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Differences in Body Image: Comparing Asian American Ethnic Groups and White
Americans

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Americans

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Differences in Body Image: Comparing Asian American Ethnic Groups

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Alefiyah Pishori

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Introduction

Asian Americans are a large and growing minority in the United States (Suinn, 2010). However, the term 'Asian American' encompasses individuals from a number of diverse cultures and ethnicities. While there may be some similarities across Asian cultures, there is also a great deal of heterogeneity among the beliefs, languages, customs, and practices of ethnic groups encompassed by the term Asian. In addition, the typical physical characteristics (i.e., facial features, skin color, height, weight, and body shape) of Asian American ethnic groups vary considerably both within and between ethnic groups. For instance, East Asians on average are characteristically more petite, both in height and weight, compared to South Asians. Despite their growing numbers in the global and U.S. population, limited research has investigated the body image attitudes and satisfaction within this group and most studies have not assessed the intra-group differences in body image among Asian Americans. Because body satisfaction is associated with psychological factors such as eating disorders, depression, and self-esteem in the general population (Lau, Lum, Chronister, & Forrest, 2006; Littleton, Breitkopf, & Abbey, 2005; Nieri, Kulis, Keith, & Hurdle, 2005), it is important to better understand body image among Asian Americans in order to also understand how it relates to other psychological factors in this population.

Much of the body image research in the United States has focused on European American and more recently, African American women. A meta-analysis conducted by Roberts, Cash, Feingold, & Johnson (2006) concluded that overall, Black women are more satisfied with their bodies than White women, especially among college-aged women. Conversely, Grabe and Hyde's (2006) meta-analytic study of White-, Black-, Asian-, and Hispanic-American women found no to small effect sizes in the differences in body dissatisfaction between White and

minority women. Thus, body dissatisfaction may not be a problem that affects only or primarily White women as has been thought in the past, but may impact women from many ethnic backgrounds. One possible explanation for these conflicting meta-analytic findings may be differences in measurement method, which will be discussed in greater detail later. Both Grabe and Hyde (2006) and Roberts et al. (2006) found different body image measures produced different results; for example, differences between Black and White women on questionnaire measures were not replicated when using silhouette (body figure/discrepancy) measures.

Although Higgins (1987) self-discrepancy theory predicts that individuals who do not meet their expectations for what they should or want to be will experience distress, perhaps discrepancies between personal ideals and actual figures do not necessarily indicate body dissatisfaction, as is commonly believed. Cash and Szymanski (1995) point out that body image is multifaceted and that individuals' global body satisfaction is influenced by more than just body-size estimates and weight, such as by evaluations of facial features, height, breast size, etc. However, the studies evaluated by Grabe and Hyde (2006) and Roberts et al. (2006) only looked at differences among racial groups, without further considering cultural factors that may differentially affect members of ethnic groups. Thus, the methodological concerns of this literature include not only the variety of measures used to evaluate body image, but the limited way in which culture has been conceptualized. Furthermore, personal body ideals may not take into consideration cultural variations in body ideals. Thus, although ethnic minority women may be more discrepant from the "Western" body ideal, they are not necessarily more dissatisfied with their bodies than White women. For example, on average African Americans do not report larger discrepancies between their actual and ideal figures, but do report greater body satisfaction than White women. Further

research is clearly needed to understand the construct captured by different body satisfaction measures and body ideals and the role of culture in body image.

Body Satisfaction and Asian Americans

Existing literature regarding body satisfaction among Asians is varied. Unlike studies of White and Black individuals, which mostly include American samples, studies involving Asians may include American, Asian, European, or Australian samples. For instance, some studies have compared Asian Americans to other ethnic groups in America, while others have compared Asian Americans to Asians in their respective native countries (e.g., Hong Kong, China, Taiwan, India) or to Asian immigrants in other Western countries, such as Britain and Australia. Many studies include a comparison with White samples but those comparisons may include White Americans, White Britons, or White Australians, with minimal distinction between the groups. This diversity of Asian samples and group comparisons has complicated the findings and conclusions of this literature.

Research with Asians in their native countries has found some evidence to support greater body dissatisfaction in this population. Cross-cultural studies have found more body image dissatisfaction and/or disordered eating among South Asians and East Asians in their native countries compared to Whites and Asians living in Western nations (Davis & Katzman, 1998; Holmqvist & Frisé, 2010; Mujtaba & Furnham, 2001; Mukai, Kambara, & Sasaki, 1998; Mumford & Choudry, 2000; Sjostedt, Schumaker & Nathawat, 1998). However, it is also important to consider cultural differences in response patterns. For instance, some researchers have noted Asian norms value modesty and humility; thus, Asian individuals may be less likely to report positive body images than other ethnic groups (Lau et al., 2006). Other researchers have suggested that the value of moderation may lead to different patterns of relationships among

Asians compared to other groups. Marsh, Hau, Sung and Yu (2007) found that the absolute value of the discrepancy between actual and ideal figures was more important in predicting global self-esteem of children in Hong Kong than the “raw” discrepancy score (which could have been negative or positive). This result was not found in a comparison group of Australian children. Thus, for Hong Kong students, being either thinner or heavier than their ideals had a negative impact on their self-concepts, whereas for Australian students, negative self-concepts were predicted only when they were heavier than their ideals.

Studies investigating Asians in the United States have reported contradictory findings. Some studies have found Asian American men and women are more satisfied with their bodies and/or report less eating pathology than White and Hispanic Americans (Altabe, 1998; Lucero, Hicks, Bramlette, Brassington, & Welter, 1992). Other studies have found Asian Americans and Whites report similar levels of problematic behaviors and body dissatisfaction (Barnett, Keel, & Conoscenti, 2001; Sanders & Heiss, 1998; Shaw, Ramirez, Trost, Randall, & Stice, 2004). Still other researchers have found Asians living in the West are more dissatisfied with their bodies than Whites, especially with aspects of their bodies that are racially defined or difficult to modify (i.e. facial features, hair texture, breasts, height etc), regardless of their global body satisfaction (Forbes & Frederick, 2008; Haudek, Rorty, & Henker, 1999; Koff, Benavage, & Wong, 2001; Mintz & Kashubeck, 1999). This last group of studies suggests Asian Americans may not only adhere to Western weight ideals, but may also want to “look Western,” an important finding to consider for interventions. The inclusion of many different Asian American subgroups in the samples and/or methodological differences among the studies may account for the confusion in the literature. Some studies include Asian Americans without specifying the ethnic groups represented in the sample, while other studies report the ethnic composition of their sample (i.e.,

Chinese, Vietnamese, Asian Indian, etc) but do not distinguish the ethnic groups in data analyses. Thus it is difficult to know to which Asian American subgroup the results apply. Furthermore, most of these studies do not compare the Asian subgroups to each other to better understand similarities and differences within and across Asian ethnic groups, nor do they consider cultural factors that may influence outcomes.

