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Disordered Eating and Body Dysmorphic Concerns in Asian American Women: Sociocultural and Culture-Specific Predictors

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DISORDERED EATING AND BODY DYSMORPHIC CONCERNS IN ASIAN AMERICAN WOMEN: SOCIOCULTURAL AND CULTURE-SPECIFIC PREDICTORS

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ABSTRACT

The sociocultural idealization of thinness and Eurocentric features (e.g., lighter skin) is ubiquitous in Westernized cultures, yet only some women internalize these ideals and/or perceive heightened pressures to conform to such ideals. Elevated internalization and perceived pressures to obtain thinness and Eurocentric features may contribute to disordered eating and unique types of body dysmorphic concerns (e.g., dissatisfaction with skin color, eye size/ shape), respectively. Such difficulties may be particularly relevant for ethnic minority women; however, little research exists examining such effects. Further, few studies have comprehensively examined the intersection between sociocultural and culture-specific (e.g., ethnic identity; biculturalism) predictors on disordered eating and/or body dysmorphic difficulties. Culture-specific factors may contribute to individual differences that, in combination with sociocultural influences, lead to the development of disordered eating or Eurocentric body dysmorphic concerns in some ethnic minority women, but not others. This project examined an intersection of sociocultural and culture-specific predictors of disordered eating and Eurocentric body dysmorphic concerns in Asian American college women ($N = 430$). Data collected online via self-report measures tested the intersection and predictive effects of sociocultural and culture-specific influences on disordered eating and Eurocentric body dysmorphic symptoms. Path analyses indicated that thin-ideal internalization and pressures for thinness both positively predicted disordered eating. Acculturative stress was identified as an additional positive predictor of disordered eating. Likewise, Eurocentric-ideal internalization and pressures for Eurocentric ideals positively predicted Eurocentric body dysmorphic concerns. The relative role of ethnic identity, biculturalism, and acculturative stress for Eurocentric body dysmorphic concerns were undeterminable due to poor model fit. Overall, findings: (1) indicated that the leading

sociocultural model for disordered eating is relevant to Asian American women; (2) supported a corollary sociocultural model for Eurocentric-body dysmorphic concerns; and (3) highlighted the need for further examination of acculturative stress as a predictor of disordered eating. Findings also can inform the treatment of disordered eating and Eurocentric body dysmorphic concerns in Asian American women. Specifically, assessing culture-specific factors (i.e., biculturalism, and acculturative stress) could be useful for developing culturally informed case conceptualization and interventions for Asian American women.

EPIGRAPH

"The core psychological themes reflected in disordered eating are pursuit of identity, power, specialness, validation, self-esteem, and respect…themes significant in the lives of all oppressed" (Root, 1990, p. 526).

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CHAPTER 1

Introduction

Eating disorders are associated with severe reductions in quality of life and a high mortality rate (Birmingham, Su, Hlynsky, Goldner, & Gao, 2005; Crow & Peterson, 2003; Hay, 2003; Hay & Mond, 2005; Löwe et al., 2001). As such, an examination of factors contributing to eating disorder risk is warranted. Although the prevalence of full-threshold eating disorder diagnoses is relatively low (American Psychiatric Association, 2013), the key component symptoms of eating disorders (i.e., binge eating, purging, excessive exercise, strict dieting, body image dissatisfaction), referred to herein as *disordered eating cognitions or behaviors*, occur at a higher prevalence (American Psychiatric Association, 2013). Importantly, these disordered eating cognitions and behaviors are associated with significant distress or impairment (Berg, Frazier, & Sherr, 2009; Crow & Peterson, 2003) and have been shown to prospectively predict eating disorder onset (APA, 2013). Thus, factors that contribute to disordered eating symptoms likely have etiologic relevance to full-threshold eating disorder syndromes.

Risk for disordered eating is multifaceted, involving the intersection of a variety of biological (e.g., genetic vulnerability), psychological (e.g., personality), sociocultural (e.g., internalization of the thin ideal), and culture-specific (e.g., ethnic identity) factors. While a complex interplay amongst multiple factors is expected to constitute disordered eating risk (Culbert, Racine, & Klump, 2015; Keel & Forney, 2013; Rakhkovskaya & Warren, 2014, 2016), a number of gaps remain in current etiologic models. In particular, relatively few studies have examined disordered eating cognitions and behaviors in ethnic minority groups (e.g., Asian Americans) as most studies have been conducted in European or European American women. Even more, the extent to which sociocultural (e.g., internalization of the thin ideal) and culture-

specific (e.g., ethnic identity) factors contribute, and possibly interact, to alter disordered eating risk in ethnic minority groups is largely unknown. While sociocultural factors related to the idealization of thinness are well-established risk factors for disordered eating in European American women (Culbert et al., 2015; Keel & Forney, 2013), evidence for a role of sociocultural factors *or* culture-specific factors in disordered eating in ethnic minority women is relatively sparse (Soh & Walter, 2013). As such, it is important to determine the extent to which sociocultural and culture-specific factors are relevant to disordered eating risk in ethnic minorities, as well as to simultaneously examine sociocultural and culture-specific factors to identify their possible interplay.

In addition to a dearth of comprehensive research on predictors of disordered eating, very little data exists on predictors of a related, but distinct set of difficulties – *body dysmorphic disorder* and *body dysmorphic concerns. Body Dysmorphic disorder* (i.e., a marked preoccupation with perceived defects in physical appearance; APA, 2013) is highly comorbid with eating disorders (i.e., 39% of individuals with body dysmorphic disorders have a comorbid eating disorder; Grant, Kim, & Eckert, 2002) and also disproportionately affects females (3:1 estimate; Buhlmann et al., 2010; S. C. Schneider, Baillie, Mond, Turner, & Hudson, 2016), underlying the need for simultaneous examination. In addition to full-threshold body dysmorphic disorder, *body dysmorphic concerns* (i.e., distressing dissatisfaction with one or more parts of one's body) can be assessed across a dimensional continuum and occur at a higher prevalence in the population. Body dysmorphic concerns are also associated with distress and impairment (Bowe, Leyden, Crerand, Sarwer, & Margolis, 2007; Schneider, Mond, Turner, & Hudson, 2017) and are believed to arise from a complex intersection of risk factors (Farrell, Gregertsen,

Donovan, Pammenter, & Zimmer-Gembeck, 2016; Lavell, Zimmer-Gembeck, Farrell, & Webb, 2014; Marques et al., 2011; Monzani et al., 2012; Warren, 2012; Webb et al., 2015).

Notably, ethnic minority women may display and be impacted by a unique set of body dysmorphic concerns. Female beauty ideals perpetuated by Western media are Eurocentric, as well as thin (Scharrer, 2013). Specifically, there is societal idealization of European phenotypic features (i.e., fair complexion; straight, light hair; large, light eyes; Scharrer, 2013), which are particularly unattainable for ethnic minority women and may put ethnic minority women at heightened risk for physical appearance concerns. Indeed, data indicate that ethnic minority women have heightened concerns with *racially salient* body parts, such as darker skin or the epicanthic fold (Marques et al., 2011). Such *Eurocentric body dysmorphic concerns* (e.g., concerns with one's skin color, hair texture, or eye shape) are considered to fall within the broader domain of general body dysmorphic concerns, yet little is known about the culture-specific and sociocultural factors that may influence the development of these racially salient appearance concerns within ethnic minority women.

A comprehensive examination of predictors of disordered eating *and* Eurocentric body dysmorphic concerns in Asian American women in particular is a critical next step, for several reasons. Asian Americans (1) are the fastest growing (Mackun, Wilson, Fischetti, & Goworowska, 2011), yet understudied (Soh & Walter, 2013) ethnic minority group in the United States; (2) are faced with mental health stigma (Abe-Kim et al., 2007; Alegría et al., 2004; Nicdao, Hong, & Takeuchi, 2007) and stereotyping (Sunmin Lee et al., 2009; Osajima, 2005); (3) endorse comparable levels of disordered eating and sociocultural predictors (i.e., thin-ideal internalization) to European Americans (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko, Becker, Thomas, & Herzog, 2007; Gillen & Lefkowitz, 2012); (4) endorse higher

incidence of Eurocentric body dysmorphic concerns and higher preoccupation with racially salient features than European Americans (e.g., dark skin; Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011); and (5) tend to be of low generational status (i.e., most Asian Americans are first- or second-generation Americans (Mackun et al., 2011), and thus more likely to be faced with acculturative processes, compared to higher-generation ethnic groups (i.e., European Americans; African Americans). Overall, it is likely that a number of factors contribute to disordered eating and Eurocentric body dysmorphic concerns in Asian American women, yet relatively little empirical research has been conducted, resulting in notable gaps in literature. Accordingly, the current study aims to address current gaps by examining a sample of Asian women and testing (1) whether key sociocultural factors (i.e., pressures for thinness and/or Eurocentric feature; internalization of the thin-ideal and/or Eurocentric appearance ideal) predict disordered eating or Eurocentric body dysmorphic concerns in this minority group, and (2) whether individual differences in culture-specific factors (i.e., ethnic identity; acculturation; acculturative stress) enhance and/or attenuate sociocultural influences on disordered eating and/or Eurocentric body dysmorphic concerns**.** This is the first known study to explore an intersection of sociocultural and culture-specific predictors of disordered eating and Eurocentric body dysmorphic concerns in Asian American women.

Sociocultural Influences on Disordered Eating and Eurocentric Body Dysmorphic Concerns

Asian American women may endorse disordered eating risk at similar rates to European American counterparts (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko et al., 2007; Gillen & Lefkowitz, 2012; Grabe & Hyde, 2006; White & Grilo, 2005); however, the underlying pathways to risk may contain both shared and unique etiologic mechanisms. Specifically, some

contributing factors may be transcultural influences (i.e., pressures for thinness; thin-ideal internalization) that extend across multiple cultures (i.e., are transcultural), while others may be culture-specific (i.e., ethnic identity; biculturalism; acculturative stress). The most-studied transcultural factors are pressures for thinness and internalization of the thin-ideal, which are two core components of the sociocultural model of disordered eating risk (Cafri, Yamamiya, Brannick, & Thompson, 2005; Thompson & Stice, 2001).

The sociocultural model posits that women in Westernized cultures are inundated with messages that portray the ideal woman as thin; such that beauty is equated with the attainment of a thin body (Scharrer, 2013). Women exposed to such messages may perceive pressure to maintain or achieve thinness. Such perceived *pressures for thinness* can occur via the media (e.g., magazine advertisements), family members (e.g., parents encouraging weight loss), and peers (e.g., weight-related teasing). Further, women subjected to pressures for thinness may ultimately internalize (e.g., "buy into") the socially construed thin ideal, a psychological concept referred to as *thin-ideal internalization*. Elevated levels of perceived pressures for thinness and thin-ideal internalization have been shown to prospectively predict the development of body weight and shape concerns and disordered eating behavior (e.g., dieting, bulimic symptoms; for review, see Culbert et al., 2015). This sociocultural model, whereby pressures for thinness and thin-ideal internalization positively predict disordered eating risk (Culbert et al., 2015; Keel & Forney, 2013), has been extensively studied in European American and European women (Cafri, Yamamiya, Brannick, & Thompson, 2005; Thompson & Stice, 2001). Less is known about these sociocultural influences on disordered eating in ethnic minority groups (Soh & Walter, 2013); however, initial data indicate that perceived pressures for thinness and thin-ideal internalization also positively predict disordered eating in Asian American women (Arriaza & Mann, 2001;

Crago & Shisslak, 2003; Franko et al., 2007; Gillen & Lefkowitz, 2012; Grabe & Hyde, 2006).Consideration of the role of sociocultural influences on the development of Eurocentric physical appearance concerns is also important. Moreover, mainstream Western media promotes a beauty ideal that is Eurocentric; in addition to thinness, the "ideal woman" possesses lighter skin, tall stature, straight fine hair, a small, straight nose, and light, rounded eyes (Scharrer, 2013). Similar to the development of perceived pressures for and/or internalization of thinness, it is likely that women exposed to the Eurocentric appearance ideal experience media, family and peer pressure to appear more European (i.e., *pressure for Eurocentric features*), as well as internalize these pressures as personally relevant (i.e., *Internalization of Eurocentric appearance ideal*). It was therefore hypothesized that the sociocultural model for disordered eating symptoms may extend to Eurocentric body dysmorphic concerns. Specifically, perceived pressure for Eurocentric features and internalization of Eurocentric appearance ideals may predict higher levels of Eurocentric body dysmorphic concerns. Although this aforementioned model is theoretically possible, no prior studies have examined sociocultural predictors of Eurocentric body dysmorphic concerns in any ethnic group.

