

Ethnicity, Ethnic Identity, Self-Esteem, and At-Risk Eating Disordered Behavior Differences of Urban Adolescent Females

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The purpose of this study was two-fold: to determine the relationship between ethnic identity and self-esteem as dimensions of one's self-concept; and to determine if differences exist among one's ethnicity, ethnic identity, and/or self-esteem when examining at-risk eating disordered behaviors. A total of 893 urban adolescent females completed three behavioral subscales: the Eating Disorder Inventory, Rosenberg's Self-Esteem Scale, and Phinney's Multigroup Ethnic Identity Measure. As hypothesized, ethnic identity was significantly associated with self-esteem to form one's self-concept. When compared to Mexican American and White females, only Black females who were in the higher ethnic identity and self-esteem categories had significantly lower at-risk eating disordered scores. Our findings suggest eating disorder status in Mexican American and White females may not be associated as much with ethnic identity as with other acculturation and self-concept factors. Further, this study demonstrated ethnicity, self-esteem, and ethnic identity play significant roles in eating disorder risks.

INTRODUCTION

Some researchers have gone beyond examining females in general to discriminate at-risk eating disordered behaviors among different ethnic groups.

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Of the limited research examining ethnicity and at-risk eating disordered behaviors, many of the results are contradictory. Some studies have found that Black females are less affected by sociocultural influences to be thin than White females (Debate, Topping, & Sargent, 2001; Rhea, 1999; Roberts, Cash, Feingold, & Johnson, 2006) and perceive their larger body size to be more appropriate (Croll, Neumark-Sztainer, Story, & Ireland, 2002; Rhea, 1999; Striegel-Moore & Smolak, 2000; Yates, Edman, & Aruguete, 2004). Other studies have shown that Black and White females are equally at risk for eating disorders (Shaw, Ramirez, Trost, Randall, & Stice, 2004) and more specifically bulimia and binge eating disorders (Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000; White & Grilo, 2005). Likewise, a number of studies have found that Mexican American and White females are equally at risk for eating disorders in urban and suburban populations (Fisher et al., 1994; Robinson et al., 1996). Others have found that Mexican American youth are more at risk for eating disorders than White youth (Croll et al., 2002).

Additionally, other researchers have argued the development of at-risk eating disordered behaviors lies in their self-concept (Geller et al., 2002; Jacobi et al., 2004; Thomas et al., 2002). Self-concept is a multifaceted construct that refers to a person's perceptions of oneself which develops over time through various experiences within the environment, through others' perceptions of the individual, and through internalizing attributions for one's own behavior (Blash & Unger, 1995). Self-esteem and ethnic identity are two dimensions of the multifaceted construct: self-concept. Self-esteem is defined as an individual's subjective evaluation of the self or feelings of worth (Harter, 1993; Hattie, 1992). Ethnic identity, a related but distinct dimension of self-concept and an aspect of the acculturation process, refers to a sense of belonging to an ethnic group, and those thoughts and behaviors that are due in part to ethnic group membership (Phinney, 2003). Many would argue that a critical time in the development of one's self-concept is during adolescence (Blash & Unger, 1995; Harter, 1993; Phinney, Cantu, & Kurtz, 1997). Self-esteem is widely acknowledged to be an important factor in adolescent development (Phinney et al., 1997), whereas less is understood about ethnic identity in adolescent development (Phinney & Rosenthal, 1992).

More recently, the knowledge obtained regarding ethnic identity and self-esteem has largely derived from Social Identity Theory (SIT; Bracey, Bámaca, & Umana-Taylor, 2004; Greig, 2003; Lorenzo-Hernandez & Ouellette, 1998; Negy, Shreve, Jensen, & Uddin, 2003; Phinney et al., 1997). According to Tajfel and Turner (1986), SIT "consists of those aspects of an individual's self-image that derives from the social categories to which one perceives oneself as belonging" (p. 16). This contention stems from the observation that people are motivated to enhance their self-esteem, and they also strive to maintain positive social identities (Lorenzo-Hernandez & Ouellette, 1998). Recent studies have supported this theory by identifying a positive relationship between ethnic identity and self-esteem in adolescent

and college populations (Bracey et al., 2004; Greig, 2003; Lorenzo-Hernandez & Ouellette, 1998; Negy et al., 2003; Phinney et al., 1997). Overall, the literature demonstrates if a member of an ethnic group identifies strongly with their own group, then he/she will also feel better about himself/herself (Bracey et al., 2004; Greig, 2003; Lorenzo-Hernandez & Ouellette, 1998; Phinney et al., 1997). One might argue if an adolescent has a lower self-esteem and a lower ethnic identity that combination could lead to a greater chance of at-risk eating disordered behaviors because of a perceived lack of control over who they are.

