The Relationships Among Acculturation, Acculturative Stress, Endorsement of Western Media, Social Comparison, and Body Image in Hispanic Male College Students

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Although existing research suggests that perceived pressure and internalization of American media ideals are associated with body image problems, limited research has explored the role of acculturation and acculturative stress on these relationships in Hispanic men. Using a sociocultural framework, this study investigated the relationships between endorsement of Western appearance-based media ideals (i.e., awareness, perceived pressure, and athletic-ideal internalization), social comparison to models in the media, body image, acculturation, and acculturative stress in Hispanic male college students (N = 100). Results from self-report measures indicated that acculturative stress was significantly positively correlated with endorsement of Western media, social comparison tendency, and body image problems, whereas acculturation to mainstream American (Anglo) culture was not significantly correlated with any outcome variables. In addition, hierarchical regression and mediational analyses generally supported the sociocultural model of eating disorders in this sample. These results suggest that researchers and clinicians should consider endorsement of Western media, social comparison to models, and acculturative stress in the assessment and conceptualization of body image issues in Hispanic male college students.

Keywords: Hispanic men, body image, media internalization, acculturation, acculturative stress

In Western cultures, considerable emphasis is placed on physical appearance as a determinant of personal and social value (Thompson, Heinberg, Altbe, & Tantleff-Dunn, 1999). Although there is considerable heterogeneity within and across cultures, the term Western culture broadly describes the overarching belief system and value orientation of many first-world, economically stable countries, including most of Western Europe, Australia, and the United States (American Psychological Association, 2003; Thompson et al., 1999). One of the strongest ways that Western cultural values and ideals of appearance are prescribed and reflected is through mainstream U.S. mass media outlets (e.g., widely distributed American fashion magazines, TV shows, advertisements, movies, music). For example, mainstream American media display the ideal man as highly muscular, lean, and tall, with broad shoulders, a brawny chest, and a slim waist (Barlett, Vowels, & Sauzier, 2008; Petrie, Austin, Cowley, & Helmcamp, 1996; Pope, Phillips, & Olivardia, 2000). Through media exposure to models that display the ideal appearance, individuals living in Western cultural contexts are encouraged to continually strive to attain the highly valued yet unrealistic appearance ideal (Ayala, Mickens, Galindo, & Elder, 2007; Franzi & Klaiber, 2007; Warren, Gleave, Cepeda-Benito, Fernandez, & Rodriguez-Ruiz, 2005). For example, in a qualitative study of male college students, Ridgeway and Tylka (2005) found that participants were very aware of the Western appearance ideal for men (e.g., lean, tall, muscular) and wanted to approximate that physique.

Although Western cultural values and ideals of appearance have long been etiologically tied to eating pathology (Polivy & Herman, 2002; Thompson et al., 1999), relatively little research has examined the influence of mainstream U.S. media on diverse ethnic groups as they move to the United States, including Hispanic men (Ricciardelli, McCabe, Williams, & Thompson, 2007). This is problematic because existing research (not generally representative of men of color) suggests that men report considerable body size and shape dissatisfaction, particularly related to masculinity (Cash, 1997; Mayville, Williamson, White, Netemeyer, & Drab, 2002; Olivardia, Pope, & Hudson, 2000). Body image problems, in turn, have been linked to many potentially harmful behaviors and psychological states (Cafr, Strauss, & Thompson, 2002; McCreary & Sasse, 2000; Olivardia, Pope, Borowiecki, & Cohane, 2004). Furthermore, given that the Hispanic population is the fastest growing minority group in the United States (U.S. Census Bureau, 2010) and traditionally holds different values and ideals of appearance, examining how mainstream U.S. media may influence Hispanic males as they acculturate is critical.

Western Media, Body Image, and Social Comparison

Although the relationship between media exposure and body image has been primarily examined in women, existing research suggests that exposure to ideal-looking models presented in mainstream U.S. media negatively influences body image in both men
and women (Barlett et al., 2008; Groesz, Levine, & Murken, 2002). Body image is a multidimensional construct reflecting attitudes and perceptions about one’s physical appearance (Cash & Pruzinsky, 2002) and is often argued to be a reflection of how a person views his or her body in comparison to cultural norms and ideals rather than a reflection of one’s actual body dimensions (Ayala et al., 2007). Body image is of considerable interest to clinicians and researchers because body image problems (e.g., feeling dissatisfied with one’s appearance) are linked to many potentially harmful behaviors and psychological states including obsessive exercise, steroid use, low self-esteem, depression, and eating pathology, particularly in adolescent and college-age male samples (Cafri et al., 2002; McCreary & Sasse, 2000; Olivardia et al., 2004). For example, using an experimental paradigm, Agliata and Tantleff-Dunn (2004) found that men who were exposed to television advertisements that contained ideal-looking male models reported feeling significantly more depressed and dissatisfied with their muscularity than those who were exposed to neutral advertisements. Similarly, in a meta-analysis examining the effects of exposure to ideal-looking models on men’s body image, Barlett and colleagues (2008) found that such exposure resulted in a more negative self-evaluation and body image for men of all ages, but that the relationship between media exposure and negative body image was stronger for college-age men than it was for adolescent boys.