Perceived pressures for and internalization of mainstream/Eurocentric beauty ideals may predict disordered eating and Eurocentric body dysmorphic concerns; however, it is important to note that not all women who endorse these sociocultural factors develop disordered eating and/or Eurocentric body dysmorphic concerns. As such, identifying individual differences in vulnerability to sociocultural influences, such as the relative role of culture-specific factors (e.g., ethnic identity; biculturalism; acculturative stress), may be important for understanding disordered eating and/or Eurocentric body dysmorphic concerns risk in Asian American women. That is, culture-specific factors may intersect with key sociocultural risk factors to enhance or

attenuate disordered eating and/or Eurocentric body dysmorphic concerns. Notably, cross-cultural research indicates ethnic identity, biculturalism and acculturative stress are of low salience to ethnic majority groups, such as European Americans (Berry, 2005, 2006, Rakhkovskaya & Warren, 2014, 2016; Rodriguez, Schwartz, & Krauss Whitbourne, 2010). Thus, the review of culture-specific factors focuses on ethnic minority groups, with special attention to Asian Americans.

Sociocultural Influences on Disordered Eating and Eurocentric Body Dysmorphic Concerns: The Role of Ethnic Identity

Ethnic identity refers to a sense of belonging to one's ethnic or cultural group (Phinney, 1990). Ethnic identity has been shown to buffer the relationship between sociocultural influences (i.e., pressures for thinness, thin-ideal internalization) and disordered eating in ethnic minority women, including Asian Americans (Rakhkovskaya & Warren, 2014, 2016). Thus, sociocultural influences on disordered eating are more robust for individuals who report low ethnic identity; whereas a strong ethnic identity appears to be protective against sociocultural influences on disordered eating cognitions and behaviors. Ethnic identity may therefore explain some of the individual differences in the impact of sociocultural influences on disordered eating in Asian American women. Although it has yet to be examined, ethnic identity may play a similar role in risk for Eurocentric body dysmorphic concerns, such that sociocultural influences (i.e., pressure for Eurocentric features; internalization of Eurocentric appearance ideal) on Eurocentric body dysmorphic concerns are diminished for individuals with a stronger ethnic identity. Further, additional culture-specific factors, particularly correlates of ethnic identity (e.g., biculturalism or acculturative stress) may also play an important role in associations between sociocultural factors and disordered eating and/or Eurocentric body dysmorphic concerns.

Sociocultural Predictors: The Role of Acculturative Influences

Acculturation is the process of simultaneous cultural and psychological change as a result of contact between two or more cultural groups or their members (Berry, 2005). According to prominent acculturation theory (Berry, 2005; Berry, Phinney, Sam, & Vedder, 2006), acculturation involves negotiating one's native and majority cultures. Specifically, individuals may identify predominantly with their acquired culture (i.e., *assimilation*); identify predominantly with their native culture (i.e., *separation*); identity with both (i.e., *integration* or *biculturalism*) or with neither (i.e., *marginalization*). Research indicates biculturalism is associated with the best mental health outcomes, while marginalization is associated with the worst (Berry, Phinney, Sam, & Vedder, 2006; Berry, 2005). The subsequent review exclusively focuses on *high vs. low biculturalism* (i.e., successfully integrating vs. feeling marginalized by one's native and majority cultures) and its relationships with disordered eating and Eurocentric body dysmorphic concerns in Asian American women, as studies examining relationships between mental health and other forms of acculturation (i.e., assimilation, separation, acculturation as a whole) have been inconclusive (Berry, 2005; Berry et al., 2006; Farver, Narang, & Bhadha, 2002; Krishnan & Berry, 1992; Phinney, 1990; Roysircar-Sodowsky & Maestas, 2000).

Despite evidence that biculturalism positively predicts better mental health outcomes, unfortunately, no known study has examined the relationship between biculturalism and disordered eating, nor between biculturalism and Eurocentric body dysmorphic concerns. Instead, extant research has focused on overall acculturation and disordered eating, and similar to the effects observed for other mental health outcomes (see above), results have been inconclusive (e.g., Aruguete, Yates, Edman, & Sanders, 2007; Jackson, Keel, & Ho Lee, 2006; Jennings,

Forbes, McDermott, & Hulse, 2006). No known study has examined the relationship between any measure of acculturation and Eurocentric body dysmorphic concerns. Nevertheless, the negative associations between biculturalism and other mental health difficulties (Berry, 2005; Berry et al., 2006) provide tentative, albeit indirect, support that biculturalism may also negatively predict disordered eating and Eurocentric body dysmorphic difficulties.

The pathways between biculturalism and disordered eating, and/or between biculturalism and Eurocentric body dysmorphic concerns may also be indirect, via ethnic identity and acculturative stress. First, biculturalism is positively associated with ethnic identity, as individuals with strongest ethnic identity endorse highest attachment of their native culture (Farver et al., 2002; Leong & Chou, 1994; Phinney, 1990; Roysircar-Sodowsky & Maestas, 2000). In turn, ethnic identity negatively predicts disordered eating, directly and/or through buffering the effects of sociocultural predictors (Rakhkovskaya & Warren, 2014, 2016). It is theoretically plausible that ethnic identity may also negatively predict Eurocentric body dysmorphic concerns by buffering the risk effects of sociocultural predictors, although no prior study has examined this possibility. Second, biculturalism negatively predicts *acculturative stress*, i.e., the aggregate physical, biological, social, cultural, and psychological difficulties that individuals have to face as they encounter a new culture (Berry, 2006; Krishnan & Berry, 1992; Oh, Koeske, & Sales, 2002). A small body of research suggests that higher levels of acculturative stress predicts greater mental health concerns (Hovey, 2000; Hovey & Magaña, 2000; Oh et al., 2002). Furthermore, although acculturative stress is not associated with ethnic identity (Schwartz, Zamboanga, & Jarvis, 2007; Walker, Wingate, Obasi, & Joiner Jr., 2008) or sociocultural risk-factors (Barry & Garner, 2001; Gowen et al., 2010; Stark-Wroblewski et al., 2005), acculturative stress has been shown to positively predict disordered eating (Reddy &

Crowther, 2007). As such, in accordance with findings in other mental health outcomes (Krishnan & Berry, 1992; Oh et al., 2002), the relationship between biculturalism and disordered eating may be, at least in part, mediated by acculturative stress. Specifically, biculturalism may negatively predict acculturative stress, while acculturative stress may positively predict disordered eating. Unfortunately, data on acculturative stress effects on Eurocentric body dysmorphic concerns are lacking, yet a similar model is theoretically possible. Namely, while biculturalism may negatively predict acculturative stress, acculturative stress may positively predict Eurocentric body dysmorphic concerns. Directly testing mediation models for both outcome variables is an important next step.

In sum, this study was the first to intersectionally examine sociocultural and culture-specific predictors of disordered eating and Eurocentric body dysmorphic concerns in Asian American women; it aimed to build on the leading sociocultural model of risk for disordered eating (Cafri et al., 2005; Thompson & Stice, 2001) and investigated whether a similar model extends to Eurocentric body dysmorphic concerns. In particular, this study explored: (1) whether the sociocultural model of disordered eating extends to Asian American women *and* whether a similar sociocultural model is also evident for Eurocentric body dysmorphic concerns in Asian American women; (2) whether individual differences in ethnic identity moderate (i.e., enhance or attenuate) sociocultural influences (i.e.., pressures for thinness/Eurocentric physical features, internalization of the thin ideal/Eurocentric physical feature ideals) on disordered eating and Eurocentric body dysmorphic concerns; (3) whether biculturalism is positively associated with ethnic identity; (4) whether low levels of biculturalism predict higher levels of disordered eating and higher levels of Eurocentric body dysmorphic concerns and the extent to which these associations are mediated by higher levels of acculturative stress; and finally, (5) whether the

proposed comprehensive models (i.e., models that include sociocultural *and* culture-specific predictors) provides an improved fit over the original, sociocultural models (i.e., models that include sociocultural predictors only). Overall, this study sought to elucidate relationships amongst key sociocultural and culture-specific factors and their effects on disordered eating and Eurocentric body dysmorphic concerns in Asian American women.

CHAPTER 2

Literature Review

General Overview of Disordered Eating and Eating Disorders

Eating disorders are severe mental disorders that can have serious medical and psychiatric consequences (Crow & Peterson, 2003; Hay, 2003; Hay & Mond, 2005), including a higher mortality rate than any other mental illness (up to 10%; Birmingham, Su, Hlynsky, Goldner, & Gao, 2005; Löwe et al., 2001). While the use of categorical diagnoses can be useful for differentiating between eating disorders, several component symptoms are also shared across diagnoses: body weight and shape concerns, dietary restraint, binge eating. Notably, these component symptoms can be measured dimensionally and are substantially more common (ranging from 13.5% to 49% in prevalence; Berg, Frazier, & Sherr, 2009; Croll, Neumarksztainer, Story, & Ireland, 2002; Eisenberg, Nicklett, Roeder, & Kirz, 2011) than full-threshold eating disorder diagnoses (4% for anorexia nervosa (AN); 1% -1.5% for bulimia nervosa (BN), and 1.6% for binge eating disorder (BED); APA, 2013). Broadly referred to as *disordered eating cognitions and behaviors*, these symptoms can result in significant distress and impairment (e.g., interference with life activities; Berg et al., 2009; Crow & Peterson, 2003) and have been shown to precede and prospectively predict the onset of eating disorders (APA, 2013; Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004). Given the seriousness of eating disorders and their associated symptoms, it is critical to better understand factors that confer protection against and/or contribute to their risk. Such data can ultimately be used to enhance current etiologic models and to inform eating disorder prevention and treatment efforts.

Several factors contribute to individual differences in risk for disordered eating cognitions and behaviors (Culbert et al., 2015). Two of the largest risk-factors are female sex and

age. Females outnumber males in the prevalence of eating disorders (~2:1 to 10:1; APA, 2013) and disordered eating symptoms (Culbert, Breedlove, Burt, & Klump, 2008; Culbert, Breedlove, Sisk, Burt, & Klump, 2013; Striegel-Moore & Bulik, 2007). Furthermore, females are at heightened risk for the development of eating disorders and their associated symptoms during adolescence and young adulthood (Abebe, Lien, & von Soest, 2012; Culbert et al., 2015; Slane, Klump, McGue, & Iacono, 2014). In addition to these epidemiological features, identified risk factors tend to span biological (e.g., genetic vulnerability), psychological (e.g., personality characteristics), sociocultural (e.g., pressures for thinness, internalization of the thin-ideal), and culture-specific (e.g., ethnic identity; acculturative stress) domains.

Theoretically, contributing factors for disordered eating could be (1) universal, in that they predict disordered eating similarly across all ethnic groups; (2) transcultural, in that they are predictive of disordered eating in multiple, but not all, ethnic groups; (3) or culture-specific, in that they are predictive of disordered eating solely in ethnic minority (but not majority) groups. Biological and psychological factors (e.g., genetic and personality vulnerabilities) are likely universally predictive of disordered eating risk, given evidence of their universal structure (Polderman et al., 2015). In contrast, sociocultural risk factors (e.g., the internalization of the thin ideal), may be transcultural predictors of disordered eating depending on a given ethnic group's beauty ideals and exposure to Western media. Finally, factors relating to culture and acculturation processes (e.g., ethnic identity, biculturalism, acculturative stress) are likely culture-specific, i.e., solely predictive of disordered eating in ethnic minority groups, as they pertain to experiences unique to ethnic minorities (Phinney & Ong, 2007; Rakhkovskaya & Warren, 2014, 2016). It is therefore recognized that disordered eating risk is a complex, multi-factorial process (Culbert et al., 2015) that encompasses the intersection among universal,

transcultural, and culture-specific factors. The intersectional examination of contributing factors that span multiple domains is a necessary step to better elucidate the etiology of disordered eating, particularly for ethnic minorities. The etiology of disordered eating in ethnic minorities may include contributing factors that are both shared and unique from those relevant for the majority population.