Much of the recent findings have linked lower self-esteem to at-risk eating disordered behaviors, especially in adolescent females (Furnham, Badmin, & Sneade, 2002; Jacobi et al., 2004; O'Dea & Abraham, 1999; Polivy & Herman, 1999; Shisslak & Crago, 2001). An important consideration in the development of eating disorders, often neglected in both psychological and social-structural analysis, is the influence of ethnic identity. Only modest attention has been paid to the possibility that a person's ethnic identity and self-esteem have an impact on eating disordered behaviors. Inspired by the SIT, the initial purpose of this study was to determine the relationship between ethnic identity and self-esteem as dimensions of one's self-concept. It was hypothesized that ethnic identity would relate positively to self-esteem in urban White, Mexican American, and Black American adolescent females which would show self-esteem and ethnic identity are both related to one's self-concept. The second purpose was to determine if differences existed among one's ethnicity, ethnic identity, and/or self-esteem when examining at-risk eating disordered behaviors, while controlling for physical size (as operationalized by body mass index). As documented in previous research, one explanation for discrepancies relative to disordered eating is failure to consider physical size as a covariate. Physical size, referred to as large or small size through BMI, has been found to be a strong predictor of performance on the Eating Disorder Inventory subscales, drive for thinness, bulimia, and body dissatisfaction (Rhea, 1999; Robinson et al., 1996). Therefore, controlling for physical size should be considered when examining at-risk eating disordered behaviors. It was hypothesized that individuals with a low self-esteem and a low ethnic identity would have higher tendencies to engage in eating disordered behaviors.

METHOD

Participants

Participants in this study consisted of 1,042 urban females from six high schools in a large ethnically diverse southern metropolitan city. The females were selected from physical education and health classes in schools with enrollments of a minimum of 1800 students to collect a higher representation

of ethnically diverse groups. The participants ranged in age from 13–19 years ($M = 15.5$, $SD = 1.1$). Participants identified themselves as Black ($N = 388$, 38%), Mexican American ($N = 278$, 27%), White ($N = 227$, 22%), Asian ($N = 62$, 6%), Native American ($N = 14$, 2%), and other ($N = 73$, 8%). This population was representative of the demographic composition of the city. Due to the smaller number of Asian, Native American, and other ethnic participants, these individuals were excluded in all analyses and will not be discussed further in this study. Therefore, the overall participants numbered 893.

Instruments

At-risk eating disordered behaviors. The Eating Disorder Inventory (EDI; Garner & Olmstead, 1984) is a 64-item, self-report, eight-subscale measure designed for the assessment of psychological and behavioral traits common in anorexia and bulimia nervosa. For the purposes of this study, the three behavioral subscales of the EDI that are indicative of behavioral traits common in anorexia and bulimia were used: Drive for Thinness (DT; excessive concern with dieting, preoccupation with weight, extreme pursuit of thinness), Bulimia (BUL; tendency to engage in bingeing that may be followed by impulse to induce vomiting), and Body Dissatisfaction (BD; dissatisfaction with the shape of body parts such as hips, buttocks, and the belief that these parts are too big or fat).

In the present study, the degree of reliability (Cronbach's alpha) of the three EDI subscales was comparable to that obtained in other nonpatient studies: Drive for Thinness ($\alpha = .78$), Bulimia ($\alpha = .75$), and Body Dissatisfaction ($\alpha = .83$). The degree of reliability by ethnicity can be seen in Table 1. Items were scored using a 6-point Likert-type scale, ranging from 0 (*never, rarely or sometimes*) to 3 (*always*) (Garner, Olmstead, & Polivy, 1983).

Ethnic identity. The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) is used to measure the aspect of identity related to one's membership in an ethnic group. The MEIM consists of 14 self-reported items for ethnic behavior, identity achievement, and affirmation/belonging. Phinney believes these are three principal components of ethnic identity.

TABLE 1 Reliability Coefficients for Each of the EDI Subscales, Self-Esteem Scale, and Ethnic Identity Scale by Ethnicity

Variable	White ($N = 168$) α	Mexican American ($N = 203$) α	Black ($N = 300$) α
Drive for thinness	.85	.72	.78
Bulimia	.75	.73	.77
Body dissatisfaction	.88	.81	.80
Self-esteem	.84	.90	.83
Ethnic identity	.65	.86	.88

In the MEIM, respondents indicated their agreement or disagreement with each statement on a scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). One item states, "I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs." Another item is "I am active in organizations or social groups that include mostly members of my own ethnic group." One last example is "I have a strong sense of belonging to my own ethnic group." Phinney, Chavira, and Tate (1993) suggested that although the three aspects of ethnic identity are conceptually separate, the 14 items may not need to be analyzed separately. A factor analysis of the ethnic identity scale revealed similar results to other related studies that the subscales collapsed into a one-factor solution accounting for about 60% of the explained variance (Lorenzo-Hernandez & Ouellette, 1998; Phinney et al., 1993). The loading of the 14 items in the one-factor solution was moderately high (eigenvalue of 3.52). Accordingly, the 14 items were combined to form a single indicator of ethnic identity. Cronbach's alpha (.80) for this study was comparable to other adolescent populations for the MEIM. The degree of reliability by ethnicity can be seen in Table 1.