One way to understand the influence of exposure to ideal-looking models in the media on body image is through social comparison theory. First described by social psychologist Leon Festinger (1954), this theory proposes that people have an innate tendency to compare their attributes (e.g., opinions, abilities, physical appearance) to others as a method of self-evaluation. Theoretically, media exposure often results in more negative body image because when individuals compare their appearance to ideal-looking models, it generally leads to upward comparison whereby individuals deem themselves as less attractive than the models (Barlett et al., 2008; Morrison, Kalin, & Morrison, 2004; Myers & Crowther, 2009). Furthermore, universal sources of comparison (e.g., images in the mass media) often influence body image more negatively when used for self-evaluation than personal sources of comparison, such as family, friends, or peers (Morry & Staska, 2001; Tsiantas & King, 2001; Pompper, Soto, & Piel, 2007). For example, in a study examining body image and media exposure among adolescents, Morrison and colleagues (2004) found that male participants who compared themselves to ideal-looking models endorsed more eating to gain weight, steroid use to gain muscle mass, and pathogenic weight control practices (e.g., diet pills, food restriction, overexercising) than those who compared themselves to peers.

Endorsement of Western Cultural Values: The Sociocultural Model

Although increased exposure to ideal-looking Western media can lead to a more negative body image through the social comparison process, not all individuals living in Western culture report significant body image problems. Consequently, understanding the paths or mechanisms through which media exposure translates into body image problems and more severe eating pathology is critical. According to one aspect of the sociocultural model of eating disorders (see Cafri, Yamamiya, Brannick, & Thompson, 2005; Stice & Whitenton, 2002; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004), increased awareness or knowledge of Western cultural ideals promoted in the media can lead to perceived pressure to attain the ideal. For men, increased pressure can lead to athletic-ideal internalization, which refers to the personal desire to look like and behavioral attempts to achieve the appearance of athletes and/or muscular media figures that represent the ideal male physique (Cafri et al., 2005; Thompson et al., 2004). Increased internalization, in turn, predicts muscle dysmorphia and body image problems. As such, this model suggests that perceived pressure mediates the relationship between awareness and athletic-ideal internalization and that athletic-ideal internalization mediates the relationship between perceived pressure and body image disturbance (see Figure 1).

Although the large majority of research investigating the sociocultural model has been conducted with women (Cafri et al., 2005), a small body of research examining this model in men supports the relationships between awareness, perceived pressure, internalization, and body image (Halliwell & Harvey, 2006; Morry & Staska, 2001; Warren, 2008). In a study examining magazine reading, internalization, self-objectification, eating attitudes, and body dissatisfaction in male and female college students, increased exposure to magazines was associated with increased internalization of a physically fit body for men and a thin body for women (Morry & Staska, 2001). Furthermore, men who read fitness magazines showed more eating disorder symptoms and physical appearance concerns than those who did not (Morry & Staska, 2001). Similarly, Halliwell and Harvey (2006) found that perceived pressure to lose weight predicted dysfunctional eating behavior, increased internalization of Western ideals, and body dissatisfaction in adolescent boys.

Research examining these relationships in Hispanic men (and men of color in general) is sparse (Ricciardelli et al., 2007). In research using samples of Hispanic adolescents, increased endorsement of Western ideals of appearance is generally associated with greater body dissatisfaction and eating pathology in both boys and girls (Ayala et al., 2007; Warren, Schoen, & Schafer, 2010). In a study examining the sociocultural model in European American

![Figure 1. Proposed sociocultural model of eating pathology.](image-url)
and Hispanic male college students living in Texas, path analysis suggested that awareness of Western media ideals positively predicted general internalization of these ideals (i.e., ideals of beauty generally, not athletic-ideal internalization specifically), and internalization positively predicted body dissatisfaction for men of both ethnic groups (Warren, 2008).

**Acculturation, Acculturative Stress, and the Hispanic Population**

In the United States, the term Hispanic (or Latino) refers to individuals of Spanish cultural decent (U.S. Census Bureau, 2010). As such, Hispanics are a heterogeneous group of individuals originating from various countries and geographical regions, including (but not limited to) Mexico, South America, Central America, Cuba, Spain, and Puerto Rico (Santiago-Rivera, Arreollo, & Gallardo-Cooper, 2002; U.S. Census Bureau, 2010). Despite such heterogeneity, Hispanic cultures share some similar values and ideals, such as strong family ties, collectivism, and interdependence (Santiago-Rivera et al., 2002). For example, in contrast to mainstream Western culture, Hispanic cultures traditionally value interdependent, close family relationships (familismo), collectivism, deterministic thinking (fatalismo), and sociability (personalismo) as the most desirable and valuable personal traits (Arcaya, 1999; Santiago-Rivera et al., 2002). In addition, Hispanic males are encouraged to be physically strong, aggressive, virile, and brave (machismo), and to maintain a positive family reputation at all costs (Arcaya, 1999).