Eurocentric Body Dysmorphic Concerns: Related to, But Distinct from Disordered Eating

Body Dysmorphic disorder is a related, but distinct, construct from disordered eating. While disordered eating encompasses disturbances in eating (e.g., restriction; binge eating) and cognitive symptoms focused on thinness (e.g. body weight/shape concerns), *body dysmorphic disorder* is characterized by marked preoccupation with perceived defects in physical features (e.g., shape of one's nose) that are unobservable or slight to others and are not better explained by symptoms of an eating disorder. Body Dysmorphic disorder is also associated with marked distress and/or impairment in important areas of functioning (APA, 2013) and with repetitive behaviors, such as excessive grooming, skin picking, frequent mirror checking, hiding or covering body parts of concern, repetitive comparing one's appearance to others. Notably, body dysmorphic disorder has elevated comorbidity rates with eating disorders (39%; Grant et al., 2002), as well as with the mood and anxiety disorders that frequency co-occur with eating disorders (i.e., anxiety disorders, obsessive-compulsive disorder, and major depressive disorder; APA, 2013). This pattern of symptoms further evidences eating disorders and body dysmorphic disorder as related, but distinct constructs, and thereby supports the simultaneous examination of their symptoms.

Like eating disorders, body dysmorphic disorder is a serious psychiatric condition, associated with substantial distress and impairment. Individuals with body dysmorphic disorder

are disproportionately prone to suicidal ideations and behaviors (31.0% prevalence), particularly due to appearance concerns (22.2% prevalence; Buhlmann et al., 2010). However, the majority of individuals with body dysmorphic disorder do not seek treatment (Schneider et al., 2016), while those who do show little improvement (Phillips, Menard, Fay, & Weisberg, 2005). Prevalence of body dysmorphic disorder is higher in patients seeking cosmetic surgery (2-16%), dermatology services (9-15%), orthodontics (8%), and oral or maxillofacial surgery (10%; APA, 2013). Notably, for individuals with body dysmorphic disorder seeking surgery, symptoms rarely remit post-operatively (Bowyer, Krebs, Mataix-Cols, Veale, & Monzani, 2016; Crerand, Franklin, & Sarwer, 2006). These findings highlight both the seriousness and rare remission of body dysmorphic disorder, warranting further examination.

While body dysmorphic disorder is comparatively rare (2.2-2.4% prevalence; APA, 2013), subthreshold *body dysmorphic concerns* (i.e., substantial dissatisfaction with one or more parts of one's body, such as skin color, hair texture, eye shape or size, breast size, height, etc.) are more prevalent overall (estimates ranging 14.8%-28.7%; Bohne, Keuthen, Wilhelm, Deckersbach, & Jenike, 2002; Buhlmann et al., 2010), yet associated with similarly high levels of distress and impairment (Bowe et al., 2007; Schneider et al., 2017). Nevertheless, individuals with body dysmorphic concerns are even less likely to seek treatment than individuals with full-threshold body dysmorphic disorder (Schneider et al., 2017). In addition, subthreshold body dysmorphic concerns disproportionately and more severely affect females (3:1 estimate; Buhlmann et al., 2010; Schneider et al., 2016). As such, examination of body dysmorphic concerns in non-clinical samples and among women is a critical next step.

Similarly to disordered eating cognitions and behaviors, body dysmorphic concerns have a complex, multi-faceted etiology. Specifically, extant research suggests an intersection of a

variety of biological (e.g., genetic vulnerability; Monzani et al., 2012), personality (i.e., social anxiety, appearance-based rejection sensitivity; Lavell et al., 2014; Webb et al., 2015); and environmental (i.e., maternal rejection; Farrell et al., 2016); and sociocultural (i.e., idealized values of appearance; Warren, 2012).Furthermore, emerging findings suggest that, for ethnic minority women, body dysmorphic concerns are also dependent on culture-specific factors, such as concerns with racially salient body parts (e.g., darker skin; coarse or curly hair, epicanthic fold, etc.; Marques et al., 2011). However, comprehensive etiologic models for body dysmorphic risk are lacking, and no known study has simultaneously examined sociocultural and culture-specific predictors in any group.

Identifying sociocultural and culture-specific predictors for body dysmorphic concerns in ethnic minority women is of particular importance. Namely, women of color in Westernized cultures are exposed to a beauty ideal that is *Eurocentric*, as well as thin. Specifically, mainstream media perpetuates the ideal woman as not only thin, but also possessing physical features typical for individuals of Northern or Western European descent (e.g., light skin; lighter, finer hair; sharp, small nose; large, rounder eyes; Scharrer, 2013). In other words, ethnic minority women of color are continuously exposed to the thin ideal, as well as *Eurocentric ideal*s regarding physical features. While unexamined in all ethnic groups, idealization of such physical features may lead to *Eurocentric body dysmorphic concerns* in some ethnic minority women; Asian American women may be especially vulnerable.

Asian American Women: A Need for Examination

The proposed study focused on examining sociocultural (i.e., pressures for thinness and Eurocentric physical features; internalization of the thin-ideal and Eurocentric physical features) and culture-specific (i.e., ethnic identity, biculturalism, acculturative stress) influences on

disordered eating and Eurocentric body dysmorphic concerns in Asian American women for several reasons. First, while emerging research has started to examine the relationship between ethnic identity and sociocultural predictors of disordered eating (Rakhkovskaya & Warren, 2014, 2016), no known study has examined the combined roles of multiple culture-specific (i.e., ethnic identity; biculturalism; acculturative stress) and sociocultural (i.e., pressures for thinness; thin-ideal internalization) factors on individual differences in disordered eating. No known study has examined sociocultural and culture-specific predictors of Eurocentric body dysmorphic concerns separately, let alone comprehensively.

Second, while pressures for thinness and internalization of the thin-ideal have been identified as robust predictors of disordered eating risk (Culbert et al., 2015; Keel & Forney, 2013), most studies have focused on European American women (Soh & Walter, 2013). In addition, while sociocultural predictors (i.e., pressure for Eurocentric features, internalization of Eurocentric appearance ideals) are likely candidates for the development of Eurocentric body dysmorphic concerns, across ethnic groups, extant research on sociocultural risk for Eurocentric body dysmorphic concerns is sparse in individuals of European descent and is non-existent in ethnic minorities. As a result, there are significant gaps in understanding of sociocultural risk for disordered eating and Eurocentric body dysmorphic concerns in ethnic minority groups, like Asian American women.

Third, while all women residing in Westernized cultures are exposed to mainstream Western media and subsequent sociocultural beauty/appearance pressures, only some women develop disordered eating and Eurocentric body dysmorphic concerns. Accordingly, individual differences in culture-specific factors may explain some of the individual variation in the development of and differences in the impact of sociocultural effects on disordered eating and/or

Eurocentric body dysmorphic concerns in ethnic minority women. Taken together, these gaps in the literature underscore the importance of exploring the predictive effects of both transcultural and culture-specific factors on disordered eating and Eurocentric body dysmorphic concerns in ethnic minority women.

This study focused on Asian American women given the relative paucity of research in this population (Soh & Walter, 2013) despite the fact that Asian Americans are the fastest growing ethnic group in the United States (Mackun et al., 2011). Asian Americans may be under-studied, as they are unlikely to seek mental health services due to mental health stigma (Abe-Kim et al., 2007; Alegría et al., 2004; Nicdao et al., 2007). Furthermore, Asian Americans who do seek mental health services are more likely to be under-diagnosed due mental health professionals' assumptions that they are well-adjusted (i.e., the "model minority" stereotype; Sunmin Lee et al., 2009; Osajima, 2005). This scarcity of research and inaccurate assumptions are particularly alarming, as, compared to European Americans, Asians and Asian Americans tend to endorse comparable levels of disordered eating and sociocultural factors (Davis & Katzman, 1997, 1998; Kok & Tian, 1994; H.-Y. Lee & Lock, 2007; Sing Lee, 2009; Sing Lee & Lee, 2000; Sing Lee, Leung, Lee, Yu, & Leung, 1996; Mujtaba & Furnham, 2001; Mumford & Choudry, 2000) and *elevated* levels of Eurocentric body dysmorphic concerns (Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011)

Finally, Asian Americans are an ideal group for examining acculturative processes, as most are first- or second-generation Americans (Mackun et al., 2011), suggesting that acculturative processes are likely more salient for that group as compared to higher-generation minority groups, such as African Americans. Thus, examination of multiple predictors of disordered eating and Eurocentric body dysmorphic concerns in Asian American women is an

important next step that has the potential to enhance the limited understanding of disordered eating and Eurocentric body dysmorphic concerns in this understudied ethnic group. The proposed comprehensive models are more complex, in that they take into consideration the role of both sociocultural and culture-specific processes on disordered eating and Eurocentric body dysmorphic concerns. Importantly, the consideration of sociocultural and cross-cultural processes may better explain individual differences in the development of disordered eating and Eurocentric body dysmorphic concerns in Asian American women as opposed to sociocultural predictors alone.

The current study aimed to address the aforementioned gaps in the literature by examining whether the sociocultural models predict disordered eating and Eurocentric body dysmorphic concerns in Asian American women, as well as how the incorporation of culture-specific factors (i.e., ethnic identity; biculturalism; acculturative stress) may enhance the overall predictive models and provide improved models fit. Specifically, this study aimed to examine sociocultural influences (i.e., pressures for thinness; pressure for Eurocentric features; internalization of the thin-ideal; internalization of the Eurocentric appearance ideal) on disordered eating and Eurocentric body dysmorphic concerns, with a particular focus on understanding how individual differences in culture-specific processes (i.e., ethnic identity, biculturalism, acculturative stress) intersect with sociocultural effects to alter the expression of disordered eating and Eurocentric body dysmorphic concerns symptoms. Although sociocultural pressures regarding thinness and Eurocentric physical features are ubiquitous in Westernized cultures, only some women internalize these beauty ideals as personally relevant and important to attain; and even fewer are impacted in a manner that results in the development of disordered eating and/or Eurocentric body-dysmorphic concerns. Ethnic identity, biculturalism, and

acculturative stress may be important factors that help explain individual differences in development of disordered eating and Eurocentric body dysmorphic concerns within ethnic minority groups, such as Asian American women

Sociocultural Influences on Disordered Eating and Eurocentric Body Dysmorphic Concerns

Historical evidence suggests that disordered eating symptoms have existed for centuries (for review, see Keel & Klump, 2003). While AN symptoms were evidenced cross-culturally, BN symptoms were culture-bound to societies and/or social classes with access to large quantities of food (Keel & Klump, 2003). However, the incidence of disordered eating and eating disorders has increased significantly since the middle of the twentieth century (APA, 2013). This emergent rise in disordered eating incidence is explained, in part, by population increases, improved symptom recognition, and newly promoted Western appearance ideals (for review, see Keel & Forney, 2013) which are heavily Eurocentric. In the middle of the twentieth century, beauty standards in Western cultures (i.e.., Western Europe, United States, Canada, Great Britain, Australia, New Zealand) shifted from a curvy to a thin physique, while simultaneously promoting phenotypical features common in individuals of Western and Northern European descent (Scharrer, 2013). Promoted by fashion icons, such as actress Audrey Hepburn and later model Lesley Hornby (commonly known as Twiggy), the new body ideal and idealization of Eurocentric physical features became perpetuated by increased access to television and magazines. By late twentieth century, women in Western cultures became inundated by media messages focused on the thin-ideal and idealization of Eurocentric physical features, such that the majority of models, actresses, and other female performers were thin, tall,

young, and phenotypically European (i.e., fair complexion, straight hair, large, light eyes; Scharrer, 2013).