Self-esteem. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1986) is a 10-item scale designed to measure self-approval. Respondents indicate their degree of agreement with a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example of one of the items in this scale stated, "I feel that I have a number of good qualities." The scores can range from 10 to 50 with higher scores indicating higher self-esteem. In this study, the alpha (.85) for the RSES was comparable to other adolescent populations. The degree of reliability by ethnicity can be seen in Table 1.

Demographic and weight information. A nurse from each school provided each student's current weight and height. The school district requires the nurses at each school to collect their own height and weight data at the beginning of the school year for each student. This is accomplished with weight scales and a height ruler on the wall. Therefore, it is an assumption of this study that the information collected on each student was reliable. The students provided information about their ages and ethnicity status. From the height and weight data, body mass index (BMI; weight (kg)/ height (m)²) scores were computed. Age (in months) and sex specific percentiles of BMI based on Centers for Disease Control and Prevention (CDC; 2012) Growth Charts were used as the most appropriate measure of BMI. We used the SAS program available from the CDC for calculating these values (CDC, 2009).

Procedure

Human Subjects approval was obtained from the University committee for the protection of human subjects and from the school district. An active consent letter was mailed out to parents and/or legal guardians via an informational packet at the beginning of the school year. No parents or legal

guardians refused to provide consent for their child's participation in this study. Further, teachers approved of the class time for survey administration. Prior to participating, all individuals received information on the voluntary, anonymous, and confidential nature of the study. The individuals were told the purpose of the study was to measure general feelings about oneself and eating attitudes. Less than one percent ($N = 7$) of the students self-declined participation in this study. The participants completed the questionnaire in the presence of the researcher. Teachers were not present during survey administration.

Data Analysis

To examine whether differences in at-risk eating disordered behaviors existed among ethnicity, ethnic identity, and self-esteem, a MANCOVA was conducted. In order to determine if high or low self-esteem and high or low ethnic identity make a difference with at-risk eating disordered behaviors, those variables had to be converted from continuous to categorical variables for the MANCOVA analysis. For analyzing these variables as categorical, the MEIM was collapsed into low, medium, and high groups as suggested in previous literature, to identify individuals who self-report as high or low ethnic identity (Phinney et al., 1997). Operational definitions were created by dividing the mean scores at 33rd and 66th percentiles. Therefore, low ethnic identity corresponded to the 33rd percentile or lower, medium ethnic identity corresponded to scores in the 34th to 66th percentile range, and high ethnic identity corresponded to scores at or above the 67th percentile. The self-esteem scale scores also were collapsed into low, medium, and high groups as suggested in previous literature to identify individuals who self-report as high or low self-esteem (Fisher et al., 1994). Operational definitions were created with the same percentile measures as the ethnic identity measure and further analyses were consistent with ethnic identity as well. For this analysis, the self-esteem and ethnic identity middle groups were excluded in order to create clearly separate high and low groups for each of the above mentioned variables.

RESULTS

Age distribution and BMI are shown in Table 2 by ethnicity. Independent analyses of variance (ANOVAs) demonstrated the three ethnic groups were of similar ages, $F(2, 891) = 1.54, p > .05$, but differed significantly on body mass index, $F(2, 786) = 11.96, p < .0001$. Black females had significantly higher BMI than White and Mexican American females. The CDC (2012) has determined BMI percentiles for adolescents under the age of 20 at <5% (underweight), 10–85% (healthy weight), 85–95% (overweight),

TABLE 2 Means and Standard Deviations of Age, BMI, and EDI Subscales, Self-Esteem, and Ethnic Identity Scales by Ethnicity

Variable	White (<i>N</i> = 168)		Mexican American (<i>N</i> = 203)		Black (<i>N</i> = 300)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	15.51	(1.18)	15.57	(1.07)	15.52	(1.13)
BMI	21.83 ^b	(3.96)	22.54 ^b	(4.12)	23.92 ^a	(5.12)
DT	6.45 ^a	(5.50)	6.70 ^a	(5.31)	4.87 ^b	(4.73)
BUL	2.76	(2.79)	2.56	(2.62)	2.45	(2.69)
BD	11.20 ^a	(7.43)	10.57 ^a	(6.81)	7.77 ^b	(5.99)
Ethnic identity (EI)	11.35 ^b	(1.74)	12.00 ^a	(1.74)	12.22 ^a	(1.97)
Self-esteem (SE)	29.50 ^b	(5.39)	29.93 ^b	(4.74)	31.06 ^a	(5.05)

Note. ^a and ^b: mean scores that do not share common superscripts are significantly different at $p < .05$.

and >95% (obese). Only 3 students (.003%) from the sample had a BMI of <5%. Among the White and Mexican American adolescent females, 85% were in the healthy weight BMI percentile scores, whereas only 68% of the Black adolescent females were of healthy weight. Eleven percent of the Mexican American and White samples had a BMI between the 85th and 95th percentiles (overweight), whereas 21% of the Black sample was in the overweight percentile category. Only 3% of the Mexican American sample and 5% of the White sample were above the 95th percentile of BMI (obese), whereas 11% of the Black sample was above the 95th percentile. Black females reported more than double the number of BMIs for overweight and obese than White or Mexican American females.