Given traditional Hispanic values and ideals of appearance, one may question the experience of Hispanic men as they enter the United States and are increasingly exposed to U.S. media and Western values of appearance. Existing research suggests that Hispanics may be more likely to engage in extreme weight-loss strategies and binge eating than other American ethnic groups (Ricciardelli et al., 2007). For example, a review of research investigating ethnic differences in body image and disordered eating in men found that 12 of 16 studies demonstrated that Hispanic and European American/White men reported comparable levels of body image concerns (Ricciardelli et al., 2007).

Furthermore, differences in the manifestation and experience of eating pathology are likely influenced by factors related to acculturation (Ricciardelli et al., 2007). **Acculturation** is defined as the process through which an individual learns and adapts the behaviors, cognitions, beliefs, language, and values of a new group of people (Paukert, Pettit, Perez, & Walker, 2006; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Research suggests that people evaluate and change their physical appearance as they adjust to new cultural contexts (Bem, 1981). Although many theorists have hypothesized that a higher level of acculturation to Western cultures would be associated with increased body image problems in immigrants, most research to date (conducted almost exclusively on women) does not support a simple relationship (Ayala et al., 2007; Joiner & Kashubeck, 1996; Nieri, Kulis, Keith, & Hurdle, 2005; Pepper & Ruiz, 2007). For example, in a study examining acculturation and body image perception among 167 Latinos, Ayala et al. (2007) found no statistically significant relationship between acculturation and body dissatisfaction. Conversely, other research suggests significant relationships between some aspects of acculturation and eating disorder symptoms, but in a range of directions (e.g., Cachelin, Veisel, Barzegarnazari, & Striegel-Moore, 2000; Chamorro & Flores-Ortiz, 2000; Pepper & Ruiz, 2007; Warren, Castillo, & Gleaves, 2010). For example, in a community sample of Latina, European American, African American, and Asian American women with and without eating disorder symptoms, Cachelin and colleagues (2000) found that more acculturated women were more likely to suffer from eating disorder symptoms than less acculturated women. In contrast, Nieri et al. (2005) found that adolescent Latino boys who were less acculturated to Western culture reported higher levels of body dissatisfaction.

One reason for the mixed findings regarding the relationship between acculturation and eating pathology in immigrant groups moving to the United States could be that it is the stress or discord associated with the acculturation process (not the level of acculturation itself) that predicts negative mental health outcomes (Castillo, Cano, Chen, Blucker, & Olds, 2008). **Acculturative stress** is conceptualized as the difficulties and psychological toll that arise from the process of adapting to a new cultural context (Paukert et al., 2006; Smart & Smart, 1995). For example, acculturative stress can emerge as a response to feeling devalued or alienated from a new social group (e.g., peers in the host culture) or experiencing discord with one’s culture of origin (Castillo et al., 2008). With regards to body image, immigrants who experience more stress as they acculturate to the United States (e.g., feeling alienated, lack of belonging) may be more likely to attend to, endorse, and aspire to attain the ideals promoted in mainstream Western media in an effort to fit in (Perez, Voelz, Pettit, & Joiner, 2002).

To date, most existing research has examined demographic and social correlates of acculturative stress (Paukert et al., 2006) and found that high levels of acculturative stress are associated with negative psychological outcomes in women (Hovey, 1998; Walker, Wingate, Obasi, & Joiner, 2008). In the only study to our knowledge to examine the relationship between body image and acculturative stress, Perez and colleagues (2002) found that acculturative stress moderated the relationship between body dissatisfaction and bulimic symptomatology in Hispanic women such that the relationship was stronger for women higher in acculturative stress than those lower in acculturative stress.

**Current Study**

To date, little research has examined the relationships between endorsement of Western media, social comparison to models in the media, and body image in Hispanic male college students. Furthermore, exploration of how within-group factors, such as acculturation and acculturative stress, influence these relationships is lacking (Barlett et al., 2008; Ricciardelli et al., 2007). To address these gaps in the literature, this study investigated the relationships between endorsement of Western media as proposed by the sociocultural model of eating pathology (i.e., awareness, perceived pressure, and athletic-ideal internalization), body image, social comparison to media images, acculturation, and acculturative stress in Hispanic male college students. Specifically, we examined two intertwined issues: (1) the adequacy of the sociocultural model (i.e., awareness predicting perceived pressure; perceived pressure predicting athletic-ideal internalization; athletic-ideal internalization predicting body image problems; see Figure 1) and (2) the influ-
ence of acculturation, acculturative stress, and social comparison to models on endorsement of Western media and body image. In line with the sociocultural model of eating pathology (see Cafri et al., 2005; Stice & Whitenton, 2002), we predicted that awareness of Western ideals and values as perpetuated in U.S. media would predict perceived pressure to attain these ideals, which would predict internalization of these ideals and body image problems. We also predicted that acculturation to mainstream U.S. culture, higher levels of acculturative stress, and increased social comparison to models would independently positively predict endorsement of Western media and body image problems.