Overview of Sociocultural Model for Disordered Eating

The proliferation of and women's subsequent exposure to the thin ideal in Western media has been shown to prospectively predict disordered eating (for reviews, see Culbert et al., 2015; Keel & Forney, 2013). For example, a series of studies in Fijian adolescent girls showed an emergence of disordered eating following the introduction of television and subsequent exposure to Western media (Becker, 2004; Becker et al., 2010; Becker, Burwell, Herzog, Hamburg, & Gilman, 2002). Notably, Fijian girls shifted from endorsing the culturally-salient ideal (i.e., a larger, curvier body) to endorsing the thin ideal. Additionally, prevention efforts in Western young women have demonstrated that targeting sociocultural constructs (e.g., promoting body acceptance) has reduced current disordered eating symptoms and reduced the future development of disordered eating (see the *Body Project*; Stice, Mazotti, Weibel, & Agras, 2000; Stice, Shaw, & Marti, 2007; Stice & Shaw, 2004). This pattern of findings highlights the impact of sociocultural beauty ideals on disordered eating risk and suggests that different cultures' varying attitudes towards women, body size, and beauty (e.g., valuing larger, curvier, body types) may not be sufficiently protective against Western media influences. Furthermore, Westernized sociocultural influences can dramatically change culturally-typical norms. As such, examining sociocultural risk-factors (i.e., thin-ideal internalization; pressures for thinness) in women across a range of cultures exposed to Western media is critical to understanding the etiology of disordered eating.

A growing body of research has outlined a two-step process of sociocultural risk: perceived pressures for thinness and thin-ideal internalization (Cafri et al., 2005; Thompson &

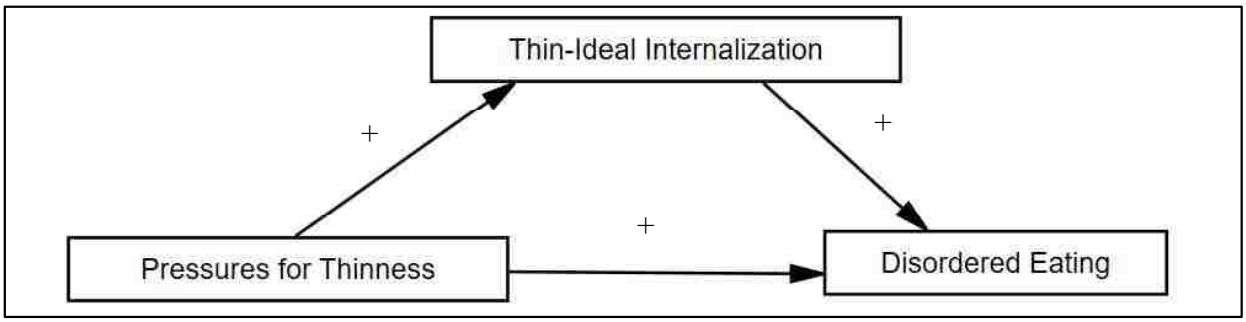
Stice, 2001). Namely, the thin ideal promotes a body type and/or standard of appearance that does not reflect most women's body type. As most women exposed to the thin ideal do not meet mainstream media's body size criteria, many experience pressure from the media to become thin (i.e., *media pressure*). Furthermore, the ubiquity of thin-ideal media often results in women experiencing similar pressure from family members (i.e., *family pressure*) and peers (i.e., *peer pressure*). Media, peer and family pressures often co-occur, creating an overall social *pressures for thinness* for women in Western cultures (Cafri et al., 2005; Thompson & Stice, 2001). In some women, pressures for thinness may lead to the development of *thin-ideal internalization*, i.e., the endorsement of the thin ideal as personally relevant, which is accompanied by a desire to conform to the thin ideal (Cafri et al., 2005; Thompson & Stice, 2001). However, the thin ideal is unattainable for most women. As such, women endorsing high pressures for thinness and/or high thin-ideal internalization may resort to maladaptive weight loss strategies, such as strict dieting, excessive exercise, and purging (Dittmar & Howard, 2004; Grabe & Hyde, 2006; Groesz, Levine, & Murnen, 2002; Juarascio et al., 2011; Vartanian & Dey, 2013).

Taken together, extensive research shows that pressures for thinness and thin-ideal internalization are two of the most robust prospective predictors of disordered eating (Culbert et al., 2015; Keel & Forney, 2013). These variables are considered key components of the sociocultural model of disordered eating risk (Cafri et al., 2005; Thompson & Stice, 2001), whereby pressures for thinness was expected to positively predict thin-ideal internalization (H1:DE[1]) and disordered eating. Moreover, thin-ideal internalization has been proposed as a mediator (i.e., a variable that accounts for) of the relationship between pressures for thinness and

[1] Throughout the manuscript, hypotheses are numbered and abbreviated as H1, H2 and so forth. Hypotheses for disordered eating models are abbreviated as H#:DE. Hypotheses for Eurocentric body dysmorphic concerns are abbreviated as H#:BDC.

disordered eating (H2:DE; see Figure 1; Cafri et al., 2005). Evidence in support of the sociocultural model is extensive in predominantly European American samples (for review, see Culbert et al., 2015).

Figure 1. Hypothesized Sociocultural Model of Disordered Eating.



Note. Disordered Eating – disordered eating cognitions and behaviors; Pressures for Thinness = combined media, family, and peer pressures for thinness.

Hypothesized Sociocultural Model for Eurocentric Body Dysmorphic Concerns

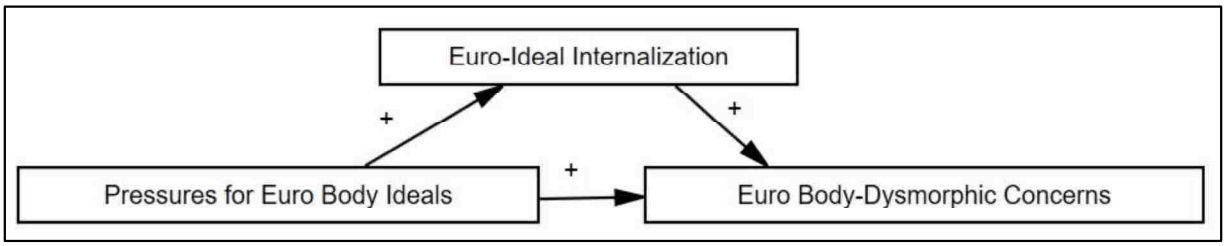
Given the extensive evidence for the aforementioned sociocultural model of disordered eating risk, an examination of related sociocultural influences (i.e., pressures for and internalization of Eurocentric physical appearance ideals) on Eurocentric body dysmorphic concerns is a logical next step. Sociocultural predictors are likely candidates for explaining individual differences in Eurocentric body dysmorphic concerns since the beauty ideal perpetuated by Western media is not just thin – it is also Eurocentric (Scharrer, 2013). In addition to being thin, the ideal woman portrayed in Western media possess phenotypical features predominant among individuals of Western and Northern European descent (i.e., fair complexion; straight, light hair; large, light eyes; Scharrer, 2013). Further, for most women, attaining a Eurocentric appearance ideal is as unlikely as attaining the thin ideal, if not more so. Namely, some women can attempt to become thinner through diet and exercise, whereas changing skin tone, hair texture, and facial features are impossible or can only occur through

aversive and expensive procedures (e.g., plastic surgery). A similar sociocultural model could therefore extend to Eurocentric body dysmorphic concerns, through corollary mechanisms.

Many women do not meet Westernized beauty ideals regarding Eurocentric physical features and may experience pressure to conform to it. Pressure to conform to such ideals may, like disordered eating, stem simultaneously from media, family, and peers, resulting in a combined perceived *pressure for Eurocentric features*. Furthermore, some women may subsequently consider attaining Eurocentric physical features to be personally relevant, leading to the development of *internalization of Eurocentric physical feature ideals*. However, Eurocentric physical features remain unattainable for a large proportion of women in the population, especially minority women. As such, women endorsing high perceived pressure for Eurocentric physical features and/or high internalization of Eurocentric physical feature ideals may experience strong dissatisfaction with certain physical features (e.g., skin tone; eye shape; hair texture), conceptualized as Eurocentric body dysmorphic concerns.

Unfortunately, evidence for a sociocultural model for Eurocentric body dysmorphic concerns is lacking, as no study has examined such effects in any ethnic group. A corollary model was hypothesized given the high salience of Eurocentric body dysmorphic concerns in Asian American women (Jangda et al., 2017; Liao et al., 2010). Namely, pressures for Eurocentric appearance ideals and Eurocentric-ideal internalization were hypothesized to predict Eurocentric body dysmorphic concerns; while Eurocentric-ideal internalization was expected to mediate the relationship between pressures for Eurocentric appearance ideals and Eurocentric body dysmorphic concerns (H1:BDC and H2:BDC; see Figure 2).

Figure 2. Hypothesized Sociocultural Model for Eurocentric Body Dysmorphic Concerns.



Note. Euro = Eurocentric. Pressures for Euro Body Ideals = combined media, family, and peer pressures for Eurocentric ideals.

Sociocultural Model: Evidence for Salience in Ethnic Minority Women

Given that the idealization of thinness and Eurocentric features in women are deeply rooted in mainstream Westernized cultures, prior research has investigated the sociocultural model of disordered eating in European or European American samples (Soh & Walter, 2013). No consideration has been given to sociocultural and Eurocentric influences on body dysmorphic concerns. Whether the established sociocultural model for disordered eating and posited sociocultural model for Eurocentric body dysmorphic concerns is applicable to minority women remains an empirical question.

It is plausible that the sociocultural model for disordered eating could be *less* salient to other groups, such as ethnic minority US women (Scharrer, 2013). One possibility is that ethnic minority women may be *protected* from mainstream pressures for thinness and subsequent risk for disordered eating, as they generally endorse lower salience of the thin ideal than European American women. For example, some ethnic minority women may endorse a curvier beauty ideal instead. Similarly, ethnic minority women may be *protected* from mainstream pressures for Eurocentric features and subsequent risk for Eurocentric body dysmorphic concerns if they endorse a lower salience of the Eurocentric appearance ideal. For example, some ethnic minority women may endorse an appearance ideal more congruent with typical phenotypical features in

their group (e.g., darker-skinned women may endorse a dark-skinned beauty ideal). However, the opposite outcome is also possible –the thin ideal or Eurocentric beauty ideals could be increasingly salient to ethnic minority women and serve to increase risk for disordered eating and/or for Eurocentric body dysmorphic concerns. For example, ethnic minority women may endorse beauty ideals perpetuated by mainstream Western media. They may view the ideal women as thin (i.e., the thin ideal), as possessing Eurocentric physical features, such as lighter skin, lighter and straighter hair, lighter and rounder eyes, a sharper nose, etc. (i.e., the ideal for Eurocentric physical features, referred to herein as the *Eurocentric appearance ideal*). Such beauty ideals would be *incongruent* with phenotypical features common within their ethnic group and, therefore, particularly unattainable for ethnic minority women. The unattainability of the thin ideal is key component of the sociocultural model for disordered eating risk, based on data on European and European American women (Cafri et al., 2005; Tiggemann & Polivy, 2010). As such, it is likely that internalization of and unattainability of the thin and Eurocentric ideals could mean that the sociocultural model for disordered eating and Eurocentric-body dysmorphic concerns is salient and applicable to ethnic minority women. Although unexplored, this outcome is likely, given the ubiquity and strong influences of beauty ideals perpetuated by mainstream Western media (Scharrer, 2013).

Nonetheless, even if the sociocultural models for disordered eating and Eurocentric body dysmorphic concerns are applicable to ethnic minority women, within-group variation in disordered eating and/or Eurocentric body dysmorphic concern risk would also be expected. Specifically, ethnic minority women who perceive high pressures for thinness or high pressure for Eurocentric physical features, *as well as* internalize mainstream Western idealization of thinness or Eurocentric physical features may be at highest risk for disordered eating or

Eurocentric body dysmorphic concerns, respectively. A direct examination of these sociocultural models in ethnic minority women, particularly in Asian and Asian-American women, is a critical step to understanding if and how sociocultural appearance-based factors may influence disordered eating and Eurocentric body dysmorphic concerns.