Several studies focusing on South Asian immigrants' body satisfaction have been conducted in Britain. Some early research suggested South Asian adolescents and young adults in Britain were more satisfied with their bodies than British Whites, even when controlling for body mass index (BMI; Ogden & Elder, 1998; Wardle, Bindra, Fairclough, & Westcombe, 1993). More recently, however, South Asian women in Britain have been found to express more body dissatisfaction than Hispanic, Afro-Caribbean, and White British women (Swami, Airs, Chouhan, Leon, & Towell, 2009). Although Britain and the United States share some cultural practices and beliefs, the experience of South Asian immigrants in Britain may not be the same as those in the United States (e.g., resources available to them, host country's attitudes towards them, immigration history, etc.). Thus, it is unclear if findings from British studies generalize to the U.S. or other western nations.

Limited research has investigated the body image of men in general and Asian American men in particular. Mintz and Kashubeck (1999) found White and Asian American men reported similar levels of body satisfaction and both groups reported more satisfaction than women. On the other hand, Barnett et al. (2001) found Asian American men reported a heavier ideal body size than actual body size, whereas White American men reported no discrepancy between their ideal and actual body sizes. Ricciardelli, McCabe, Williams, and Thompson's (2007) literature review of body image and disordered eating among males reported that studies have found Asian

American men were more, less, or equally dissatisfied with their bodies when compared to White men. Ricciardelli and colleagues suggested the inclusion of many separate Asian American subgroups was one of the reasons for the variety of findings across studies.

Studies comparing Asian American subgroups underscore the importance of investigating these groups separately. Kennedy et al. (2004) found Chinese undergraduates in Canada had the highest body dissatisfaction followed by Asian Indians, with Whites reporting the most positive body image. On the other hand, Lucero and colleagues (1992) reported South Asian women in Britain reported more disordered eating than East Asians in America; however, this comparison used data from different studies in multiple countries, making conclusions difficult. Yates, Edman, and Aruguete (2004) in a sample of Asians in Hawaii found among women, Chinese and Japanese women did not differ in their body satisfaction; however, among men, Filipino men wanted to lose weight, while Chinese and Japanese men wanted to gain weight. These studies highlight the differences in body image within the Asian American population and that these differences may be masked when subgroups are not evaluated separately. However, like other studies, these studies have only looked at the broad group differences, without considering the cultural factors that may be associated with these differences in body image.

Body Satisfaction and Methodology

Although type of body image measurement has been associated with different results (Grabe & Hyde, 2006; Roberts et al. 2006), this may not completely explain the conflicting findings in the Asian American body image literature. For instance, Barnett et al. (2001) used discrepancies between current and ideal silhouettes with Asian American and White college students. They found women in both groups rated their current body sizes as significantly heavier than their ideal body sizes. Gluck and Geliebter (2002) also used silhouette discrepancy

measures in their study with Asian American, Black, and White college women. They found controlling for Body Mass Index (BMI) removed variation between the ideal body sizes of the three groups, and that both White and Asian women reported a greater body size discrepancy than Black participants. This latter finding suggests that BMI influences body size ideals across ethnic groups. On the other hand, Yates et al. (2004) found no ethnic differences among White, Black, Filipino, Chinese, Japanese, Hawaiian, and multiethnic college participants from Hawaii and Missouri using body silhouette difference scores. Thus, studies using a similar measure (i.e., discrepancy scores) still produced conflicting or contradictory results in ethnic comparison studies.

Furthermore, for the most part, studies using discrepancy measures have only asked participants to indicate their ideal body image, but have not accounted for different cultural body ideals among ethnic groups. For instance, Barnett et al. (2001) found Asian Americans reported significantly thinner ideal figures than White Americans, suggesting the possibility of different body ideals between these groups. Higgins' (1987) original self-discrepancy theory, on which much of the figure discrepancy studies are based, identified three domains of the self: actual, ideal, and "ought" (the social/cultural standard), but most researchers have not included the "ought" domain in figure discrepancy studies. Studies have not considered differences in cultural body size ideals when comparing ethnic groups, a factor that may be important in understanding global body image among different ethnicities. When using figure discrepancy measures, researchers should specify the body ideal of interest and include cultural ideals to better understand participants' reference points as well as differences between their personal and cultural body ideals.

Other studies have used questionnaire measures to assess body dissatisfaction, but have also found conflicting results. Studies have reported Asian women in the U.S., South Asian women in Britain, and Indian and Chinese men and women in Canada have greater body dissatisfaction than Whites in those countries (Forbes & Frederick, 2008; Haudek et al., 1999; Kennedy et al., 2004; Mintz & Kashubeck, 1999; Mumford & Choudry, 2000; Swami et al., 2009). Furthermore, Asians in their native countries have been found to be more dissatisfied with their bodies than immigrants from those countries to the West and White women in the West, even when half the immigrants have only lived in the West for less than 5 years (Davis & Katzman, 1998; Mukai et al., 1998; Mumford & Choudry, 2000). On the other hand, a few studies have found no ethnic group differences among Asian, White, Black, and/or Hispanic participants in the West when assessing body dissatisfaction with questionnaire measures (Akan & Grilo, 1995; Dolan, Lacey, & Evans, 1990; Koff et al., 2001; Shaw et al., 2004). Some of this diversity of findings might be accounted for by the variety of ways in which body satisfaction has been operationalized. Questionnaire measures used to assess body satisfaction vary in depth (a few items to a multidimensional measure) and studies may use measures of internalized ideals or objectification as proxies of body satisfaction. As noted earlier, researchers have highlighted the multifaceted nature of body image and the importance of assessing multiple body characteristics, beyond weight, to fully understand body satisfaction (Cash & Szymanski, 1995; Forbes & Frederick, 2008).

Lastly, a few studies have used both silhouette and questionnaire measures to assess negative body image. Ogden and Elder's (1998) study with White and South Asian British mothers and daughters found a significant interaction between ethnicity and family status (mother versus daughter) on their questionnaire measure of body dissatisfaction, but not in

silhouette discrepancies. Their results indicated White daughters had significantly greater body dissatisfaction than their mothers and compared to Asian daughters. Thus, ethnicity was only relevant depending on the age of the participant and only for one measure of body image. On the other hand, Altabe (1998) found Asian Americans had lower body satisfaction than Whites on both silhouette and questionnaire measures, but it is unclear how the two measurement methods compare as men and women were included in silhouette analyses, but only women were included in the questionnaire analyses. Lastly, studies with East and Southeast Asian Americans (Sanders & Heiss, 1998) and South Asian British (Wardle et al., 1993) found no ethnic differences when compared to Whites in their respective countries using silhouette and questionnaire measures. However, a limitation of these studies is the tendency to compare Asians to Whites and to not include comparisons among different Asian ethnic groups. As these studies show, there is a great deal of confusion in our understanding of body dissatisfaction among Asians living in the West, not only from the use of different measures, but also from the inclusion of multiple Asian subgroups in the samples and limited intra-ethnic comparisons.