Method

Participants

One hundred Hispanic male college students attending the University of Nevada, Las Vegas participated in this study. Most participants (n = 93) were recruited via the psychology subject pool and received research credit for their participation. An additional seven participants were recruited via fliers and received no credit for their participation. Measures were collected using an online data collection format (SurveyMonkey) and took approximately 30 min to complete. All participants in the study self-identified as Hispanic or Latino.

Measures

Body image. The Muscle Appearance Satisfaction Scale (MASS; Mayville et al., 2002) evaluated cognitive, affective, and behavioral dimensions of male body image. The MASS has 19 items that evaluate muscle checking (e.g., “I often find it difficult to resist checking the size of my muscles”), excessive muscle building activities (e.g., “If I have a bad workout, it’s likely to have a negative effect on the rest of my day”), muscle satisfaction (e.g., “I am satisfied with the size of my muscles”), proneness to injury from exercise (e.g., “To get big, one must be able to ignore a lot of pain”), and substance use (e.g., “It is OK to use steroids to add muscle mass”). The original scale was scored using a 7-point Likert-type scale; however, we used a 5-point scale ranging from 1 (definitely disagree) to 5 (definitely agree) as has been done by other researchers (e.g., Chaney, 2008). A total score is calculated to assess general body image, with higher scores indicating more body image problems. The MASS has good internal consistency and has demonstrated overlap with validated measures specific to body image disturbance, including the Social Physique Anxiety Scale (Hart, Leary, & Rejeski, 1989), Multi-Dimensional Body-Self Relations Questionnaire (Cash, 1997), Body Dysmorphic Disorder Examination Self-Report (Rosen & Reiter, 1994), and Body Image Rating Scale (Mayville, Gipson, & Katz, 1998; Mayville et al., 2002).

Acculturation. The Acculturation Rating Scale for Mexican Americans—II (ARMSA-II; Cuéllar, Arnold, & Maldonado, 1995) measured acculturation to mainstream American culture and affiliation to traditional Hispanic culture. It has two scales: the Mexican Orientation Score (MOS, 17 items) and the Anglo Orientation Score (AOS, 13 items). For the purposes of this study, items on the MOS were adapted by substituting the word Hispanic/Latino for the word Mexican. Sample items include, “I associate with Hispanics and/or Americans of Hispanic descent,” “My thinking is done in the English language,” and “My family cooks Hispanic food.” Although an overall acculturation score is generally used for the ARMSA-II (calculated by subtracting the mean of the MOS from the mean of the AOS), we used MOS and AOS separately to maintain the bidimensionality of the construct of acculturation. Items are scored on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (extremely often), with higher scores indicating higher affiliation/acculturation to mainstream American (Anglo) and Hispanic culture, respectively. The ARMSA-II has shown good internal consistency in a sample of Mexican American college students (Castillo, Conoley, & Brossart, 2004) and good test–retest reliability in a sample of Mexican, Mexican American, and White American college students (Cuéllar et al., 1995; Warren et al., 2010).

Acculturative stress. The Sociocultural Attitudes Toward Appearance Questionnaire—3 (SATAQ-3; Thompson et al., 2004) evaluated the degree to which one attends to and endorses Western ideals and values found in mainstream American media that are associated with eating pathology. We used three SATAQ-3 subscales: the nine-item Information subscale (INFO) measured awareness and dependence on the media for information about appearance (e.g., “Magazine articles are an important source of information about fashion and being attractive”); the seven-item Perceived Pressure subscale (PRESS) measured the perceived pressures from the media to modify one’s appearance (e.g., “I’ve felt pressure from TV or magazines to lose weight”); and the five-item Internalization-Athletic subscale (INT-ATH) measured internalization of athletic or fit body types (e.g., “I wish I looked as athletic as the people in magazines”). Participants respond to items on a 5-point Likert-type scale ranging from 1 (definitely disagree) to 5 (definitely agree), with high scores indicating more endorsement of media ideals and values. For the purposes of this study, the measure was altered (as recommended by the authors) to make it specific to male participants. The SATAQ-3 has reported good internal consistency for a male sample (Karazsia & Crowther, 2008).

Endorsement of Western media ideals. The Sociocultural Attitudes Toward Appearance Questionnaire—3 (SATAQ-3; Thompson et al., 2004) evaluated the degree to which one attends to and endorses Western ideals and values found in mainstream American media that are associated with eating pathology. We used three SATAQ-3 subscales: the nine-item Information subscale (INFO) measured awareness and dependence on the media for information about appearance (e.g., “Magazine articles are an important source of information about fashion and being attractive”); the seven-item Perceived Pressure subscale (PRESS) measured the perceived pressures from the media to modify one’s appearance (e.g., “I’ve felt pressure from TV or magazines to lose weight”); and the five-item Internalization-Athletic subscale (INT-ATH) measured internalization of athletic or fit body types (e.g., “I wish I looked as athletic as the people in magazines”). Participants respond to items on a 5-point Likert-type scale ranging from 1 (definitely disagree) to 5 (definitely agree), with high scores indicating more endorsement of media ideals and values. For the purposes of this study, the measure was altered (as recommended by the authors) to make it specific to male participants. The SATAQ-3 has reported good internal consistency for a male sample (Karazsia & Crowther, 2008).