Notably, although findings on the sociocultural model for disordered eating are mixed across ethnic minority groups (Chamorro & Flores-Ortiz, 2000; Hall, 1995; Overstreet, Quinn, & Agocha, 2010; Poran, 2002; Rubin, Fitts, & Becker, 2003; Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002; Warren, Gleaves, Cepeda-Benito, Fernandez, & Rodriguez-Ruiz, 2005), research in Asian American women consistently indicates the sociocultural model for disordered eating is relevant to this group. Compared to European American women, Asian and Asian American cultures endorse similar value for the thin ideal (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko et al., 2007; Gillen & Lefkowitz, 2012; Grabe & Hyde, 2006). Accumulating evidence also suggests that sociocultural risk for and symptomatology of disordered eating are similar in Asian American as in European American women (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko et al., 2007; Gillen & Lefkowitz, 2012). Consequently, unlike other ethnic minority groups (e.g., African Americans), Asian Americans' ethnic minority status is not protective against disordered eating or associated sociocultural risk factors (i.e., internalization of the thin-ideal). However, although emerging findings showed pressures for thinness and/or thin-ideal internalization to positively predict disordered eating in Asian American women (Lai et al., 2013; Omori, Yamazaki, Aizawa, & Zoysa, 2016; Phan & Tylka, 2006; Rakhkovskaya & Warren, 2016), no known study has directly tested the sociocultural model of disordered eating (i.e., whether thin-ideal internalization mediates the

relationship between pressures for thinness and disordered eating; Hypotheses 1 and 2). This study is the first to address this gap in literature.

There is a lack of empirical data on the posited sociocultural model for Eurocentric body dysmorphic concerns, but several lines of evidence suggest that this model may be applicable for Asian American women. Indeed, data indicate (1) elevated Eurocentric body dysmorphic concerns in Asian American women (compared to European American women; Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011); (2) unique, Asian and Asian American culture-bound disorders conceptually proximal to Eurocentric body dysmorphic concerns (Veale & Matsunaga, 2014); and (3) increased dissatisfaction of racially salient features among Asian Americans (e.g., darker skin; (Marques et al., 2011). This growing body of literature highlights the salience of Eurocentric body dysmorphic concerns in Asian American women and serve as a foundation for the present exploratory aims. Testing whether internalization of Eurocentric physical feature ideals mediates the relationship between pressures for Eurocentric features and Eurocentric body dysmorphic concerns (H1:BDC and H2:BDC) fills a critical gap in extant research.

In addition to sociocultural processes, culture-specific factors may also be at play and influence the extent to which, and for whom, sociocultural factors predict disordered eating and/or Eurocentric body dysmorphic concerns. Culture-specific factors may intersect with the general sociocultural models of pressures and internalization of beauty ideals, resulting in a more comprehensive model (i.e., consisting of sociocultural and culture-specific predictors) that could better represent etiologic processes on disordered eating and/or Eurocentric body dysmorphic concerns in Asian American women. The subsequent literature review focuses on culture-specific factors that could predict individual variation in disordered eating and/or Eurocentric

body dysmorphic concerns in Asian American women. Three key variables are considered: ethnic identity, biculturalism, and acculturative stress.

The Role of Ethnic Identity

Overview of Ethnic Identity and Disordered Eating

Ethnic identity is the process of identifying with one's ethnic or cultural group, feelings of cultural or ethnic group attachment, and acceptance of its practices (Phinney, 1990). Theoretically, ethnic minority individuals with a strong ethnic identity may be protected against various psychological risk-factors because an enhanced sense of pride or belonging to their culture could lessen their susceptibility to stereotypes (Osajima, 2005) or stressors related to immigrating to a new culture (Reddy & Crowther, 2007). Consistent with this notion, ethnic identity is positively associated with a number of mental health outcomes in ethnic minorities (Kiang, Witkow, Baldelomar, & Fuligni, 2010; Martinez & Dukes, 1997; Schwartz et al., 2013; Umaña-Taylor, Wong, Gonzales, & Dumka, 2012; Veling, Hoek, Wiersma, & Mackenbach, 2010), including lower rates of disordered eating (Henrickson, Crowther, & Harrington, 2010; Rakhkovskaya & Warren, 2014, 2016; Schooler, Monique Ward, Merriwether, & Caruthers, 2004; Stein, Corte, & Ronis, 2010; Stojek, Fischer, & Collins, 2010; Turnage, 2005). Specifically, higher levels of ethnic identity are associated with higher levels of self-esteem (Martinez & Dukes, 1997), better academic adjustment (Umaña-Taylor et al., 2012), greater family cohesion (Kiang et al., 2010), decreased frequency of unprotected sex (Schwartz et al., 2013), and diminished psychiatric risk (e.g., schizophrenia; Veling, Hoek, Wiersma, & Mackenbach, 2010). Ethnic identity has also been proposed as a protective factor against the development of disordered eating in ethnic minority women (i.e., Asian Americans, African Americans, Latina Americans). Specifically, higher levels of ethnic identity have been associated

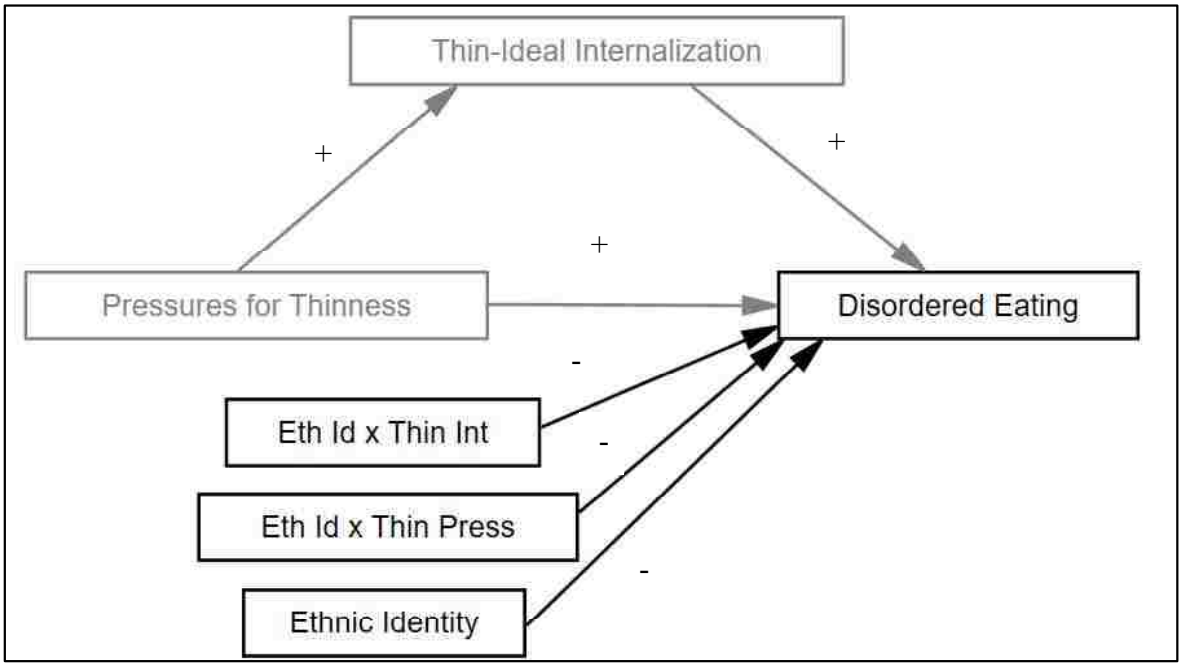
with lower levels of disordered eating symptoms (e.g., body dissatisfaction; weight and shape concerns; binge eating; purging; Henrickson, 2006; Rakhkovskaya & Warren, 2014, 2016; Schooler et al., 2004; Stein et al., 2010; Stojek et al., 2010; Turnage, 2005)

In addition to aforementioned main effect associations, emergent findings demonstrate an indirect relationship between ethnic identity and disordered eating via sociocultural risk factors. Ethnic identity has been shown to moderate the predictive relationship between (1) pressures for thinness and body weight/shape concerns in Asian American and African American college women (Rakhkovskaya & Warren, 2016), and (2) thin-ideal internalization and disordered eating symptoms (e.g., eating concerns, body weight/shape concerns) in a multiethnic college sample (Rakhkovskaya & Warren, 2014), Asian American college sample, and African American college sample (Rakhkovskaya & Warren, 2016) of women. Moreover, in these studies, the positive associations between sociocultural factors and disordered eating symptoms were diminished for women with stronger ethnic identity. These findings suggest that, for Asian American women, a strong ethnic identity may alter the relative impact of sociocultural influences on disordered eating cognitions and behaviors. Specifically, a strong ethnic identity may attenuate the relationship (1) between pressures for thinness and disordered eating outcomes (H3:DE), and (2) between thin-ideal internalization and disordered eating outcomes (H4:DE). Consequently, the sociocultural model may be most relevant and predictive of disordered eating cognitions and behaviors in Asian American women who report low levels of ethnic identity.

Overall, accumulating evidence provides support for the theory that Asian American women with stronger ethnic identity may be protected against mainstream sociocultural influences on disordered eating. However, few studies have been conducted and replication is imperative. In a structural equation model (see Method), these proposed moderation effects

would be estimated via ethnic identity x *pressures for thinness* and ethnic identity x *thin-ideal internalization* interaction terms, and moderation would be supported if the path between the interaction term and disordered eating is negative and significant. Figure 3 depicts the proposed etiologic model, incorporating these additional hypothesizes regarding the role of ethnic identity. Notably, the predictive effects relevant to H3:DE and H4:DE are shown here in black; the remaining model effects are presented in light gray.

Figure 3. Proposed Effects of Ethnic Identity on Sociocultural Model of Disordered Eating.



Note. Disordered Eating – disordered eating cognitions and behaviors; Pressures for Thinness = combined media, family, and peer pressures for thinness. Eth id x Thin Int = ethnic identity by thin-ideal internalization interaction term; Eth Id = Thin Press = ethnic identity by pressures for thinness interaction term.

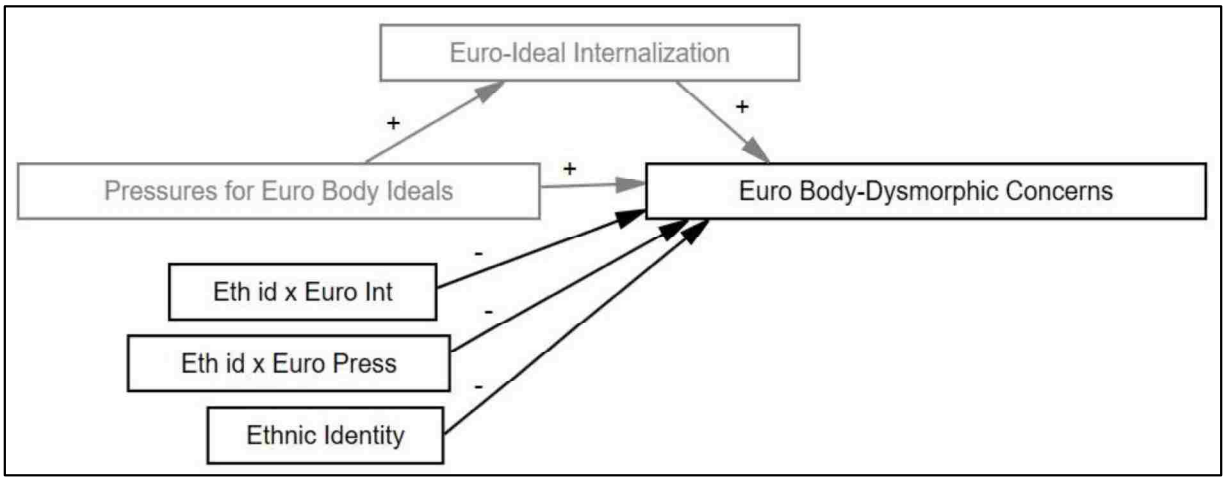
Overview of Ethnic Identity and Eurocentric Body Dysmorphic Concerns

The relationship between ethnic identity and Eurocentric body dysmorphic concerns is poorly understood. Nonetheless, corollary relationships among ethnic identity, pressures for

Eurocentric appearance ideals, Eurocentric appearance ideal internalization, and Eurocentric body dysmorphic concerns are theoretically possible. Specifically, a strong ethnic identity may attenuate the relationship (1) pressures for Eurocentric features and Eurocentric body dysmorphic concerns (H3:BDC), and (2) between Eurocentric-ideal internalization and Eurocentric body dysmorphic concerns (H4:BDC). Consequently, the sociocultural model was expected to be most relevant and predictive of Eurocentric body dysmorphic concerns in Asian American women who report low levels of ethnic identity.