Cultural Factors Related to Body Satisfaction

As noted earlier, few studies have investigated the relationship between body image and cultural constructs, such as acculturation, ethnic identity, or cultural conflict, among Asian Americans; furthermore, the existing studies report contradictory results. For example, Davis and Katzman (1999) found in their sample of Chinese college students in the U.S., the majority of whom had lived in the U.S. for less than 5 years, that greater acculturation was associated with more disordered eating behaviors and drive for thinness among women. According to the authors, Asians who are more acculturated may be at greater risk for negative body image because they are adhering to a more “Western” body ideal. Lau et al. (2006), however, reported

Asian American college women who were less acculturated had more negative body image. The authors suggested women who adhere to more traditional Asian values may be more humble and therefore less likely to report body satisfaction. This study did not indicate participants' generational status or how long participants had lived in the U.S. Reddy and Crowther (2007) found cultural conflict was significantly associated with South Asian Americans' body dissatisfaction and maladaptive eating behaviors, but acculturation was not, perhaps because of the limited variance in rates of acculturation in their sample. Acculturative status may be more relevant for first-generation immigrants and less relevant for second or more generations. Ethnic identity, or the degree to which one identifies with and feels connected to an ethnic group, may be more relevant for later generations, especially with regard to body image. Thus, the role of culture needs to be further investigated to better understand how it impacts the body image of Asian Americans and to move beyond the broad racial group comparisons.

Current study

The current study aimed to address some of the inconsistencies in the literature regarding Asian American men and women's body image by comparing three Asian American subgroups (East, South, and Southeast Asian Americans) to one another and to White Americans. To date, few studies have looked at how Asian American ethnic groups compare to one another in body image, and none have included both men and women and identified these Asian subgroups in their samples, especially Southeast Asians. A second goal of this study was to better understand the relationship between body image and indicators of cultural affiliation, specifically ethnic and American identity, among Asian American subgroups as these factors have not been adequately investigated in this population. Lastly, this study aimed to address the body image measurement

discrepancies by including both silhouette and body satisfaction questionnaire measures. In addition, the current study included personal and cultural body ideals.

Hypotheses

1. East, South, and Southeast Asian Americans will differ from each other and from White Americans in their body images. These groups vary in body types and racially defined features, suggesting the Western body ideal may impact them in different ways.
 - a. White Americans are expected to report significantly greater body satisfaction than all three of the Asian American groups.
 - b. White Americans are hypothesized to report a smaller discrepancy between their actual and ideal figures than Asian American groups.
2. Gender differences in body image have been consistently reported in the literature, thus the following gender differences are expected:
 - a. Men will have greater body satisfaction than women across all ethnic groups.
 - b. Men will have smaller body discrepancies than women across all ethnic groups.
3. Exploratory analyses will be conducted to evaluate the influence of ethnic and American identity on body satisfaction among East, South, and Southeast Asian American men and women.

Methods

Participants and Procedures

This study was part of a larger study examining culture, identity, and psychological well-being among a diverse population of college students. Data were collected from undergraduate

students at 30 colleges and universities across the United States representing an ethnically and geographically diverse sample of students. Participants were recruited during the 2008 academic year through psychology departments and courses in psychology, family studies, sociology, and education. The survey was conducted online and took approximately two hours to complete, but participants could save their responses, take breaks, and return to complete the questionnaire if necessary. In total, 10,573 participants completed the survey, and of these, 1383 identified themselves as Asian American.

Asian participants were regrouped into seven different ethnic group categories by the researcher after identifying the specific Asian ancestry of each participant. The new Asian ethnic categories were: *East Asian* (Chinese, Japanese, and Korean ancestry only), *South Asian* (Indian, Pakistani, and Bangladeshi ancestry only), *Southeast Asian* (Filipino, Vietnamese, and Thai ancestry only), *mixed Asian* (parents from two different Asian subgroups, i.e. East and South Asian), *mixed other* (one Asian parent and one non-Asian parent), *West Indian* (i.e., Trinidad and Tobago), and *Pacific Islander* (i.e., Fiji Islands). Information about an individual's self-identification (using pre-determined categories and free-response entries), place of birth, mother's and father's ethnic group and mother's and father's place of birth were considered when determining each participant's ethnic group. Participants who identified parents from two countries in the same region of Asia were placed in the corresponding subgroup category (e.g., one Chinese and one Japanese parent, individual classified as East Asian). Because this study was interested in the influence of ethnicity on body satisfaction, these categories allowed for individuals who were likely to have similar body types and cultural influences to be grouped together.

Data analyses included only East ($n = 442$), South ($n = 166$), and Southeast Asian ($n = 292$) participants, as there were too few participants in the other Asian groups to allow for group comparisons. Participants were 19 years old on average, 65% were female and 61% were born in the United States. Participants were from diverse socioeconomic backgrounds, but there were some significant ethnic group disparities in income (see Table 1). East Asians reported significantly lower annual family income than the other three ethnic groups. Southeast Asians also reported significantly lower income than South Asians and Whites. However, there was no difference in income between South Asian and White Americans. More demographic information about the current sample is provided in Table 1.

A subset of White participants was also included for some of the analyses. There were a total of 6,181 White participants in the study, far exceeding the total number of Asian American participants. Seventy-five percent of the Asian American participants attended one of six schools, located in the West, South, and Midwest of the U.S. To ensure comparable samples, only White participants from the same six schools were included in analyses ($n = 2005$) that compared Asian subgroups to White participants.

Measures

Body Satisfaction. Body satisfaction was evaluated using the Brief Inventory of Body Image (BIBI; Agocha et al., 2007; Cooper, 1992; Grabe & Cooper, 2002). The BIBI uses eight-items to assess individuals' satisfaction with their bodies. Two factors have been suggested for the questionnaire: Appearance Anxiety and Body Shame (Agocha et al., 2007). Items related to Appearance Anxiety assess individuals' satisfaction with their general appearance, such as their face or beauty (e.g., "I am better looking than the average person"); Body Shame items specifically assess individuals' evaluations of their body (e.g., "I have a good figure" for women

and “I have a good body build” for men). Participants respond to these items on a 5-point Likert scale, with higher scores indicating greater body satisfaction. A total score can be computed in addition to the two subscales. In this sample, the total score had a reliability of .83 for men and .86 for women, indicating good internal consistency for both groups.