Social comparison tendency. The Comparison to Models Survey (CMS; Strowman [1996] as cited in Thompson et al., 1999) assessed the frequency of comparison with models in the media on eight personal attributes. On the CMS, participants respond to eight items on a 5-point Likert-type scale from 1 (never) to 5 (always). Items pertain to the frequency to which the individual compares himself with models in the media (e.g., “In terms of your physical appearance,” “In terms of your exercise habits,” “In terms...
of your popularity”). Higher scores indicate stronger social comparison tendency to models. Although to our knowledge this scale has not been used in a sample of Hispanic males, the CMS has shown good internal consistency in a sample of female undergraduates (Thompson et al., 1999) and Latino adolescents (Warren et al., 2010).

Demographics. Participants provided their age, height, and current weight information. Using height and weight, body mass index (BMI: kg/m²) was calculated because it has been shown to significantly predict body dissatisfaction (Stice & Whitenton, 2002). Participants also provided information regarding the ethnicity they identify with, marital status, their first-spoken language learned, and generational status.

Results

A power analysis using G*Power 3.1.2 (Faul, Erdfelder, Buchner, & Lang, 2009) indicated that to obtain a medium effect size ($f^2 = 0.15$) based on power = .80, we needed a minimum sample of 98 participants. In addition to examining descriptive information (i.e., means, bivariate correlations), we used hierarchical regression analysis (Aiken & West, 1991) to simultaneously test the sociocultural model and the influence of acculturation, acculturative stress, and social comparison with models in the media. Specifically, three analyses were conducted, each testing one of the paths in the model (see Figure 1). The first analysis (Path 1) specified awareness (INFO) as a predictor of perceived pressure (PRESS); the second (Path 2) specified PRESS as a predictor of athletic-ideal internalization (INT-ATH); and the third (Path 3) specified INT-ATH as a predictor of body image problems (MASS). For each analysis, we specified three steps and selected the order of variable entry so that we could test the contribution of each predictor to the explanatory variance of the dependent variable after controlling for the variance explained by the previous variables (Aiken & West, 1991). Specifically, to control for demographic factors, each analysis entered age and BMI in Step 1. In Step 2, we added media-related variables, including social comparison tendency and the relevant predictor in the sociocultural model (i.e., awareness, perceived pressure, or athletic-ideal internalization). To examine the influence of acculturation and acculturative stress, Step 3 added Anglo orientation (AOS), Hispanic orientation (MOS), and acculturative stress (SAFE).

We also tested whether perceived pressure and athletic-ideal internalization served as mediators (see Figure 2) according to the criteria established by Baron and Kenny (1986). This involves showing that the initial variable is correlated with the outcome variable; the initial variable is correlated with the mediator; the mediator affects the outcome variable; and the effect of the initial variable on the outcome variable after controlling for the mediator is zero (for full mediation) or reduced (for partial mediation; Baron & Kenny, 1986). In addition to visually examining change in standardized and unstandardized regression coefficients, we calculated Sobel’s $z$ (Sobel, 1982) to determine whether the coefficients were statistically different using an Excel program for mediational analyses (Beckstead, 2009). In the interest of retaining as many data as possible, when data were missing, they were eliminated pairwise from analyses. Prior to analyses, all data were centered and examined to ensure that they were appropriate for statistical analyses.$^1$

Demographic and Descriptive Information

As shown in Table 1, participants were about 21 years old, with an average BMI of 25 (which is in the borderline normal to overweight range and similar to other studies using college students; see Ganem, de Heer, & Morera, 2009). The majority of participants were second generation ($n = 57$; participant was born in the United States but one or more parent was born in another country) or first generation ($n = 27$; participants were born outside of the United States), with Mexico being the most common country of origin. Over half of participants ($n = 54$) indicated that Spanish was their first language, and almost all participants were single (three participants were currently married and two were divorced).

Compared with cutoff scores on the ARSMA-II (determined by calculating an overall acculturation score by subtracting the mean of the MOS from the mean of the AOS), the average participant in our sample would be described as slightly Anglo-oriented bicultural, range $>-0.07$ to $<1.19$ (Cuéllar et al., 1995). Participants’ mean levels of acculturative stress (i.e., SAFE scores) were slightly higher than those in a recent study examining acculturative stress in a college population (Walker et al., 2008). Average scores on awareness, perceived pressure, and athletic-ideal internalization as measured by the SATAQ-3 subscales were similar to those in a recent study by Karazsia and Crowther (2008) of male college students. Similarly, mean values for body image (i.e., MASS scores) were similar to those in a sample of men with no history of muscle dysmorphia (Cafri, Olivardia, & Thompson, 2008).