Similarly, these proposed moderation effects would be estimated via ethnic identity x *pressures for Eurocentric appearance ideals* and ethnic identity x Eurocentric appearance ideal internalization interaction terms, and moderation would be supported if the path between the interaction term and Eurocentric body dysmorphic concerns is negative and significant. Figure 4 depicts the proposed etiologic model, incorporating these additional hypothesizes regarding the role of ethnic identity. Notably, the predictive effects relevant to H3:BDC & H4:BDC are shown here in black; the remaining model effects are presented in light grey.

Figure 4. Proposed Effects of Ethnic Identity on Sociocultural Model of Eurocentric Body Dysmorphic Concerns.



Note. Euro = Eurocentric. Pressures for Euro Body Ideals = combined media, family, and peer pressures for Eurocentric ideals. Eth id x Euro Int = Ethnic identity by Eurocentric-ideal internalization interaction term; Eth id x Euro Press = Ethnic identity by pressure for Eurocentric ideals interaction term.

The Role of Biculturalism & Acculturative Stress

In addition to ethnic identity, extant data suggests that other culture-specific factors, such as biculturalism and acculturative stress, may also contribute to individual variation in psychological outcomes. In particular, biculturalism and acculturative stress may directly (i.e., through influencing disordered eating) or indirectly (i.e., through influencing ethnic identity) predict disordered eating cognitions and behaviors in Asian American women. Similarly, biculturalism and acculturative stress may directly (i.e., through influencing Eurocentric body dysmorphic concerns) or indirectly (i.e., through influencing ethnic identity) predict Eurocentric body dysmorphic concerns in Asian American women. Understanding acculturation theory is

necessary to understand biculturalism and acculturative stress effects and their potential relevance for disordered eating and/or Eurocentric body dysmorphic concerns risk.

Biculturalism: An Important Facet of Acculturation

Acculturation is the process of simultaneous cultural and psychological change as a result of contact between two or more cultural groups or their members (i.e., a minority and a majority culture; Berry, 2005). Moreover, acculturation includes changes in an individual's cultural identity, contact with the other culture, learning the culture's language, adopting food preferences, forms of dress, or social interactions characteristic of the other cultural group (Berry, 2005). Although acculturation is often examined as a global construct, it is a complex, often multi-generational process, conceptualized bi-dimensionally: adherence to the native or minority culture vs. adherence to the acquired or majority culture (Berry, 2005; Rudmin, 2003; Sam & Berry, 2010). Accordingly, acculturation can result in four processes: (1) sole endorsement of the native culture (i.e., *separation*); (2) sole endorsement of the acquired culture (i.e., *assimilation*); (3) endorsement of both cultures simultaneously (i.e., *integration* or *biculturalism*); and (4) endorsement of neither culture (i.e., *marginalization;* Berry, 2005; Rudmin, 2003; Sam & Berry, 2010). Data from studies of immigrants and ethnic minorities have shown that specific facets of acculturation differentially relate to mental health outcomes, such that high biculturalism (i.e., endorsement of both cultures) is associated with the best psychological adjustment; whereas marginalization (i.e., endorsement of neither culture or *low biculturalism*) is associated with the worst (Rudmin, 2003). Results for the assimilation and separation facets of acculturation have been sparse and conflicting. Specifically, these facets have been associated with lower (Farver, Narang, & Bhadha, 2002; Krishnan & Berry, 1992) or intermediate psychological adjustment (Berry, 2005; Berry et al., 2006)**.** Together, these data

highlight that studies of *high vs. low biculturalism* (conceptualized as integration vs. marginalization, respectively) tend to produce the most robust predictive effects on psychological outcomes. Thus, this project focuses on biculturalism, as it relates to disordered eating, Eurocentric body dysmorphic concerns and related predictors.

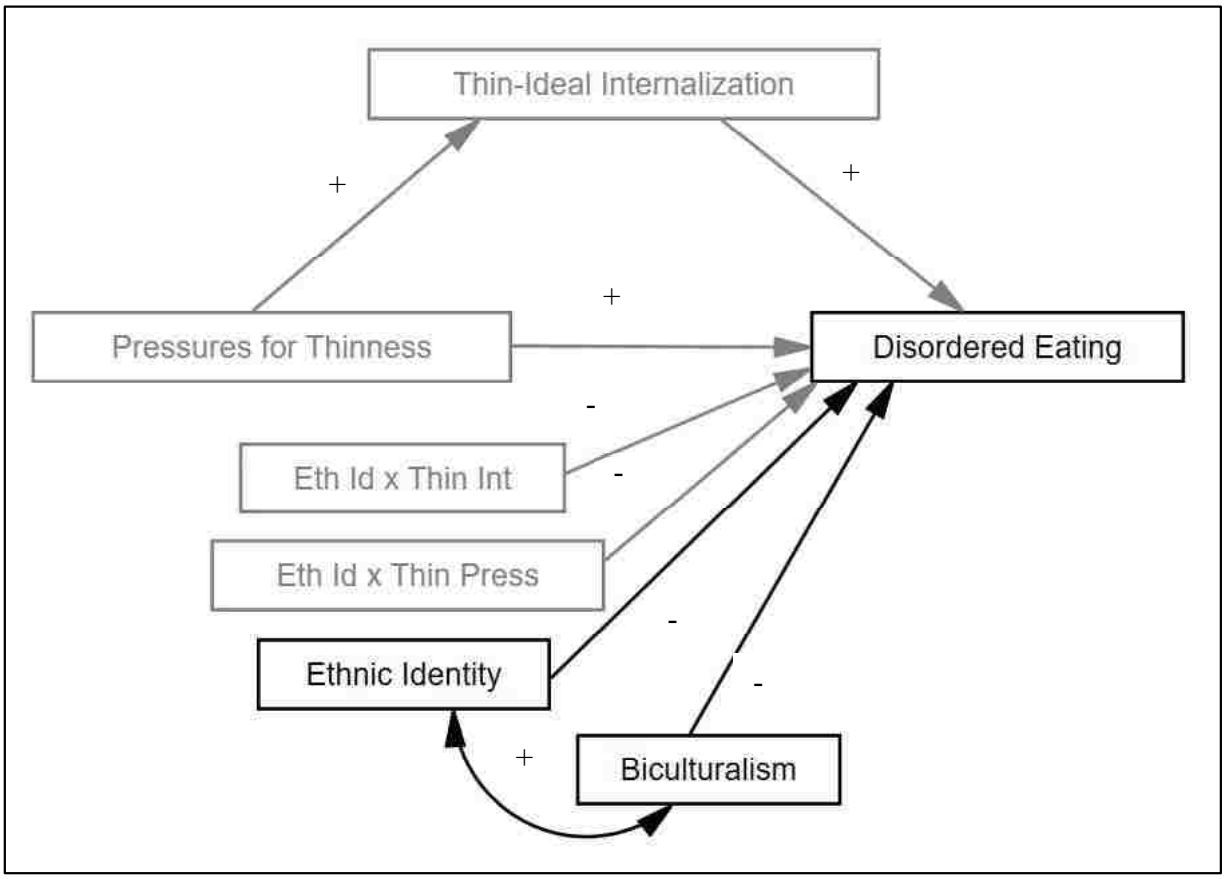
Given that both high levels of biculturalism and ethnic identity are related to better psychological adjustment, it would be expected that these two culture-specific factors are positively associated. Indeed, prior data indicate a positive relationship between ethnic identity and biculturalism, such that higher levels of biculturalism are associated with the *strongest* ethnic identity, whereas higher levels of marginalization (i.e., low biculturalism) are associated with the *weakest* ethnic identity (Farver et al., 2002; Leong & Chou, 1994; Phinney, 1990; Roysircar-Sodowsky & Maestas, 2000). Consequently, within the current study, it was hypothesized that ethnic identity will be *positively* associated with biculturalism (H5:DE and H5:BDC; see Figures 5 and 6). Further, in light of positive associations between biculturalism (and ethnic identity) and mental health, it is important to consider whether the same predictive patterns emerge for disordered eating symptoms and/or Eurocentric body dysmorphic concerns.

Biculturalism and Disordered Eating

To date, findings on overall acculturation and disordered eating have been mixed. While several studies have found a positive association between broad measures of acculturation and disordered eating symptoms (Aruguete et al., 2007; Davis & Katzman, 1999; Ghai, 2015; Guan, Lee, & Cole, 2012; M. Lee, 2015; Turnbull, 1999) and eating disorders (Cachelin, Veisel, Barzegarnazari, & Striegel-Moore, 2000) in Asian Americans, conflicting findings have also emerged. Namely, other studies have found either no relationship (Barry & Garner, 2001; Gowen et al., 1999; Jackson et al., 2006; Jennings et al., 2006; Stark-Wroblewski et al., 2005;

Yoshimura, 2007) or an inverse relationship (Jennings, Forbes, McDermott, Juniper, & Hulse, 2005) between overall acculturation and disordered eating symptoms in Asian American women. Notably, inconsistent findings may have emerged due to the use of unidimensional (i.e., focus on overall acculturation scores), rather than multidimensional assessments of acculturation (i.e., consideration of distinct acculturative processes, such as biculturalism), as well as heterogeneity in the types of acculturation measures used (i.e., five different acculturation scales). This research project addresses these limitations by using a well-validated measure of biculturalism, as opposed to overall acculturation scores. It was expected that biculturalism will positively predict disordered eating in Asian American women (H6:DE). Figure 5 depicts proposed relationships among biculturalism, ethnic identity, and disordered eating. Relevant predictors for H5:DE and H6:DE are in black; remaining effects are depicted in light grey.

Figure 5. Proposed Effects of Biculturalism on Ethnic Identity & Disordered Eating.



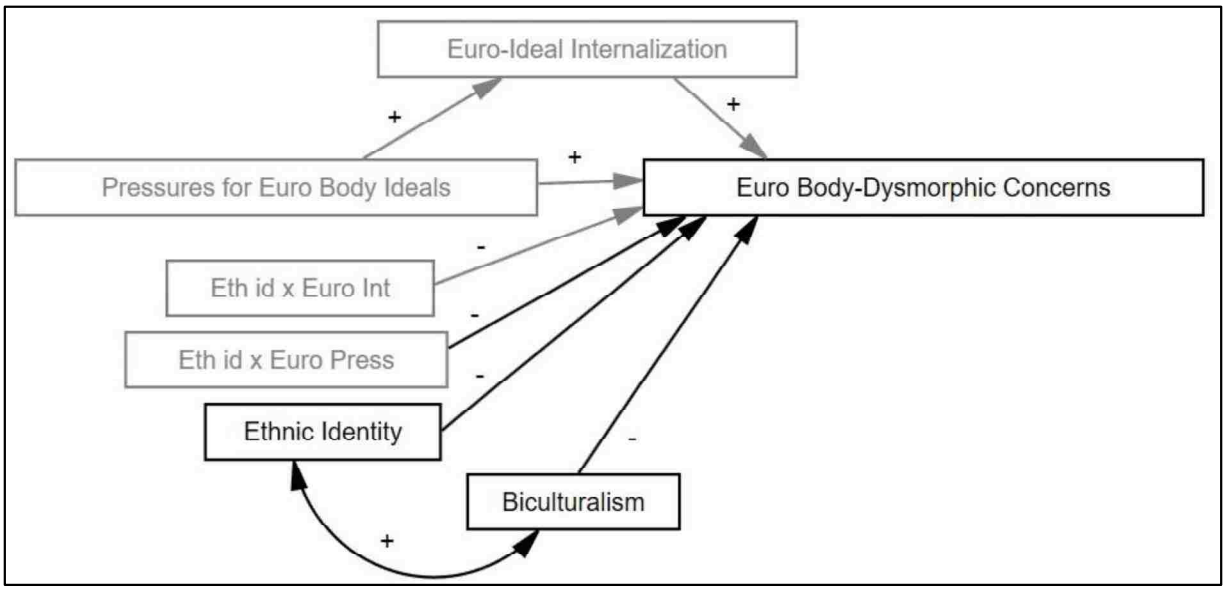
Note. Disordered Eating – disordered eating cognitions and behaviors; Pressures for Thinness = combined media, family, and peer pressures for thinness. Eth id x Thin Int = ethnic identity by thin-ideal internalization interaction term; Eth Id = Thin Press = ethnic identity by pressures for thinness interaction term.