Body Discrepancies. Nine figure scales developed by Thompson and Gray (1995) specific to each gender were presented. Participants were asked to identify the figures that best represent their actual appearance (i.e., “Which of the figures best represents your current appearance?”) and their ideal appearance (i.e., “Which of the figures is the way you would most like to look?”). In addition, participants were asked to identify their cultural or ethnic group’s ideal appearance (i.e., “Which of the figures best represents your cultural (e.g., racial/ethnic) group’s standard for a man/woman your age?”); this item has not been asked by researchers in the past, making it a unique aspect of the current study.

The figures range in size from extremely underweight to overweight/obese. Two body discrepancy scores were computed: actual-ideal discrepancy and actual-cultural ideal discrepancy with positive scores indicating the participant’s actual figure was heavier than his/her ideal/cultural ideal figure, and larger scores indicating a greater difference between the two figures. Similar figure-rating scales (with the exception of the cultural ideal) have been used in other studies of Asian American body image (Altabe, 1998; Barnett et al., 2001; Gluck & Geliebter, 2002; Ogden & Elder, 1998; Sanders & Heiss, 1998; Wardle et al., 1993; Yates et al., 2004).

Ethnic Identity. The Revised Multigroup Ethnic Identity Measure (MEIM-R; Roberts et al., 1999) was used to assess individuals’ identification with their ethnic group. This revised measure consists of 12 items with a two-factor structure and a 4-point Likert rating scale. One

factor assesses affirmation, belonging, and commitment and includes items such as “I understand pretty well what my ethnic group membership means to me.” The second factor assesses ethnic identity achievement and behaviors with items such as “I think a lot about how my life will be affected by my ethnic group membership.” The scale consists of two subscale scores and an overall ethnic identity score. Cronbach’s alpha for Vietnamese, Chinese, Indian, and Pakistani American adolescents in Roberts et al.’s (1999) sample ranged from .83 to .89 indicating good reliability of the overall measure for Asian American subgroups. In the current sample, responses were given on a 5-point Likert scale, with higher scores indicating greater affiliation to one’s ethnic culture. For the purposes of the current study only the total score was used with a Cronbach’s alpha of .92.

American Identity. A modified version of the MEIM-R was used to assess individuals’ identification with American culture. The terms ‘United States’ and ‘American’ were substituted for ‘ethnic group’ or ‘ethnic background’ in each of the MEIM-R’s 12 items (e.g., “I understand pretty well what being American means to me” and “I think a lot about how my life will be affected by being American”). For the current study, the American identity scale had a Cronbach’s alpha of .91 indicating strong internal reliability of this modified measure. Higher scores indicate a greater affiliation to American culture.

Demographics. Participants were asked to self-report their and their parents’ ethnicities. Information was also collected on their place of birth and their parents’ places of birth, age, gender, and annual family income. Because the sample was comprised of college students, there was a limited range in age. Consequently, age was restricted such that all participants over the age of 23 ($n = 210$) were recoded as 23 and all participants younger than 18 (16 & 17 year olds only; $n = 15$) were recoded as 18.

Body Mass Index (BMI). BMI values were calculated from participants self-reports of their height in feet and inches and their weight in pounds. Although self-reported height and weight may not be entirely accurate, other studies in this field have demonstrated consistency between self-reported and actual BMI (Gluck & Geliebter, 2002; Ogden & Elder, 1998; Wardle, et al., 1993; Yates, et al., 2004). BMI values can be used to determine if individuals are underweight, normal weight, overweight, or obese.

Data Analyses

The data were first evaluated for outliers and to assess the distribution of the variables. Participants who were outliers on variables of interest or who did not respond to the key variables of interest (e.g., body satisfaction) were removed from the dataset ($n = 764$). An error occurred during data collection and some participants did not receive all of the study measures. Thus, the majority of participants excluded from analyses did not receive all of the body image measures rather than refusing to complete them. Descriptive statistics were calculated for the sample and mean BMIs by gender and ethnic group were inputted for individuals who were missing height and/or weight data (5.81% missing in total sample).

Results

Ethnic and Gender Differences in Figure Ratings

A 4 (ethnicity) x 2 (gender) factorial MANCOVA was conducted with actual, ideal, and cultural ideal figures as dependent variables, and BMI, age, annual family income, and born in the United States as covariates (see Table 2). The results indicated significant main effects for ethnicity ($F(9, 2786) = 24.91, p < .001, \eta^2 = .03$) and gender ($F(3, 2792) = 210.68, p < .001, \eta^2 = .19$), and a significant interaction between ethnicity and gender ($F(9, 2786) = 3.71, p < .001, \eta^2 =$

.004). Univariate analyses specified a significant interaction effect between ethnicity and gender for cultural ideal figures, $F(3, 2792) = 9.73, p < .001$, partial $\eta^2 = .01$. Post-hoc t-tests found East Asian women reported a significantly thinner cultural ideal than women in all other ethnic groups (see Table 3 for means and group differences). Southeast Asian men and women reported significantly thinner cultural ideals than South Asian men and women, respectively. And East and Southeast Asian men reported thinner cultural ideals than White men.

Univariate analyses also indicated a significant main effect of ethnicity for actual figures, but not for ideal figures. Whites ($M = 5.10, SD = 1.64$) reported the thinnest actual figure and Southeast Asians ($M = 5.17, SD = 1.70$) the heaviest actual figure, $F(3, 2792) = 3.89, p = .009, \eta^2 = .004$. Thus, Asian Americans and Whites did not differ in self-perceptions of an ideal body figure, but did differ in their perceptions of their actual body and culture-specific body ideals. A significant main effect of gender was found for the ideal figure only, with men ($M = 5.25, SD = 0.91$) reporting a heavier ideal than women ($M = 3.62, SD = 1.22$), $F(1, 2794) = 471.46, p < .001, \eta^2 = .15$. It is interesting to note no significant differences were found between men and women for actual and cultural ideal figures, especially the cultural ideal as researchers have widely noted the extremely thin ideal for women in some cultures (e.g., Western culture).

Ethnic and Gender Differences in Body Satisfaction and Body Discrepancies

Hypothesis 1a predicted White Americans would have greater body satisfaction than East, South, and Southeast Asian Americans. A factorial MANCOVA was conducted with ethnicity and gender as independent variables; BMI, age, born in the U.S., and annual family income as covariates; body satisfaction, actual-ideal figure discrepancy, and actual-cultural figure discrepancy as dependent variables (see Table 4). Main effects were found for ethnicity ($F(9, 2674) = 25.30, p < .001, \eta^2 = .03$) and gender ($F(3, 2680) = 98.87, p < .001, \eta^2 = .10$).

There was also a significant interaction effect of ethnicity and gender ($F(9, 2674) = 3.74, p < .001, \eta^2 = .004$).