Table 2 shows the means and standard deviation results of a multivariate analysis of variance (MANOVA) for ethnic identity, $F(2, 888) = 9.15$, $p < .0001$, and self-esteem, $F(2, 888) = 54.81$, $p < .0001$, by ethnicity. Univariate analyses revealed Black females reported higher self-esteem than White or Mexican American females and Black and Mexican American females reported higher ethnic identity than White females.

Pearson-product correlation analysis was conducted between the variables of interest (ethnic identity, self-esteem, drive for thinness, bulimia, and body dissatisfaction) to determine whether ethnic identity and self-esteem were dimensions of one's self-concept and whether these dimensions of self-concept were related to eating disorder variables. As expected, Table 3 shows a significant positive relationship between ethnic identity and self-esteem for the whole sample ($r = .36$, $p < .01$), as well as for the individual ethnic groups: White ($r = .25$, $p < .01$), Mexican American ($r = .33$, $p < .01$), and Black ($r = .42$, $p < .01$). The correlational analysis also shows that as ethnic identity and self-esteem scores increase for the total sample, drive for thinness ($r = -.10$ and $r = -.23$) and bulimia ($r = -.11$ and $r = -.24$) scores decrease. When ethnic group is examined separately, only Black females had

TABLE 3 Zero-Order Correlations for Self-Esteem, Ethnic Identity, and the Eating Disorder Subscale for Total Sample, White, Mexican American, and Black Females

	Total sample		White		Mexican American		Black	
	Ethnic identity	Self-esteem	Ethnic identity	Self-esteem	Ethnic identity	Self-esteem	Ethnic identity	Self-esteem
Drive for thinness	-.10**	-.23**	.00	-.32**	-.06	-.18**	-.17**	-.17**
Bulimia	-.11**	-.24**	-.04	-.28**	-.09	-.19**	-.16**	-.24**
Body dissatisfaction	-.06	-.26**	.01	-.30**	-.01	-.24**	-.06	-.20**
Self-esteem	.36**	—	.25**	—	.33**	—	.42**	—

Note. ** $p < .01$.

lower tendencies to engage in eating disordered behaviors (drive for thinness and bulimia) when they exhibited higher ethnic identity and self-esteem scores.

A three-way multivariate analysis of covariance (MANCOVA) was conducted to examine differences among the independent variables (ethnicity, ethnic identity, and self-esteem) with the eating disorder behavioral subscales (drive for thinness: DT; bulimia: Bul; and body dissatisfaction: BD), while controlling for BMI. Significant interaction effects were found for ethnicity and self-esteem, $F(6, 888) = 2.92, p = .008$, and ethnicity and ethnic identity, $F(6, 888) = 2.41, p = .02$. Table 4 shows the means and standard deviations for these interaction effects. The univariate analysis for ethnic identity and self-esteem revealed the White, lower self-esteem group reported higher drive for thinness scores than any of the other groups. The lower self-esteem groups for all three ethnic groups reported higher bulimia scores than the higher self-esteem groups. Finally, the lower self-esteem groups for White and Mexican American females reported higher body dissatisfaction than any other group. The univariate analysis for ethnic identity and ethnicity revealed the Black, higher ethnic identity group reported significantly lower drive for thinness and body dissatisfaction scores than the White or Mexican American females. Conversely, the White, higher ethnic identity group reported higher body dissatisfaction than all other groups. Lastly, regardless of which self-esteem or ethnic identity group they were in, Black females had a lower risk of eating disorders than both Mexican American and White females based on normative EDI scores (Garner & Olmstead, 1984).

DISCUSSION

Social identity theory (SIT) posits the primary function of claiming membership in a social group is the enhancement of personal self-esteem.