Biculturalism and Eurocentric Body Dysmorphic Concerns

Although no known studies have examined any facet of acculturation (including biculturalism) as a predictor of Eurocentric body dysmorphic concerns in Asian American women, similar relationships are theoretically possible. As such, it was hypothesized that biculturalism will positively predict Eurocentric body dysmorphic concerns in Asian American women (H6:BDC). Figure 5 depicts proposed relationships among biculturalism, ethnic identity,

and disordered eating. Relevant predictors for H5:BDC and H6:BDC are in black; remaining effects are depicted in light grey.

Figure 6. Proposed Effects of Biculturalism on Ethnic Identity & Eurocentric Body Dysmorphic Concerns.



Note. Euro = Eurocentric. Pressures for Euro Body Ideals = combined media, family, and peer pressures for Eurocentric ideals. Eth id x Euro Int = Ethnic identity by Eurocentric-ideal internalization interaction term; Eth id x Euro Press = Ethnic identity by pressure for Eurocentric ideals interaction term.

Biculturalism and the Consideration of Acculturative Stress

Notably, biculturalism may also be linked to disordered eating and/or to Eurocentric body dysmorphic concerns via *acculturative stress*, or the aggregate physical, biological, social, cultural, and psychological difficulties that individuals have to face as they encounter a new culture (Berry, 2006). Individuals who experience elevated acculturated stress are unlikely to successfully integrate their cultures or become bicultural, such that acculturative stress and biculturalism are negatively associated (Berry, 2006). Acculturative influences on mental health

have also been shown to depend on the ability to overcome acculturative stress. Namely, heightened acculturative stress is associated with several mental health concerns, such as higher levels of anxiety, depression, and suicidal ideation (Hovey, 2000; Hovey & Magaña, 2000; Oh et al., 2002).

Acculturative Stress and Disordered Eating

The effects of acculturative stress on mental health extend to disordered eating: acculturative stress positive predicted disordered eating in African American, Latina American (Claudat, White, & Warren, 2016; Gordon, Castro, Sitnikov, & Holm-Denoma, 2010; Kroon Van Diest, Tartakovsky, Stachon, Pettit, & Perez, 2014; Perez, Voelz, Pettit, & Joiner, 2002; Warren & Rios, 2012), and Asian American women (Claudat et al., 2016; Reddy & Crowther, 2007). Notably, although acculturative stress has positive predictive effects on disordered eating, research suggests that acculturative stress is *not* associated with sociocultural risk-factors (i.e., pressures for thinness; thin-ideal internalization; Barry & Garner, 2001; Gowen et al., 2010; Stark-Wroblewski et al., 2005) nor with ethnic identity (Schwartz et al., 2007; Walker et al., 2008). Taken together, higher levels of acculturative stress are associated with lower levels of biculturalism and with higher levels of disordered eating. The effects of acculturative stress on disordered eating are unlikely to act through sociocultural or ethnic identity mechanisms (given no associations with these variables); however, it is possible that biculturalism and acculturative stress would intersect to predict differential risk for disordered eating, particularly since individuals who report low levels of biculturalism tend to experience heightened acculturative stress and mental health difficulties.

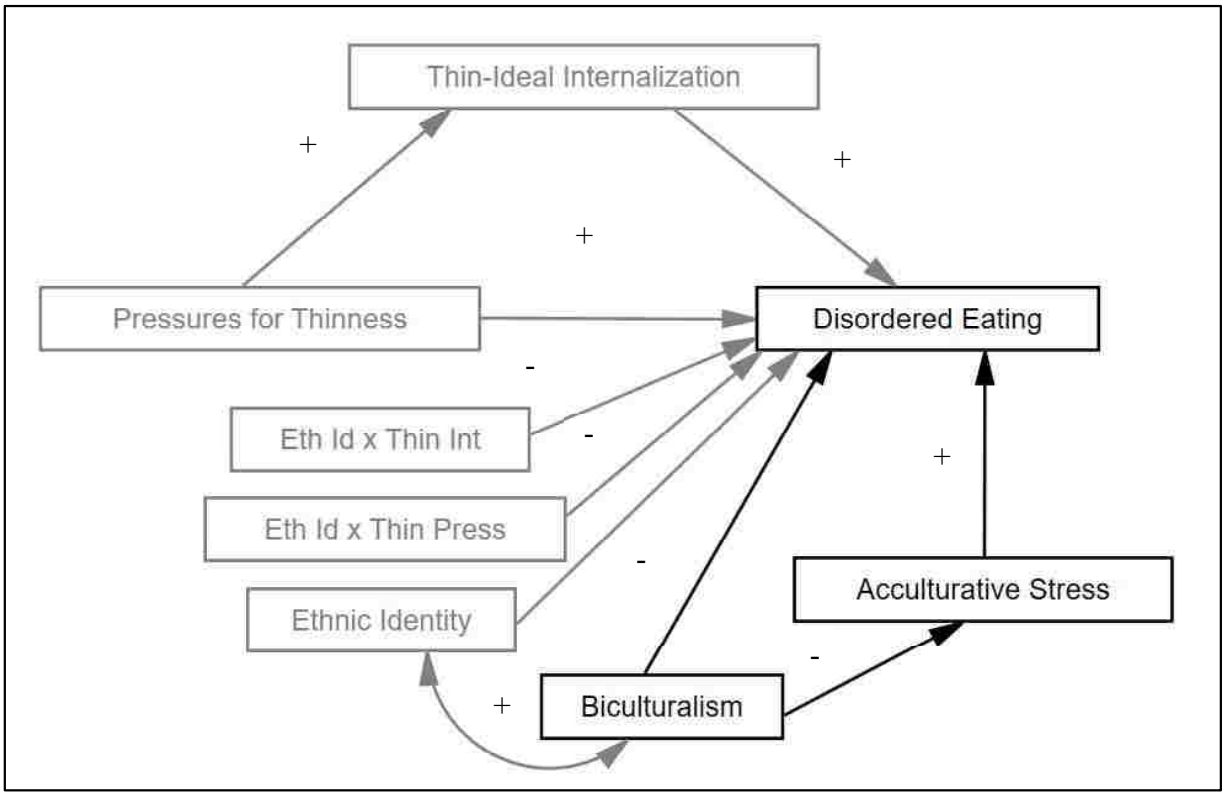
Importantly, studies have started to extend beyond the mere detection of bivariate associations and have demonstrated that acculturative stress mediates (i.e., accounts for or

explains) the relationship between acculturation and mental health. Not surprisingly, the acculturation-acculturative stress relationship depends on facets of acculturation, such that high biculturalism (i.e., successful integration of both cultures) is negatively associated with acculturative stress, while assimilation, separation and marginalization has no relationship or a positive relationship with acculturative stress (Krishnan & Berry, 1992). Moreover, the relationship between high biculturalism and fewer mental health difficulties is accounted for by low levels of acculturative stress, or in other words, the relationship between low biculturalism and greater mental health difficulties is accounted for by high levels of acculturative stress (Krishnan & Berry, 1992; Oh et al., 2002). While acculturative stress has been shown to mediate the negative association between biculturalism and several mental health concerns, such effects have yet to be examined for disordered eating. Examination of relationships between biculturalism, acculturative stress and disordered eating would therefore address an important gap in the current literature.

Taken together, inconclusive findings on acculturation and disordered eating, may be due to a lack of research on facets of acculturation (e.g., biculturalism) and/or the lack of accounting for acculturative stress influences. This study aims to address such limitations of prior research by focusing on biculturalism, the key acculturation construct that is most predictive of mental health outcomes (presumably also disordered eating) in Asian American women. In addition, this study examines whether the relationships between biculturalism and disordered eating, is mediated by acculturative stress. It was expected that higher levels of biculturalism will predict lower levels of disordered eating and lower levels of acculturative stress, and notably, the negative association between biculturalism and disordered eating will be accounted for by

acculturative stress (H6:DE and H7:DE). Figure 7 shows the proposed model. The relevant effects for H6:DE and H7:DE are shown in black; other model effects are shown in light grey.

Figure 7. Proposed Relationships among Culture-Specific Predictors of Disordered Eating.



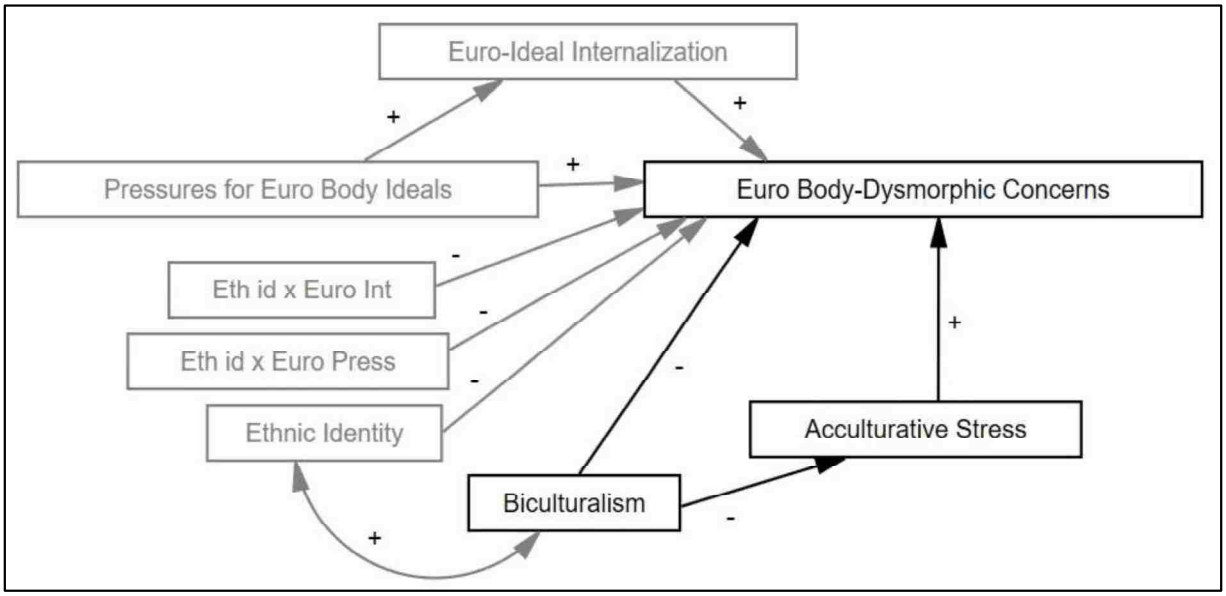
Note. Disordered Eating – disordered eating cognitions and behaviors; Pressures for Thinness = combined media, family, and peer pressures for thinness. Eth id x Thin Int = ethnic identity by thin-ideal internalization interaction term; Eth Id = Thin Press = ethnic identity by pressures for thinness interaction term.

Acculturative Stress and Eurocentric Body Dysmorphic Concerns

Given extant data on disordered eating, a corollary model for Eurocentric body dysmorphic concerns is theoretically possible. This study examined whether the relationship between biculturalism and Eurocentric body dysmorphic concerns is mediated by acculturative stress. It was expected that higher levels of biculturalism will predict lower levels of Eurocentric

body dysmorphic concerns and lower levels of acculturative stress, and the negative association between biculturalism and Eurocentric body dysmorphic concerns was expected to be accounted for by acculturative stress (H6:BDC and H7:BDC). Figure 8 shows the proposed model. The relevant effects for H6:BDC and H7:BDC are shown in black; other model effects are shown in light grey.

Figure 8. Proposed Relationships among Culture-Specific Predictors of Eurocentric Body Dysmorphic Concerns.



Note. Euro = Eurocentric. Pressures for Euro Body Ideals = combined media, family, and peer pressures for Eurocentric ideals. Eth id x Euro Int = Ethnic identity by Eurocentric-ideal internalization interaction term; Eth id x Euro Press = Ethnic identity by pressure for Eurocentric ideals interaction term.