As shown in Table 2, bivariate correlations between outcome measures indicated that social comparison to models, awareness of Western media ideals, perceived pressure to attain media ideals, athletic-ideal internalization, and body image problems were all significantly positively correlated. In addition, acculturative stress was significantly positively correlated with social comparison to models, endorsement of Western media ideals, and body image problems. In contrast, acculturation to mainstream American (Anglo) culture and affiliation with Hispanic culture were not significantly correlated with any outcome variables of interest.

Test of the Sociocultural Model, Acculturation, Acculturative Stress, and Social Comparison

Results for Path 1 are shown in Table 2. In Step 1, age and BMI significantly accounted for 10% ($p < .05$) of the variance in perceived pressure, with BMI accounting for the only statistically significant beta. In Step 2, the model accounted for an additional 52% ($p < .001$) of the variance predicting pressure,$^1$

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$^1$ To evaluate the linearity and normality assumptions, we visually examined histograms and outliers (Tabachnick & Fidell, 1996). BMI was square root transformed because of significant positive skewness and kurtosis. One participant was an outlier on AOS (who was far less acculturated than the rest of the sample) and, consequently, was removed from analyses. Finally, six participants were outliers on age (all of whom were over age 28) and six on BMI (all of whom had BMIs greater than 35.5). We chose to retain these participants in analyses because the data were not entered in error and these data were only used as control variables.
with BMI, social comparison with models, and awareness of Western media ideals adding statistically significant explanatory variance. Adding acculturation and acculturative stress in Step 3 accounted for an additional 4% of the variance, with acculturative stress serving as the only statistically significant (positive) beta.

Results for Path 2 are shown in Table 3. Step 1 (age and BMI) accounted for 2% (ns) of the variance for athletic-ideal internalization. Step 2 accounted for an additional 40% (p < .001) of the variance, with social comparison with models and perceived pressure to attain the ideal appearance each serving as significant predictors. In Step 3, explanatory variance in the model did not change, indicating that neither acculturation nor acculturative stress was a significant predictor of athletic-ideal internalization over variables controlled for in Steps 1 and 2.

Results for Path 3 are shown in Table 4. In Step 1, age and BMI did not account for a significant amount of variance for body image problems (ns). In Step 2, the model accounted for 20% (p < .001) of the variance, with athletic-ideal internalization being the only significant predictor. After adding acculturation and acculturative stress in Step 3, the model did not account for an additional amount of variance. A final model depicting all statistically significant regression coefficients (β) from Step 3 of each analysis is displayed in Figure 2.

### Mediation Analyses

Tests examining perceived pressure as a mediator of the relationship between awareness and athletic-ideal internalization indicated that it was a partial mediator. Awareness significantly positively predicted perceived pressure, t(1, 90) = 9.31, p < .01, B = 0.55, SE B = 0.06, β = .70, and athletic-ideal internalization, t(1, 89) = 7.32, p < .01, B = 0.31, SE B = 0.04, β = .61. However, although still statistically significant, the relationship between awareness and athletic-ideal internalization weakened after controlling for pressure, t(2, 87) = 2.83, p = .01, B = 0.17, SE B = 0.06, β = .33, Sobel’s z = 3.21, p < .001. Similarly, although only marginally statistically significant based on Sobel’s test, athletic-ideal internalization appeared to serve as a partial mediator of the relationship between perceived pressure and body image problems. Pressure significantly positively predicted athletic-ideal internalization, t(1, 93) = 7.26, p < .01, B = 0.39, SE B = 0.05, β = .60, and body image problems, t(1, 87) = 4.42, p < .01, B = 0.64, SE B = 0.14, β = .43. However, although still statistically significant, the relationship between pressure and body image problems weakened after controlling for athletic-ideal internalization, t(2, 84) = 2.33, p = .02, B = 0.41, SE B = 0.17, β = .29, Sobel’s z = 1.84, p = .06. These relationships are depicted in Figure 3.

### Table 1

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<td>.12</td>
<td>.40**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. INT-ATH</td>
<td>17.21 (5.57)</td>
<td>—</td>
<td>.42**</td>
<td>.14</td>
<td>.05</td>
<td>.40**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. MASS</td>
<td>42.07 (13.14)</td>
<td>—</td>
<td>-01</td>
<td>-14</td>
<td>.27*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. AOS</td>
<td>3.94 (0.49)</td>
<td>—</td>
<td></td>
<td>.02</td>
<td>-1.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. MOS</td>
<td>3.38 (0.81)</td>
<td>—</td>
<td></td>
<td>-1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. SAFE</td>
<td>60.44 (19.28)</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. BMI = body mass index; CMS = social comparison; INFO = awareness of Western media ideals of appearance; PRESS = perceived pressure from media to attain ideal appearance; INT-ATH = athletic-ideal internalization; MASS = body image; AOS = acculturation to mainstream American (Anglo) culture; MOS = attachment to Hispanic culture; SAFE = acculturative stress.