TABLE 4 MANCOVA Interaction and Main Effect Means and Standard Deviations for Ethnicity by Self-Esteem and Ethnic Identity Groups, With Drive for Thinness, Bulimia, and Body Dissatisfaction Subscale Scores

Variable	Drive for thinness		Bulimia		Body dissatisfaction	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
White females						
Lower SE (<i>N</i> = 90)	8.19 ^a	6.01	3.54 ^a	3.16	13.63 ^a	7.13
Higher SE (<i>N</i> = 78)	4.28 ^b	4.02	1.85 ^b	1.95	8.59 ^b	6.89
Lower EI (<i>N</i> = 107)	6.62 ^b	5.55	2.63	5.50	11.06 ^{b,d}	7.42
Higher EI (<i>N</i> = 41)	7.10 ^b	5.97	2.71	2.99	13.02 ^{a,d}	7.89
Mexican American females						
Lower SE (<i>N</i> = 110)	6.93 ^b	5.50	3.11 ^a	2.64	11.98 ^a	6.51
Higher SE (<i>N</i> = 93)	5.46 ^b	4.65	2.18 ^b	2.54	8.00 ^b	6.56
Lower EI (<i>N</i> = 85)	6.56 ^b	5.45	2.87	2.60	10.84 ^{b,d}	6.67
Higher EI (<i>N</i> = 99)	6.28 ^b	5.32	2.31	2.48	10.29 ^{b,d}	6.81
Black females						
Lower SE (<i>N</i> = 124)	5.96 ^b	5.36	3.27 ^a	3.45	9.15 ^b	6.39
Higher SE (<i>N</i> = 176)	4.01 ^b	4.22	1.92 ^b	1.80	6.60 ^b	5.56
Lower EI (<i>N</i> = 106)	5.82 ^b	4.89	2.94	3.12	8.00 ^c	5.83
Higher EI (<i>N</i> = 157)	4.05 ^a	4.38	2.10	1.84	7.18 ^c	5.72
Self-esteem (<i>N</i> = 671)						
Lower (<i>N</i> = 324)	7.36 ^a	5.65	3.29 ^a	3.11	12.24 ^a	6.87
Higher (<i>N</i> = 347)	4.73 ^b	5.52	2.01 ^b	2.05	7.73 ^b	6.20
Ethnic identity (<i>N</i> = 595)						
Lower (<i>N</i> = 298)	5.77	5.22	2.53	2.53	9.47	6.77
Higher (<i>N</i> = 297)	6.28	5.09	2.64	2.25	10.98 ^a	6.75

Notes. ^a and ^b: mean scores that do not share common superscripts for self-esteem (SE) and ethnicity by eating disorder subscale are significantly different at $p < .01$ (ex. White lower self-esteem group different from all other self-esteem groups for drive for thinness).

^a and ^b: mean scores that do not share common superscripts for ethnic identity (EI) and ethnicity by eating disorder subscale are significantly different at $p < .01$ (ex. White higher ethnic identity group has higher drive for thinness scores than all other group).

^c and ^d: mean scores that do not share common superscripts for ethnic identity and ethnicity by eating disorder subscale are significantly different at $p < .01$ (Black lower and higher ethnic identity have lower body dissatisfaction scores than all other groups).

As proposed by SIT, this study found ethnic identity was positively related to self-esteem for White, Mexican American, and Black females. The findings support previous research that suggests the more strongly one identifies with his/her ethnic group, the more positive his/her self-esteem will be (Greig, 2003; Negy et al., 2003).

Since the relationship between ethnic identity and self-esteem was supported as it relates to one's self-concept, the next step was to determine the relationship between those two variables and the at-risk eating disorder variables (drive for thinness, bulimia, and body dissatisfaction). It would seem that since the relationship between ethnic identity and self-esteem produces a stronger self-concept, it would seem possible that eating disorder characteristics should be less observant in individuals with this stronger self-concept.

As expected, as ethnic identity and self-esteem scores increased for the total sample, drive for thinness and bulimia scores decreased. Surprisingly though, when examining separate ethnic groups, Black females were the only group influenced by the ethnic identity and self-esteem combination regarding at-risk eating disorder scores. Although the Mexican American urban females in this study reported significantly higher identity with their group than White females, their self-esteem scores were not enhanced as a result of their higher ethnic identity. As a result, the at-risk eating disorder scores were not influenced with the Mexican American population. One explanation could be that they did not identify as strongly with their group to enhance the self-esteem scores as the White females. Another explanation could be that even though they report a stronger identity with their ethnic group, the self-concept may be based more on a cultural component than an ethnic component for Mexican American females (Cachelin, Phinney, Schug, & Striegel-Moore, 2006). This study examined how strongly a person identified with a specific ethnic group, not how much a person might be influenced by a particular culture. Further research is needed to test the relationships found in this study with other ethnically diverse adolescent female populations and whether ethnic identity alone or along with acculturation explains more about ethnic differences and eating disorder issues.

This study also made some important connections with ethnicity, ethnic identity, and self-esteem when examining eating disordered differences in adolescent females. In this study, for the same low self-esteem score, White and Mexican American females were significantly more likely than Black females to report higher at-risk eating disordered behaviors (drive for thinness and body dissatisfaction). These findings support previous research that lower self-esteem can be associated with higher eating disorder scores in White and Mexican American females (Dunkley & Paxton, 2001; Furnham et al., 2002; Rhea, 1999; Twamley & Davis, 1999). In previous research, lower self-esteem has been related to a female feeling she has less control of her surroundings, therefore, the feeling of less control creates the need to gain control. This need to gain control is one of the factors that has been linked to the development of an eating disorder (Edman & Yates, 2004). Further research is needed with ethnically diverse adolescent females to corroborate these findings.