Univariate analyses found a significant main effect of ethnicity for body satisfaction ($F(3, 2680) = 20.20, p < .001, \eta^2 = .02$), partially supporting hypothesis 1a. Post-hoc t-tests found East Asians ($t(700.17) = -6.43, p < .001$) and Southeast Asians ($t(2201) = -6.59, p < .001$) but not South Asians had significantly lower body satisfaction than Whites. The results also indicated that the three different Asian Americans groups did not differ from each other in body satisfaction. There was also a significant main effect for gender in body satisfaction ($F(1, 2682) = 254.89, p < .001, \eta^2 = .09$), with men ($M = 29.26, SD = 5.54$) reporting greater body satisfaction than women ($M = 28.72, SD = 5.54$), supporting hypothesis 2a that men would be more satisfied than women with their bodies.

Hypothesis 1b predicted White Americans would have smaller body discrepancies than Asian American groups. Univariate analyses indicated a significant main effect of ethnicity for actual-ideal discrepancies ($F(3, 2680) = 7.02, p < .001, \eta^2 = .008$). Contrary to predications, East Asians ($M = 0.89, SD = 1.48$) and Southeast Asians ($M = 0.98, SD = 1.53$) reported the smallest discrepancies between their actual and ideal figures, while South Asians ($M = 1.01, SD = 1.59$) and Whites ($M = 1.02, SD = 1.38$) reported the largest discrepancies. However, hypothesis 1b was not fully supported as these differences were not significant in the post-hoc analyses.

Hypothesis 2b predicted men would have smaller discrepancies than women. A significant gender difference was found in actual-ideal discrepancies ($F(1, 2682) = 45.45, p < .001, \eta^2 = .02$), with men ($M = 0.36, SD = 1.33$) reporting a smaller discrepancy than women ($M = 1.27, SD = 1.38$), as predicted.

Univariate analyses found one significant interaction effect of ethnicity and gender with the actual-cultural discrepancy ($F(3, 2684) = 6.90, p < .01$). Post hoc t-tests with a Bonferroni correction for multiple tests, found East Asian women ($M = 1.81, SD = 1.77$) had a larger discrepancy between their actual and cultural ideals than South Asian women ($M = .68, SD = 1.87$) ($t(350) = 4.68, p < .001$) and White women ($M = 1.19, SD = 2.08$) ($t(367.873) = 5.07, p < .001$). The difference between South and Southeast Asian women's discrepancies did not meet the Bonferroni corrected criteria for significance, but did show the same trend, with Southeast Asian women reporting a larger discrepancy than South Asian women ($t(320) = 2.73, p = .007$). East Asian men ($M = .97, SD = 1.8$), on the other hand, had a larger discrepancy in actual-cultural ideals than White men ($M = -0.10, SD = 1.49$) ($t(293.138) = 7.42, p < .001$), but did not differ from other Asian men. Southeast Asian men ($M = 1.18, SD = 1.69$) had a larger discrepancy than South Asian men ($M = .31, SD = 1.60$) ($t(132) = 2.86, p = .005$) and White men ($t(93.203) = 6.37, p < .001$). This finding partially supports hypothesis 1b as East Asian men and women and Southeast Asian men reported a larger discrepancy between their actual and cultural ideals than White men and women and South Asian men, respectively.

Thus, although the gender differences across measures remained consistent, with men reporting greater body satisfaction and smaller actual-ideal discrepancies than women as predicted in the second set of hypotheses, the ethnic group differences varied across the measures, as noted by other investigators (Grabe & Hyde, 2006; Roberts et al., 2006). The body satisfaction and actual-cultural discrepancy measures suggest White and South Asian Americans are more satisfied with their bodies and closer to their cultural ideals than East and Southeast Asian Americans. However, the actual-ideal discrepancy suggests East and Southeast Asian Americans are closer to their personal ideal figures than the other ethnic groups. This difference

between actual-ideal and actual-cultural ideal is important as researchers have rarely included cultural ideals previously and it may account for some of the differences found across measures.

Ethnic and American Identity and Body Image

The third hypothesis explored how ethnic and American identity would differentially impact body satisfaction for each Asian American ethnic group and gender. Because the impact of cultural affiliation on body satisfaction and body discrepancies was the primary interest in this analysis, only Asian American participants were included in the analyses. A 3 (ethnicity) x 2 (gender) x 2 (high/low ethnic identity) x 2 (high/low American identity) factorial MANCOVA was conducted with BMI, age, born in the U.S., and annual family income as covariates, and body satisfaction, actual-ideal discrepancy, and actual-cultural discrepancy as dependent variables (see Table 5). A main effect was found for ethnic identity ($F(3, 809) = 3.45, p = .016, \eta^2 = .01$). Significant interaction effects were found for ethnicity and American identity ($F(6, 806) = 2.48, p = .021, \eta^2 = .01$) and gender and ethnic identity ($F(3, 809) = 2.98, p = .031, \eta^2 = .01$). Univariate analyses found the interaction between American identity and ethnicity was significantly associated with the actual-ideal discrepancy ($F(2, 810) = 3.33, p = .036, \eta^2 = .01$) only. Although it appeared East Asians high in American identity had the smallest discrepancy between their actual and ideal figures ($M = 0.83, SD = 1.37$), and South and Southeast Asians with high American identity had the greatest discrepancy between their actual and ideal figures (South Asians: $M = 1.18, SD = 1.65$; Southeast Asians: $M = 1.16, SD = 1.64$), these differences were not significant in the post-hoc t-tests.

Univariate analyses also found the interaction between ethnic identity and gender was significant for body satisfaction ($F(1, 811) = 6.42, p = .011, \eta^2 = .01$). Men high in ethnic identity had the greatest body satisfaction ($M = 29.09, SD = 5.52$), while women low in ethnic identity

had the lowest body satisfaction ($M = 26.45$, $SD = 5.00$), but post-hoc t-tests did not find significant differences between groups.

Lastly, one significant three way interaction was found for ethnicity, ethnic identity, and American identity ($F(6, 806) = 2.64$, $p = .015$, $\eta^2 = .01$). However, the univariate analyses for this interaction were not significant. Thus, the exploratory analyses resulted in weak preliminary findings. Ethnic identity impacted men and women similarly across Asian American groups; greater affiliation with one's ethnic identity increased body satisfaction and, as found earlier, men reported greater body satisfaction regardless of level of ethnic identity (see Figure 1). Although there was a main effect for ethnic identity, no significant interaction effect was found for ethnic identity and ethnicity, suggesting the role of ethnic identity on body image is consistent across ethnic groups with individuals low in ethnic identity reporting lower body satisfaction. Thus, ethnic and American identities differ in how they impact body image among Asian Americans.