*p < .05. **p < .01.
This study examined the relationships between endorsement of Western media, social comparison tendency, acculturation, acculturative stress, and body image in a sample of 100 Hispanic male college students and yielded some important results for clinical practice and future research. Before discussing the primary study results, it is important to note that this sample consisted primarily of first- and second-generation Americans, most of whom (54%) endorsed Spanish as their first language and would be described as slightly Anglo-oriented bicultural according to standardized cutoff scores of acculturation using the ARSMA-II (Cuellar et al., 1995). In addition, participants reported slightly higher levels of acculturative stress (i.e., SAFE scores) than other college samples (e.g., Walker et al., 2008); comparable levels of media awareness, perceived pressure, and athletic-ideal internalization (i.e., SATAQ3 scores) to other male college samples (e.g., Karazsia & Crowther, 2008); and comparable levels of body image problems (i.e., MASS

### Table 2

**Predicting Perceived Pressure (PRESS) From Awareness, Social Comparison, Acculturation, and Acculturative Stress**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.08</td>
<td>0.20</td>
<td>.04</td>
<td>-.10</td>
<td>—</td>
</tr>
<tr>
<td>BMI</td>
<td>5.07</td>
<td>1.77</td>
<td>.30**</td>
<td>.62**</td>
<td>.52**</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.01</td>
<td>0.13</td>
<td>&lt;.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>4.29</td>
<td>1.18</td>
<td>.26**</td>
<td>.66**</td>
<td>.04*</td>
</tr>
<tr>
<td>CMS</td>
<td>0.43</td>
<td>0.13</td>
<td>.29**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFO</td>
<td>0.39</td>
<td>0.07</td>
<td>.51**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>&lt;.01</td>
<td>0.13</td>
<td>&lt;.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>4.29</td>
<td>1.14</td>
<td>.26**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS</td>
<td>0.31</td>
<td>0.14</td>
<td>.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFO</td>
<td>0.36</td>
<td>0.07</td>
<td>.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOS</td>
<td>−0.26</td>
<td>1.52</td>
<td>−0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAFE</td>
<td>−0.74</td>
<td>0.72</td>
<td>−0.07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** BMI = body mass index; CMS = social comparison with models in the media; INFO = awareness of Western media ideals of appearance; AOS = acculturation to mainstream American (Anglo) culture; MOS = attachment to Hispanic culture; SAFE = acculturative stress.

*p < .05. **p < .01.

### Table 3

**Predicting Athletic-Ideal Internalization (ATH-INT) From Perceived Pressure, Social Comparison, Acculturation, and Acculturative Stress**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>−0.04</td>
<td>0.13</td>
<td>−0.03</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>1.57</td>
<td>1.19</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>−0.06</td>
<td>0.10</td>
<td>−0.05</td>
<td>.43**</td>
<td>.40**</td>
</tr>
<tr>
<td>BMI</td>
<td>−0.05</td>
<td>0.98</td>
<td>−0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS</td>
<td>0.30</td>
<td>0.11</td>
<td>.31*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRESS</td>
<td>0.27</td>
<td>0.08</td>
<td>.41**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>−0.05</td>
<td>0.11</td>
<td>−0.04</td>
<td>.43**</td>
<td>.01</td>
</tr>
<tr>
<td>BMI</td>
<td>−0.16</td>
<td>0.01</td>
<td>−0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS</td>
<td>0.26</td>
<td>0.11</td>
<td>.27*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRESS</td>
<td>0.26</td>
<td>0.08</td>
<td>.40**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOS</td>
<td>1.37</td>
<td>1.26</td>
<td>.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOS</td>
<td>−0.25</td>
<td>0.60</td>
<td>−0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAFE</td>
<td>0.02</td>
<td>0.03</td>
<td>.07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** BMI = body mass index; CMS = social comparison with models in the media; PRESS = perceived pressure from media to attain ideal appearance; AOS = acculturation to mainstream American (Anglo) culture; MOS = attachment to Hispanic culture; SAFE = acculturative stress.

*p < .05. **p < .01.

### Discussion

This study examined the relationships between endorsement of Western media, social comparison tendency, acculturation, acculturative stress, and body image in a sample of 100 Hispanic male college students and yielded some important results for clinical practice and future research. Before discussing the primary study results, it is important to note that this sample consisted primarily...
scores) to other samples of men with no history of muscle dysmorphia (Cafri et al., 2008). Consequently, despite being relatively new to living in the United States generationally, this sample endorsed media endorsement, athletic-ideal internalization, and body image problems at rates comparable to or higher than other samples.