While low self-esteem has been identified as a risk factor for eating disorders (Rhea, 1999, Shisslak & Crago, 2001; Shisslak, Crago, Renger, & Clark-Wagner, 1998), high self-esteem has been shown to be a protective factor for eating disorders (Crago & Shisslak, 2003; Crago, Shisslak, & Ruble, 2001). Black and White females reporting higher self-esteem also showed the lowest drive for thinness, bulimia, and body dissatisfaction scores (Bracey et al., 2004; Rhea, 1999). Since high self-esteem has been found to be protective against a variety of emotional and behavioral problems (e.g., dietary restraint, body dissatisfaction, over exercise, weight concerns, self-image)

(Crago et al., 2001; Crago & Shisslak, 2003; Rhea, 1999; Warren, Gleaves, Cepeda-Benito, del Carmen Fernandez, & Rodriguez-Ruiz, 2005), it would seem logical that individuals would manifest fewer eating disordered behaviors who possess higher self-esteem. Presently, this relationship seems to hold true for dieting, but binge eating or purging behaviors may be more of a risk for Black adolescent females than White or Mexican American adolescent females. Some research has shown self-esteem among Black females seems to be less affected by perceived ideal weight and more affected by feelings of inadequacy or acculturated stress than for White and Mexican American females (Bagley, Character, & Shelton, 2003; Henriques & Calhoun, 1999; Rhea, 1999). In essence, Black women, in previous research, accept a larger body size and report a larger body size perception of the ideal figure than White women, but as a result of feelings of ineffectiveness and other emotional factors, drive themselves to binge eating rather than dietary restraint (Crago & Shisslak, 2003). This study focused on adolescent females so much of the research on women may not apply to adolescent females compared by ethnicity. This study did not show Black females to be concerned with purging (bulimic tendencies), but other scales might pick up on the binge eating tendencies better than the bulimia scale (Kelly et al., 2012) or it might be age is more of a factor than the binge eating disorder itself for Black females. Future research should focus more on other emotional and psychological issues such as ineffectiveness, inadequacy, worthlessness, and lack of control as they relate to binge eating and purging behaviors with adolescent persons of color, especially adolescent Black females. Comparisons by age should also be examined.

While ethnicity and self-esteem have been identified as protective factors with eating disorders, ethnic identity has not been studied as a protective factor in previous research (Douchis, Hayden, & Wilfley, 2001; Rhea, 1999; Sussman, Truong, & Lim, 2007; Warren et al., 2005). This study added a new dimension to be considered as protective against eating disorders by examining ethnic identity. When compared to White and Mexican American females, Black females indicating greater ethnic identity reported significantly lower at-risk eating disordered behaviors (drive for thinness and body dissatisfaction). This indicates ethnic identity may be a protective factor towards eating disordered behaviors for Black females. Further research should consider a more in-depth study of ethnic identity with eating disordered behaviors to disseminate the differences among persons of color due to the discrepancies between Mexican Americans and Blacks.

Two limitations of this study should be considered when interpreting the results. First, the sample was drawn from an urban population in one large metropolitan city in the United States, thus limiting the results' generalizability to urban populations of similar ethnic background and geographic region. Second, the Multi-Group Ethnic Identity Measure is the first of its kind to measure across ethnic groups for ethnic identity. Although the

reliability and validity are sufficient for this scale, caution is warranted with respect to the impact of this scale until further research identifies similar results with comparable eating disorder measures. Finally, only self-report measures were used and participants may have underreported behavioral and psychological disturbances (Brownell & Rodin, 1992).

In summary, this research extended previous work on the Social Identity Theory as well as ethnicity with eating disorders by studying White, Black, and Mexican American adolescent females on two dimensions of self-concept. This study showed that Black females were more influenced by both dimensions of self-concept to decrease their risk of an eating disorder, whereas Mexican American and White females were only influenced by self-esteem and not ethnic identity regarding higher risk of an eating disorder. Further research is needed to fully understand the place ethnic identity has with urban females as it relates to eating disorders. Untangling the different components of ethnic identity is a necessary and worthwhile endeavor in improving ones understanding of the psychological significance of ethnicity.