Discussion

This study aimed to understand Asian American subgroup and White American differences in body image and the relationship between ethnic and American identity and body image for Asian Americans. The results indicate ethnic group differences in body satisfaction and body discrepancies. East and Southeast Asian Americans had lower body satisfaction than South Asian and White Americans, a pattern similar to the one found by Kennedy and colleagues (2004). This pattern was also found in the discrepancy between actual and cultural ideal figures, but not for the actual and ideal figure discrepancy. Thus, perhaps the discrepancy from the cultural ideal is more representative of body satisfaction than the discrepancy from a general body ideal. Because the ideal body figure was unspecified, it is unclear how it was perceived or

interpreted by participants. For instance, some participants may have perceived the ideal figure as a personal ideal while others may have perceived it as a “western” ideal. This may account for methodological differences found in other studies (Grabe & Hyde, 2006; Roberts et al. 2006) as researchers have generally only asked participants to indicate their ideal figure without qualifying a personal or culture-specific ideal. This finding also highlights the fact that individuals’ personal ideals are not the same as the ideal in their culture. In fact, no ethnic group differences were found in general ideal, but there were ethnic group differences in cultural ideal, with East Asians reporting the thinnest cultural ideal and South Asians reporting the heaviest cultural ideal. Furthermore, the cultural ideal for South Asian Americans was heavier than their general ideal, while East and Southeast Asian Americans had heavier general ideals than cultural ideals. South Asian culture may idealize a heavier figure, whereas East and Southeast Asians may idealize a thinner or more petite frame. However, perhaps this difference in personal and cultural ideals is a result of cultural ideals being generally unattainable for most people. Thus, individuals across ethnic groups may have a personal ideal that is more attainable but a cultural ideal that is more discrepant from reality and therefore less attainable.

Another interesting finding was South Asian Americans were similar to White Americans across measures of body image. Contrary to the hypothesis that White Americans would be more satisfied with their bodies than all Asian American subgroups, South Asians were more similar to Whites than to other Asian subgroups. Several conclusions could be drawn from this finding. The average South Asian body type may be more similar to Whites than to East and Southeast Asians, thus their body satisfaction and body discrepancies are most similar to Whites. Or, perhaps South Asians want to look more “Western” than other Asian subgroups, thus their figures and body satisfaction more closely reflect those of Whites. Further research is needed to

better understand the reasons for the similarity and differences among these ethnic groups. However, these findings do suggest grouping East and Southeast Asian Americans together when comparing their body satisfaction and body discrepancies to White Americans may be acceptable as these two Asian groups showed similar patterns of responses and differences from White Americans and did not significantly differ from each other. Thus, previous studies with East and Southeast Asian Americans as one group may accurately reflect body satisfaction and discrepancies in these groups, but these findings may not apply to South Asian Americans.

American identity was also found to differentially impact body image across Asian American subgroups. Although non-significant in the post-hoc analyses, there was a trend of high American identity being associated with a smaller actual-ideal discrepancy for East Asians, but larger actual-ideal discrepancies for South and Southeast Asians. Perhaps South and Southeast Asians who identify more with American culture have a personal ideal that is closer to the American ideal, but from which they are more discrepant, whereas East Asians' naturally petite frames more closely match the American ideal. Or perhaps this difference is associated with specific body parts that are ethnically determined, such as height and facial features and not necessarily weight-related as is reflected in the body figures measure. Researchers have found Asian Americans are more dissatisfied than Whites with racially defined aspects of their body (Forbes & Frederick, 2008; Mintz & Kashubeck, 1999). Perhaps South and Southeast Asians high in American identity see specific aspects of their bodies as more discrepant from the American ideal, whereas American identity does not similarly impact East Asians' body discrepancies. These between-group differences were not significantly different, however; future studies are needed to better understand the differential impact of high American identity on these Asian American subgroups.

Although there was an interaction effect between ethnic identity and gender, both men and women high in ethnic identity reported greater body satisfaction compared to men and women low in ethnic identity, respectively. These results suggest individuals who do not identify with their ethnic culture are more dissatisfied with their bodies than individuals who are more affiliated with their ethnic cultures. Because body satisfaction is likely to be impacted by cultural ideals, perhaps individuals who more strongly identify with their ethnic culture are not as influenced by American beauty and body values, serving as a protective factor against body dissatisfaction. However, the lack of ethnic group differences in the impact of ethnic identity on body image is surprising considering the significant group differences in body satisfaction and discrepancies among Asian American groups. Furthermore East and Southeast Asians reported cultural ideals thinner than their personal ideals, while South Asians reported heavier cultural ideals than personal ideals. More research is clearly needed to better understand these relationships and the factors associated with them.

Strengths

This study has several strengths. First, this study included three Asian American subgroups (i.e., East, South, and Southeast Asian Americans) allowing for intragroup comparisons. To date, no studies of body image have included large numbers of East, South, and Southeast Asians in the same sample. In general, Southeast Asians are rarely represented as a distinct group in the body image literature. The results of this study indicate body satisfaction varies across some Asian American subgroups, which may account for some of the conflicting findings in the existing literature as most studies consider Asian Americans as one large group. It is important that researchers consider the diversity of individuals of Asian descent when assessing body image, as the physical and cultural norms of East and Southeast Asians appear to

differ from those of South Asian Americans. This sample is also unique because of its size, the inclusion of men and women, and its national representation. Most previous studies have used much smaller sample sizes and have primarily focused on women. This study allows us to better understand the interaction between ethnicity and gender on body satisfaction and body discrepancies. Gender and ethnicity appear to have very strong and unique effects on body image as there were relatively few significant interaction effects.

Another strength of this study was the utilization of multiple measures of body image: a multidimensional questionnaire measure of body satisfaction that incorporated aspects of internalized shame and appearance evaluation and discrepancy measures that include both personal and cultural body ideals. As other researchers have noted, these measures produced different results (Grabe & Hyde, 2006; Roberts et al. 2006). Groups high in body satisfaction and low in figure discrepancies were not uniform. For instance, East and Southeast Asians had the least discrepancy between their actual and ideal bodies but reported the lowest body satisfaction. Furthermore, the inclusion of an actual and cultural discrepancy was unique and suggested that for some Asian American subgroups, this discrepancy may be more indicative of body satisfaction than the actual-ideal discrepancy. Future studies should consider the inclusion of a cultural ideal for ethnic groups' body satisfaction, or at the very least, qualify the ideal figure as either a personal ideal or culture-specific ideal. This study also included measures of ethnic and American identity on body image. Few studies have investigated the relationship between the cultural affiliation of Asian Americans and their body image. In general, the literature tends to emphasize acculturation rather than ethnic or racial identity. Acculturation measures and models tend to focus more on cultural behaviors (e.g., language, foods, customs, and practices) rather than cultural beliefs, norms, and identity. This focus is problematic when considering second,

third, or fourth generation ethnic minorities who are less likely to struggle with culture as an acculturative process and more likely to struggle with culture as an identity process. This study suggests ethnic and American identity may be differentially associated with body satisfaction and body discrepancies for Asian American subgroups. Future studies should further investigate the role of cultural identity on individuals' body images.