With regard to the core study findings, results support the sociocultural model in this sample: Awareness of Western media positively predicted perceived pressure; perceived pressure positively predicted athletic-ideal internalization; and athletic-ideal internalization positively predicted body image problems. Furthermore, perceived pressure was a significant partial mediator and athletic-ideal internalization tended toward being a significant partial mediator (i.e., although it met general criteria for mediation, the more conservative Sobel test was only marginally significant, $p = .06$). Finally, social comparison to models independently positively predicted perceived pressure to attain the ideals promoted in the media and athletic-ideal internalization. These findings are consistent with a previous research study investigating the sociocultural model in Hispanic male college students (Warren, 2008) and offer some insight into the mechanisms through which media exposure can lead to body image problems in men.

These data also highlight the important role of acculturative stress on media endorsement and body image for Hispanic male college students. Our data indicate that acculturative stress was significantly positively correlated with social comparison with models in the media, endorsement of Western media ideals (including increased awareness, perceived pressure, and athletic-ideal internalization), and body image problems. Furthermore, in regression analysis, acculturative stress significantly positively predicted perceived pressure to attain the ideal appearance promoted in the media after controlling for age, BMI, and social comparison tendency (but did not uniquely predict athletic-ideal internalization or body image problems). Together, these data suggest that increased acculturative stress is associated with increased endorsement of mainstream Western media and a tendency to compare oneself with models in the media, with a particularly salient detrimental influence on perceived pressure to meet media ideals. Theoretically, these data suggest that Hispanic college students who experience more stress as they acculturate to the United States (e.g., feeling alienated, lack of belonging) appear to be more likely to attend to and experience pressure to attain the ideals promoted in mainstream Western media. Although very limited research to date has explored the role of acculturative stress on body image in Hispanics (Perez et al., 2002), future research should replicate these findings and continue to explore the relationships between acculturative stress, media endorsement, eating behavior, and body image.

Conversely and contrary to predictions, acculturation to mainstream American (Anglo) culture and attachment to traditional Hispanic culture were not significantly correlated with social comparison to models, endorsement of Western media, or body image problems. Together, these data suggest that although acculturative stress appears directly related to endorsement of Western media values of appearance and body image problems (particularly perceived pressure to attain the ideal appearance), acculturation to mainstream American culture does not appear to be directly associated with a greater tendency to compare oneself with models, personally accept athletic ideals as self-relevant, or develop body image problems (e.g., excessive preoccupation with muscle size, muscle checking, muscle satisfaction). Future research should continue to explore the complex construct of acculturation, perhaps teasing apart how attitudinal, behavioral, and identity-based aspects of acculturation may differentially influence body image (see Schwartz et al., 2010).

Despite these important findings, some noteworthy limitations should be considered when interpreting these data. Data were collected through an online system. Although online surveys have many advantages (e.g., time, cost), results may vary compared with paper surveys. Furthermore, because this study was available only online and the topic of the study was known to participants, self-selection bias may have attracted a particular population of students (e.g., those with easy access to computers), which limits the generalizability of findings (e.g., to noncollege samples, students from different regions of the United States). Additionally, there is no consistent pattern among different ethnic groups that summarizes the nature of values of appearance, cultural ideals, and body image concerns for a particular group (Ricciardelli et al., 2007). It is critical to remember that the Hispanic population is highly heterogeneous, and that measuring and conceptualizing cultural phenomenon (e.g., values and ideals of appearance, cultural norms, the acculturation process) are challenging and complex (Warren et al., 2005). For example, although the SATAQ-3 was created to measure Western values and ideals of appearance reflected in American media that are tied to eating pathology, it is likely that some of these values are espoused in traditional Hispanic media (e.g., wanting to look like sports figures in the media who are muscular and athletic). In addition, these data were cross-sectional, which does not allow for causal inferences. Finally, although culture’s role in body image problems is important, other factors undoubtedly influence body image that were not directly tested in this study (e.g., biological, interpersonal, familial) and should be included in future research.

Despite these limitations, this study has implications for future research and clinical practice. Given that the relationship between media exposure and negative body image appears stronger for college-age men than for other age groups (Barlett et al., 2008), researchers and clinicians should consider endorsement of Western media and social comparison to models in the assessment and conceptualization of body image issues in Hispanic college students. In addition, given that acculturative stress (and not acculturation to mainstream U.S. culture) was associated with increased endorsement of media ideals and body image problems, coupled with the high level of stress often associated with being in college (in general), it is critical for clinicians and researchers to explore how Hispanic men cope with stress related to the acculturative process and other life arenas (e.g., school, work, personal relationships) while in college. For example, understanding how and when stress is likely to manifest in body image and eating issues as an individual acculturates could serve as important therapeutic and preventative information.

Finally, male models have become increasingly more muscular with a smaller percentage of body fat over the past few decades in mainstream U.S. media (Leit, Pope, & Gray, 2001; Pomper et al., 2007). As this occurs, understanding the role of Western media on immigrant groups as they move and acculturate to the United States is critical. Future research should continue to explore differences in the role of attachment to a host culture and to a culture
of origin on various aspects of acculturation (see Schwartz et al., 2010), as well as the degree of stress associated with these changes as they pertain to body image and eating behavior in men.

References


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