REFERENCES

- Bagley, C. A., Character, C. D., & Shelton, L. (2003). Eating disorders among urban and rural African-American and European American women. *Women and Therapy, 26*, 57–79.
- Blash, R., & Unger, D. (1995). Self-concept of Black American male youth: Self-esteem and ethnic identity. *Journal of Child and Family Studies, 4*, 359–373.
- Bracey, J. R., Bámaca, M. Y., & Umana-Taylor, A. J. (2004). Examining ethnic identity and self-esteem among biracial and monoracial adolescents. *Journal of Youth and Adolescence, 33*, 123–132.
- Brownell, K., & Rodin, J. (1992). Prevalence of eating disorders in athletes. In K. Brownell, J. Rodin, & J. Wilmore (Eds.), *Eating, body weight, and performance in athletes* (pp. 128–145). Philadelphia, PA: Lea and Febiger.
- Cachelin, F. M., Phinney, J. S., Schug, R. A., & Striegel-Moore, R. H. (2006). Acculturation and eating disorders in a Mexican American community sample. *Psychology of Women Quarterly, 30*, 340–347.
- Centers for Disease Control and Prevention. (2009). *A SAS program for the CDC growth charts*. Retrieved from <http://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm>
- Centers for Disease Control and Prevention. (2012). *Growth charts: Data table for age charts for females ages 2–20*. Retrieved from http://www.cdc.gov/growthcharts/html_charts/bmiagerev.htm
- Crago, M., & Shisslak, C. M. (2003). Ethnic differences in dieting, binge eating, and purging behaviors among American females: A review. *Eating Disorders, 11*, 289–304.
- Crago, M., Shisslak, C. M., & Ruble, A. (2001). Protective factors in the development of eating disorders. In R. H. Striegel-Moore & L. Smolak (Eds.), *Eating disorders: Innovative directions in research and practice* (pp. 75–89). Washington, DC: American Psychological Association.

- Croll, J., Neumark-Sztainer, D., Story, M., & Ireland, M. (2002). Prevalence and risk and protective factors related to at-risk eating disordered behaviors among adolescents: Relationship to gender and ethnicity. *Journal of Adolescent Health, 31*, 166–175.
- Debate, R., Topping, M., & Sargent, R. (2001). Ethnicity and gender differences in weight status and dietary practices among college students. *Adolescence, 36*, 819–834.
- Douchis, J. Z., Hayden, H. A., & Wilfley, D. E. (2001). Obesity, body image, and eating disorders in ethnically diverse children and adolescents. In J. K. Thompson & L. Smolak (Eds.), *Body image, eating disorders, and obesity in youth* (pp. 67–98). Washington, DC: American Psychological Association.
- Dunkley, T., & Paxton, S. (2001). Examination of a model of multiple sociocultural influences on adolescent girls' body dissatisfaction and dietary restraints. *Adolescence, 36*, 265–279.
- Edman, J. L., & Yates, A. (2004). Eating disorder symptoms among Pacific Island and Caucasian women: The impact of self dissatisfaction and anger discomfort. *Journal of Mental Health, 13*, 143–150.
- Fisher, M., Pastore, D., Schneider, M., Pegler, C., & Napolitano, B. (1994). Eating attitudes in urban and suburban adolescents. *International Journal of Eating Disorders, 16*, 67–74.
- Furnham, A., Badmin, N., & Sneade, I. (2002). Body image dissatisfaction: Gender differences in eating attitudes, self-esteem, and reasons for exercise. *Journal of Psychology, 136*, 581–597.
- Garner, D., & Olmstead, M. (1984). *Manual for Eating Disorder Inventory (EDI)*. Odessa, FL: Psychological Assessment Resources.
- Garner, D., Olmstead, M., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*, 15–34.
- Geller, J., Zaitsoff, S., & Srikameswaran, S. (2002). Beyond shape and weight: Exploring the relationship between nonbody determinants of self-esteem and eating disorder symptoms in adolescent females. *International Journal of Eating Disorders, 32*, 344–351.
- Greig, R. (2003). Ethnic identity development: Implications for mental health in African-American and Hispanic adolescents. *Issues in Mental Health Nursing, 24*, 317–331.
- Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In R. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 87–116). New York, NY: Plenum Press.
- Hattie, J. (1992). *Self-concept*. Hillsdale, NJ: Erlbaum.
- Henriques, G.R., & Calhoun, L.G. (1999). Gender and ethnic differences in the relationship between body esteem and self-esteem. *Journal of Psychology, 133*, 357–368.
- Jacobi, C., Paul, T., & deZwann, M. (2004). Specificity of self-concept disturbances in eating disorders. *International Journal of Eating Disorders, 35*, 204–210.
- Kelly, N. R., Mitchell, K. S., Gow, R. W., Trace, S. E., Lydecker, J. A., Bair, C. E., & Mazzeo, S. (2012). An evaluation of the reliability and construct validity of eating disorder measures in White and Black women. *Psychological Assessment, 24*, 608–617.