Limitations and Future Studies

There are a few limitations to the current research. First, because the sample was college students, it limits the generalizability of the results. Although group differences were found among Asian American subgroups and White Americans in body satisfaction, body discrepancies and the role of identity, it is not clear if these patterns would also be true of older men and women, especially if they immigrated to the U.S. at older ages than the current sample. However, most of the existing research was also conducted with college students, allowing for comparisons with previous research.

Another limitation to the current study is only global body satisfaction was measured. As noted previously, Asian and White Americans differ in the body parts that predict their global body satisfaction (Koff et al., 2001) and Asian Americans and Whites differ in their satisfaction with racially defined aspects of their body (Forbes & Frederick, 2008; Mintz & Kashubeck, 1999). Thus, using only global body satisfaction and weight-related body discrepancies may not fully capture each group's dissatisfaction. Future studies should include measures of satisfaction with specific body parts as well to give a complete understanding of the group differences in body satisfaction.

Lastly, the current study did not include psychological correlates of body image. Although researchers have found that low body satisfaction is associated with several negative

psychological outcomes (Lau et al., 2006), limited research has investigated the relationship between mental health and body satisfaction among Asian Americans and the literature that does exist has produced mixed results. Researchers have not only found that body dissatisfaction and/or disordered eating is associated with lower self-esteem and higher social anxiety (Koff et al., 2001), but also that there is no relationship between body image and depression and anxiety among Asian Americans (Dolan et al., 1990; Grabe & Jackson, 2009). On the other hand, Mintz and Kashubeck (1999) found Asian American women had both lower self-esteem and greater body dissatisfaction than Whites, but they only hypothesized a relationship between these variables; they did not report a statistical relationship. Furthermore, although the effect sizes of the subgroup differences in body image were small, it is unclear if these small differences are meaningful. Even these small differences may have large or more meaningful effects on psychological outcomes. That is, the current study found East and Southeast Asians reported less body satisfaction than South Asians and Whites, but it is unclear if this dissatisfaction places East and Southeast Asians at greater risk for disordered eating or other psychological outcomes. Thus, it is unclear if and how psychological factors are associated with Asian Americans' body satisfaction. Future studies comparing subgroup differences in body satisfaction should also include psychological variables to better understand the mental health impact of body dissatisfaction among Asian Americans.

Conclusion

Body image among Asian Americans is not well understood currently, both as a result of the variety of Asian American groups incorporated into one group in studies and the diversity of measures utilized across studies (i.e., silhouette measures, body satisfaction scales). Researchers have also neglected the role of cultural factors on body image. Data from this study indicate East

and South East Asians both report lower body satisfaction than White and South Asian Americans. Furthermore, this study found differences between participants' ideal body figure and cultural ideal figure. Lastly, this study found differences in the role of American and ethnic identity on body discrepancies and body satisfaction, but there were no significant ethnic group differences. More research is needed to better understand the role of cultural values on body image and how these variables are related to negative mental health outcomes (e.g., depression, self-esteem) among Asian American ethnic groups.

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Table 1

Participant Demographics

Ethnic group	N	Age -- M(SD)	% Female	% Born in US	BMI – M (SD)	Annual family income
East Asian	442	19.84 (2.05)	55.70 ^{a,b}	57.40 ^a	M 23.40 (3.32)	<\$50K 51.20% ^{a,b,c}
					F 21.22 (2.83) ^a	
South Asian	166	19.87 (2.20)	65.70	59.60 ^a	M 23.60 (3.21)	<\$50K 36.1%
					F 22.00 (3.64)	
Southeast Asian	292	19.84 (2.18)	73.30	66.30 ^a	M 23.60 (3.75)	<\$50K 62.00% ^{a,c}
					F 22.00 (3.17)	
White	2005	20.29 (3.50)	72.90	95.60	M 23.90 (3.30)	<\$50K 29.60%
					F 22.70 (4.08)	

^a Significantly different from Whites at p<.001

^b Significantly different from Southeast Asians at p<.001

^c Significantly different from South Asians at p=.002

Table 2

Multivariate Analysis of Covariance Body Figures

	Ethnicity	Gender	Ethnicity*Gender
MANCOVA	$F(9, 2786) = 24.91,$ $p < .001, \eta^2 = .03$	$F(3, 2792) = 210.68,$ $p < .001, \eta^2 = .19$	$F(9, 2786) = 3.71, p < .001, \eta^2$ $= .004$
Actual Figure	$F(3, 2792) = 3.89, p =$.009, $\eta^2 = .004$	$F(1, 2794) = 14.87,$ $p < .001, \eta^2 = .005$	$F(3, 2792) = .22, p = .88$
Ideal Figure	$F(3, 2792) = 1.60, p = .19$	$F(1, 2794) = 471.46,$ $p < .001, \eta^2 = .15$	$F(3, 2792) = 2.22, p = .08$
Cultural Ideal Figure	$F(3, 2792) = 54.48,$ $p < .001, \eta^2 = .06$	$F(1, 2794) = 302.41,$ $p < .001, \eta^2 = .10$	$F(3, 2792) = 9.73, p < .001, \eta^2$ $= .01$

Note: Covariates included BMI, age, annual family income, and born in the U.S.

Table 3

Means and Standard Deviations by Gender and Ethnic Group for Body Figures, Body Satisfaction, and Body Figure Discrepancies

		Actual	Ideal	Cultural	Body	Actual-Ideal	Actual-
		Figure	Figure	Ideal Figure	Satisfaction	Discrepancy	Cultural
		(SD)	(SD)	(SD)	(SD)	(SD)	Discrepancy
							(SD)
East Asian	Male	5.68 (1.52)	5.23 (0.98)	4.72 (1.29)	28.13 (4.78)	0.43 (1.39)	0.97 (1.78)
	Female	4.67 (1.64)	3.42 (1.25)	2.87 (1.27)	27.13 (4.86)	1.26 (1.45)	1.81 (1.77)
	Total	5.12 (1.66)	4.23 (1.45)	3.69 (1.58)	27.57 (4.84)	0.89 (1.48)	1.43 (1.82)
South Asian	Male	5.60 (1.46)	5.04 (1.07)	5.27 (1.43) ^c	29.72 (6.02)	0.56 (1.69)	0.31 (1.60)
	Female	4.90 (1.65)	3.55 (1.39)	4.19 (1.47) ^{b, d}	28.12 (4.82)	1.28 (1.47)	0.68 (1.87)
	Total	5.15 (1.62)	4.07 (1.47)	4.57 (1.55)	28.71 (5.33)	1.01 (1.59)	0.54 (1.78)
South-east Asian	Male	5.76 (1.31)	5.20 (.97)	4.54 (1.37)	28.35 (5.56)	0.54 (1.34)	1.18 (1.69)
	Female	4.96 (1.78)	3.83 (1.26)	3.49 (1.47) ^b	26.40 (5.31)	1.15 (1.56)	1.49 (2.01)
	Total	5.17 (1.70)	4.20 (1.33)	3.77 (1.52)	26.93 (5.44)	0.98 (1.53)	1.40 (1.93)
White	Male	5.57 (1.28)	5.29 (0.85)	5.68 (1.17) ^{a, c}	29.76 (5.67)	0.28 (1.24)	-0.10 (1.49)
	Female	4.92 (1.72)	3.63 (1.19)	3.74 (1.47) ^b	29.05 (5.61)	1.29 (1.33)	1.19 (2.08)
	Total	5.10 (1.64)	4.08 (1.33)	4.27 (1.64)	29.24 (5.64)	1.02 (1.38)	0.84 (2.02)

Note: Covariates included BMI, age, annual family income, and born in the U.S.

