	.02	<.001	.07
Physical Appearance ^e	2.65 (0.68)	2.98 (0.68)	2.41 (0.59)	2.68 (0.75)	.01	.001	.05
Body Size Dissatisfaction	-2.91 (1.16)		-3.04 (1.48)				.61

^a Norm values obtained from *Manual for the self-perception profile for children* (Harter, 1985), using the sixth grade norm which reflects the mean age of the sample.

^b *p* value for differences between sample and norm means for girls on HSPPC

^c *p* value for differences between sample and norm means for boys on HSPPC

^d *p* value for difference between sample boys and sample girls on HSPPC and body size dissatisfaction

^e On all measures, higher scores indicate higher levels of the construct

Table 3

Correlations among key study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Child Age (years)	1											
2. Child Sex	-.02	1										
3. Income (dollars)	.16	.13	1									
4. BMI Z-score	-.04	.11	-.23	1								
5. Waist Circum Z-Score	-.03	.18	-.18	.88**	1							
6. Maternal BMI	.10	.11	-.19	.21	.16	1						
7.Acculturation	.20	.06	.43**	-.03	.02	-.09	1					
8. Mother BD ^a	.00	-.03	.16	-.08	-.07	-.49**	.04	1				
9. Mother Child BD	-.20	-.27*	.13	-.48**	-.46**	-.07	-.06	.27*	1			
10. Child BD	.29*	.05	.10	-.17	-.24*	-.13	.21	.09	.23	1		
11. Global Self-Worth	.15	.07	.01	-.08	-.10	.00	.13	.09	.00	.24*	1	
12. Athletic Competence	-.18	.19	-.11	-.14	-.25*	.05	.05	-.11	.05	.12	.34**	1
13. Perception of Physical Appearance	-.06	.17	-.03	-.06	-.11	.01	.14	.01	-.02	.12	.42**	.39**

* $p < .01$,** $p < .001$ ^a BD = Body size dissatisfaction

Table 4

Regression Predicting Child Body Dissatisfaction

Variables		Child Body Dissatisfaction		
		β	F Model	R^2 R^2 Change
Step 1			6.22 ***	.15 ***
	Demographics			
	Child Age	.31 ***		
	Child Sex ^a	.16		
	Child Waist Circumference Z-Score	-.12		
Step 2			5.40 ***	.24 ***
	Maternal Characteristics			.09 ***
	Acculturation	.17 *		
	Mother Child Body Dissatisfaction	.29 **		
	Mother Own Body Dissatisfaction	.00		

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

^aVariable dummy coded in reference to girls

Note: All β values are reported controlling for all variables in the regression equation