- Lorenzo-Hernandez, J., & Ouellette, S. (1998). Ethnic identity, self-esteem, and values in Dominicans, Puerto Ricans, and African Americans. *Journal of Applied Social Psychology, 28*, 2007–2024.
- Negy, C., Shreve, T., Jensen, B., & Uddin, N. (2003). Ethnic identity, self-esteem, and ethnocentrism: A study of social identity versus multicultural theory of development. *Cultural Diversity and Ethnic Minority Psychology, 9*, 333–344.
- O’Dea, J., & Abraham, S. (1999). Onset of disordered eating attitudes and behaviors in early adolescence: Interplay of pubertal status, gender, weight, and age. *Adolescence, 34*, 671–679.
- Phinney, J. S. (1992). The Multigroup Ethnic Identity Measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*, 156–176.
- Phinney, J. S. (2003). Ethnic identity and acculturation. In K. M. Chun & P. B. Organista (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 63–81). Washington DC: American Psychological Association.
- Phinney, J. S., Cantu, C., & Kurtz, D. (1997). Ethnic and American identity as predictors of self-esteem among African American, Latino, and White Adolescents. *Journal of Youth and Adolescence, 26*, 165–185.
- Phinney, J. S., Chavira, V., & Tate, J. (1993). The effect of ethnic threat on ethnic self-concept and own group ratings. *Journal of Social Psychology, 133*, 469–478.
- Phinney, J., & Rosenthal, D. (1992). Ethnic identity in adolescence: Process, context, and outcome. In G. Adams, T. Gullotta, & R. Montemayor (Eds.), *Adolescent identity formation* (pp. 145–172). Newbury Park, CA: Sage.
- Polivy, J., & Herman, C. (1999). The effects of resolving to diet on restrained and unrestrained eaters: The “false hope syndrome.” *International Journal of Eating Disorders, 26*, 434–447.
- Rhea, D. (1999). Eating disorder behaviors of ethnically diverse urban female adolescent athletes and non-athletes. *Adolescence, 22*, 379–388.
- Roberts, A., Cash, T. F., Feingold, A., & Johnson, B. T. (2006). Are Black-White differences in females’ body dissatisfaction decreasing? A meta-analytic review. *Journal of Consulting and Clinical Psychology, 74*, 1121–1131.
- Robinson, T., Killen, J., Litt, I., Hammer, L., Wilson, D., Haydel, K., . . . Taylor, C. (1996). Ethnicity and body dissatisfaction: Are Mexican American and Asian girls at increased risk for eating disorders? *Journal of Adolescence and Health, 19*, 384–393.
- Rosenberg, M. (1986). *Conceiving the self*. Malabar, FL: Krieger.
- Shaw, H., Ramirez, L., Trost, A., Randall, P., & Stice, E. (2004). Body image and eating disturbances across ethnic groups: More similarities than differences. *Psychology of Addictive Behaviors, 18*, 12–18.
- Shisslak, C. M., & Crago, M. (2001). Risk and protective factors in the development of eating disorders. In J. K. Thompson & L. Smolak (Eds.), *Body image, eating disorders, and obesity in youth: Assessment, prevention, and treatment* (pp. 103–125). Washington, DC: American Psychological Association.
- Shisslak, C. M., Crago, M., Renger, R., & Clark-Wagner, A. (1998). Self-esteem and the prevention of eating disorders. *Eating Disorders, 6*, 105–117.
- Striegel-Moore, R., & Smolak, L. (2000). The influence of ethnicity on eating disorders in women. In R. Eisler & M. Hersen (Eds.), *Handbook of gender, culture, and health* (pp. 227–253). Mahwah, NJ: Laurence Erlbaum Associates, Inc.

- Striegel-Moore, R., Wilfley, D., Pike, K., Dohm, F., & Fairburn, C. (2000). Recurrent binge eating in Black American women. *Archives of Family Medicine, 9*, 83–87.
- Sussman, N. M., Truong, N., & Lim, J. (2007). Who experiences “America the beautiful”? Ethnicity moderating the effect of acculturation on body image and risks for eating disorders among immigrant women. *International Journal of Eating Disorders, 31*, 29–49.
- Tajfel, H., & Turner, J. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago, IL: Nelson-Hall.
- Thomas, C., James, A., & Bachmann, M. (2002). Eating attitudes in English secondary school students: Influences of ethnicity, gender, mood, and social class. *International Journal of Eating Disorders, 31*, 92–96.
- Twanley, E., & Davis, M. (1999). The sociocultural model of eating disturbance in young women: The effects of personal attributes and family environment. *Journal of Social and Clinical Psychology, 18*, 467–489.
- Warren, C. S., Gleaves, D. H., Cepeda-Benito, A., del Carmen Fernandez, M., & Rodriguez-Ruiz, S. (2005). Ethnicity as a protective factor against internalization of a thin ideal and body dissatisfaction. *International Journal of Eating Disorders, 37*, 241–249.
- White, M. A., & Grilo, C. M. (2005). Ethnic differences in the prediction of eating and body image disturbances among female adolescent psychiatric inpatients. *International Journal of Eating Disorders, 38*, 78–84.
- Yates, A., Edman, J., & Aruguete, M. (2004). Ethnic differences in BMI and body/self-dissatisfaction among Whites, Asian subgroups, Pacific Islanders, and African-Americans. *Journal of Adolescent Health, 34*, 300–307.