^a Significantly different from East Asian men at $p < .001$

^b Significantly different from East Asian women at $p < .001$

^c Significantly different from Southeast Asian men at $p < .005$

^d Significantly different from Southeast Asian women at $p < .001$

Table 4

Multivariate Analysis of Covariance for Body Satisfaction and Body Discrepancies

	MANCOVA	Body Satisfaction	Actual-Ideal Discrepancy	Actual-Cultural Discrepancy
Ethnicity	$F(9, 2674) = 25.30,$ $p < .001, \eta^2 = .03$	$F(3, 2680) = 20.20,$ $p < .001, \eta^2 = .02$	$F(3, 2680) = 7.02,$ $p < .001, \eta^2 = .008$	$F(3, 2680) = 59.16,$ $p < .001, \eta^2 = .06$
Gender	$F(3, 2680) = 98.87,$ $p < .001, \eta^2 = .10$	$F(1, 2682) = 45.45,$ $p < .001, \eta^2 = .02$	$F(1, 2682) = 254.89,$ $p < .001, \eta^2 = .09$	$F(1, 2682) = 155.92,$ $p < .001, \eta^2 = .06$
Ethnicity*	$F(9, 2674) = 3.74,$	$F(3, 2680) = 2.04, p$	$F(3, 2680) = 1.51, p$	$F(3, 2680) = 6.80,$
Gender	$p < .001, \eta^2 = .004$	$= .11$	$= .21$	$p < .001, \eta^2 = .008$

Note: Covariates included BMI, age, annual family income, and born in the U.S.

Table 5

*Multivariate Analysis of Covariance with Ethnic and American Identity for Body Satisfaction**and Body Discrepancies*

	MANCOVA	Body Satisfaction	Actual-Ideal Discrepancy	Actual-Cultural Ideal Discrepancy
Ethnicity	$F(6, 806) = 11.99, p < .001, \eta^2 = .04$	$F(2, 810) = 0.69, p = .500$	$F(2, 810) = 0.336, p = .715$	$F(2, 810) = 19.45, p < .001, \eta^2 = .05$
Gender	$F(3, 809) = 32.34, p < .001, \eta^2 = .12$	$F(1, 811) = 15.52, p < .001, \eta^2 = .02$	$F(1, 811) = 98.04, p < .001, \eta^2 = .11$	$F(1, 811) = 50.97, p < .001, \eta^2 = .06$
American Identity (AI)	$F(3, 809) = 2.31, p = .075$	$F(1, 811) = 1.63, p = .202$	$F(1, 811) = 2.59, p = .108$	$F(1, 811) = 0.00, p = .987$
Ethnic Identity (EI)	$F(3, 809) = 3.45, p = .016, \eta^2 = .01$	$F(1, 811) = 9.23, p = .002, \eta^2 = .01$	$F(1, 811) = 0.00, p = .992$	$F(1, 811) = 0.42, p = .519$
Ethnicity* Gender	$F(6, 806) = 1.59, p = .147$	$F(2, 810) = 0.28, p = .755$	$F(2, 770) = 1.66, p = .191$	$F(2, 810) = 4.38, p = .013, \eta^2 = .01$
AI*Ethnicity	$F(6, 806) = 2.48, p = .021, \eta^2 = .01$	$F(2, 810) = 1.92, p = .148$	$F(2, 810) = 3.33, p = .036, \eta^2 = .01$	$F(2, 810) = 1.04, p = .353$
EI*Ethnicity	$F(6, 806) = 1.83, p = .089$	$F(2, 810) = 5.24, p = .005, \eta^2 = .01$	$F(2, 810) = 0.52, p = .596$	$F(2, 810) = 0.24, p = .791$
AI*Gender	$F(3, 809) = 0.46, p$	$F(1, 811) = 1.04, p$	$F(1, 771) = 0.03, p$	$F(1, 771) = 0.01, p$

	=.713	$p = .309$	=.853	=.916
		$F(1, 811) = 6.42,$		
EI*Gender	$F(3, 809) = 2.98, p = .031, \eta^2 = .01$	$p = .011, \eta^2 = .01$	$F(1, 811) = 0.38, p = .539$	$F(1, 811) = 0.22, p = .640$
AI*EI	$F(3, 809) = 0.90, p = .442$	$F(1, 811) = 0.00, p = .963$	$F(1, 811) = 1.13, p = .287$	$F(1, 811) = 0.11, p = .746$
Ethnicity*	$F(6, 806) = 1.11, p = .355$	$F(2, 810) = 0.58, p = .558$	$F(2, 810) = 2.25, p = .107$	$F(2, 810) = 1.06, p = .347$
Gender*AI		$F(2, 810) = 3.11,$		
Ethnicity*	$F(6, 806) = 1.20, p = .355$	$p = .045, \eta^2 = .01$	$F(2, 810) = 0.28, p = .758$	$F(2, 810) = 0.16, p = .855$
Gender*EI		$F(2, 810) = 2.17, p = .115$	$F(2, 810) = 2.6, p = .052$	$F(2, 770) = 0.39, p = .675$
Ethnicity*AI*	$F(6, 806) = 2.64, p = .015, \eta^2 = .01$	$F(2, 810) = 2.17, p = .115$	$F(2, 810) = 2.6, p = .052$	$F(2, 770) = 0.39, p = .675$
EI		$F(1, 811) = 3.57, p = .059$	$F(1, 811) = 0.04, p = .846$	$F(1, 811) = 0.59, p = .444$
Gender* AI*EI	$F(3, 809) = 1.73, p = .160$	$F(1, 811) = 3.57, p = .059$	$F(1, 811) = 0.04, p = .846$	$F(1, 811) = 0.59, p = .444$
Ethnicity*	$F(6, 806) = 1.51, p = .170$	$F(2, 770) = 1.44, p = .238$	$F(2, 810) = 0.10, p = .370$	$F(2, 810) = 0.20, p = .817$
Gender*AI*EI		$p = .238$	$= .370$	$.817$

Note: Covariates included BMI, age, annual family income, and born in the U.S.

Figure 1. Body satisfaction by ethnic identity and gender