Current Study

This study is the first to comprehensively examine sociocultural (i.e., pressures for thinness; pressure for Eurocentric features; internalization of the thin-ideal; internalization of Eurocentric appearance ideals) and culture-specific (i.e., ethnic identity; biculturalism;

acculturative stress) predictors of disordered eating and Eurocentric body dysmorphic concerns in Asian American women. These findings are particularly important because, despite the importance of examining both sociocultural and culture-specific effects, prior studies of disordered eating and Eurocentric body dysmorphic concerns etiology have generally not (1) included a large, multi-cultural sample of Asian American women and (2) have not focused on how transcultural, sociocultural predictors (i.e., pressures for thinness; pressure for Eurocentric features; internalization of the thin-ideal; internalization of the Eurocentric appearance ideal) may be uniquely influenced by culture-specific factors (i.e., ethnic identity; biculturalism; acculturative stress). Examining sociocultural and culture-specific factors in isolation, as opposed to in an integrated manner, makes it difficult to determine the relationships amongst etiologic factors and how factors work together to underlie the development of disordered eating symptoms and Eurocentric body dysmorphic concerns in ethnic minorities. Further, the absence of key culturally-relevant variables from etiologic models, particularly in ethnic minority groups, presumes and retrofits minority individuals into etiologic models that have been largely constructed from European American samples. Thus, findings from this project build upon the prior literature by expanding the sociocultural models to include culture-specific factors. This study is the first to provide information on culturally-relevant disordered eating and Eurocentric body dysmorphic concerns predictors in Asian American women.

Aims

This study had five specific aims:

- The first aim was to test the sociocultural model for disordered eating risk in Asian American women. In accordance with findings in European and European American women (Cafri et al., 2005; Thompson & Stice, 2001), it was hypothesized that higher

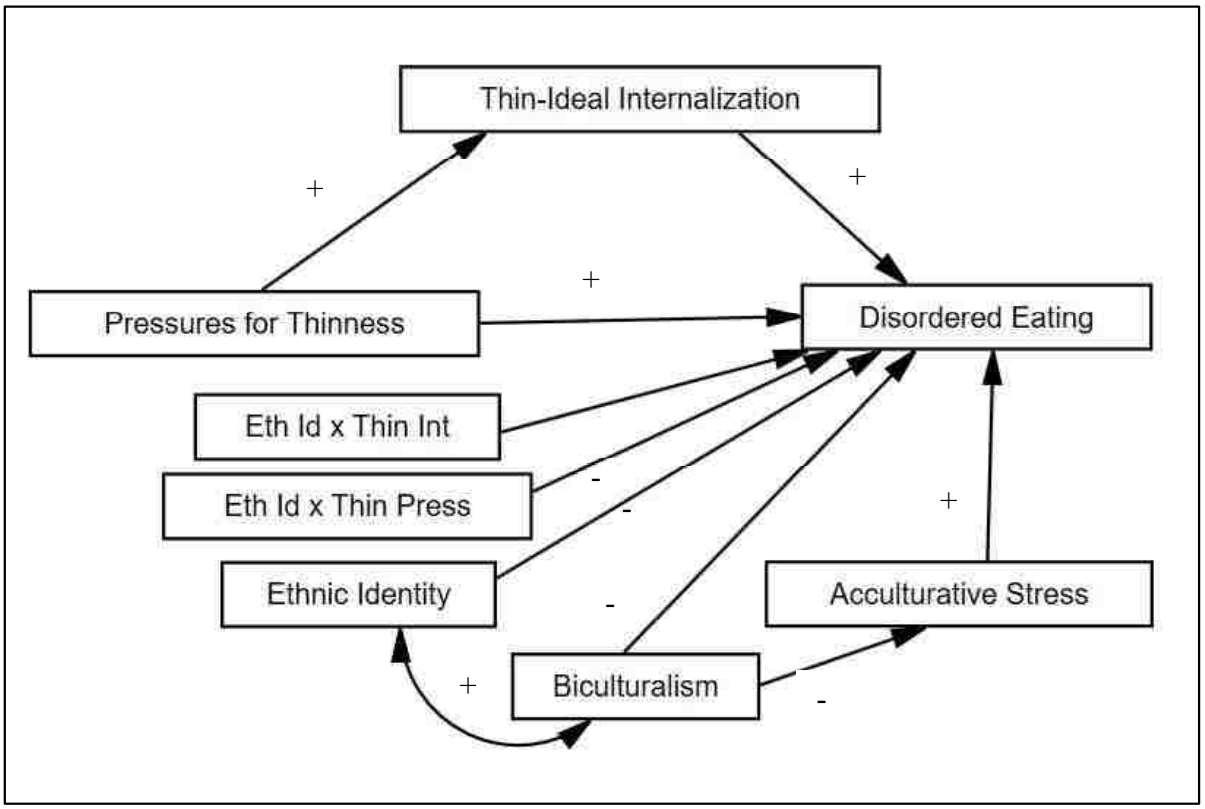
levels of pressures for thinness will predict higher levels of disordered eating (**H1:DE**). In addition, it was hypothesized that the influence of pressures for thinness on disordered eating will be mediated by thin-ideal internalization (**H2:DE**), such that the relationship between pressures for thinness and disordered eating will be largely accounted for by the effects of thin-ideal internalization.

- Secondly, this study tested whether a similar sociocultural model extends to Eurocentric physical features and predicts Eurocentric body dysmorphic concerns in Asian American women. It was hypothesized that: (**H1:BDC**) higher levels of pressure for Eurocentric ideals will predict higher levels of Eurocentric body dysmorphic concerns; and (**H2:BDC**) the positive relationship between pressure for Eurocentric appearance ideals and Eurocentric body dysmorphic concerns will be accounted for (i.e., mediated) by heightened Eurocentric appearance ideal internalization.
- Third, this study tested ethnic identity as a buffer (i.e., moderator) against sociocultural effects on disordered eating (Rakhkovskaya & Warren, 2014, 2016) and Eurocentric body dysmorphic concerns. Notably, with path analysis moderation was tested via the path significance between *the moderator x predictor interaction term* (e.g., ethnic identity x pressures for thinness interaction) and the outcome variable (e.g., disordered eating). For example, if the ethnic identity x pressures for thinness interaction term were a significant negative predictor of disordered eating, then ethnic identity would attenuate the relationship between pressures for thinness and disordered eating. Hypotheses were written accordingly. It was hypothesized that: **(H3:DE)** the *ethnic identity x pressures for thinness* path and **(H4:DE)** the *ethnic*

identity x thin-ideal internalization path will be significant negative predictors of disordered eating; while **(H3:BDC)** the *ethnic identity x pressure for Eurocentric appearance ideals* path and **(H4:BDC)** the *ethnic identity x Eurocentric appearance ideal internalization* path will be significant negative predictors of Eurocentric body dysmorphic concerns.

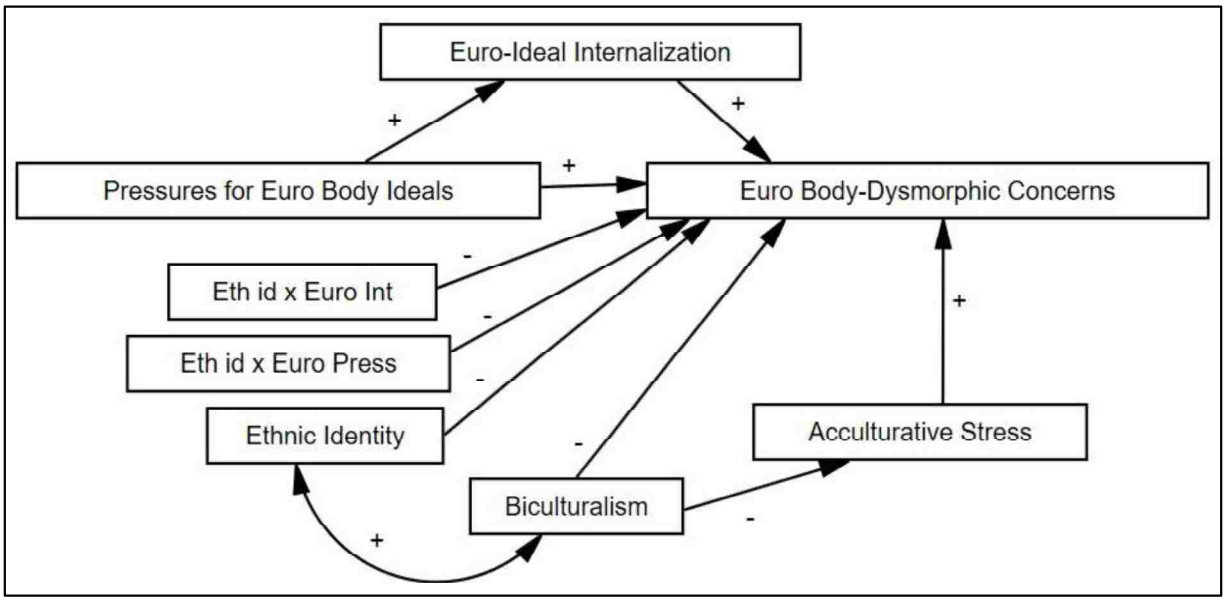
- Fourth, the proposed study tested whether the biculturalism-acculturative stress model (Oh et al., 2002) extends to disordered eating and Eurocentric body dysmorphic concerns in Asian American women. It was hypothesized that: **(H5:DE** and **H5:BDC)** higher levels of biculturalism will be bi-directionally associated with higher levels of ethnic identity; **(H6:DE)** higher levels of biculturalism will be predictive of lower levels of disordered eating and **(H6:BDC)** lower levels of Eurocentric body dysmorphic concerns; relationships between biculturalism and disordered eating **(H7:DE)** and biculturalism and Eurocentric body dysmorphic concerns **(H7:BDC)** will be accounted for (i.e., mediated) by levels of acculturative stress.
- Finally, this study tested whether the overall, comprehensive models (Figures 9 and 10) improved upon the sociocultural model (i.e., sociocultural effects only) in predicting disordered eating and Eurocentric body dysmorphic concerns in Asian American women. It was hypothesized that **(H8:DE)** the comprehensive model will show an improvement of fit over the original sociocultural model for disordered eating (Aim 1); and **(H8:BDC)** the comprehensive model will show an improvement of fit over the sociocultural model for Eurocentric body dysmorphic concerns (Aim 2).

Figure 9. Hypothesized Comprehensive Model for Disordered Eating.



Note. Disordered Eating = global score of disordered eating cognitions and behaviors; Pressures for Thinness = combined media, family, and peer pressures for thinness. Eth id x Thin Int = ethnic identity by thin-ideal internalization interaction term; Eth Id = Thin Press = ethnic identity by pressures for thinness interaction term.

Figure 10. Hypothesized Comprehensive Model for Eurocentric Body Dysmorphic Concerns.



Note. Euro = Eurocentric. Pressures for Euro Appearance Ideals = combined media, family, and peer pressures for Eurocentric appearance ideals. Eth id x Euro Int = Ethnic identity by Eurocentric appearance ideal internalization interaction term; Eth id x Euro Press = Ethnic identity by pressure for Eurocentric appearance ideals interaction term.

CHAPTER 3

Method

Participants

Data for this project were obtained from an online study on eating, personality, and mood in Asian American college women. A total of 555 participants signed up for the study. From this total, 125 were removed for the following reasons: 80 participants completed less than 50% of the study; 14 participants did not identify as Asian or Asian American; 17 participants had questionable data (e.g., responded carelessly), as evidenced by identical responses across all items for entire questionnaires or spending less than 20 minutes completing the extensive survey; 7 provided mostly blank responses; 6 did not provide consent; 1 was over age 40. This yielded a final sample of 430 participants (ages 18-40; $M = 20.64$; SD = 2.61).

Self-report race, ethnicity, weight, height, and generational status information were collected and summarized in Table 1. With regards to race, 73.33% ($n = 311$) identified as Asian American only; the remaining participants 27.67% ($n = 119$) identified as multiracial (i.e., Asian American and at least one other race). Multiracial Asian Americans largely additionally identified as Native Hawai'ian/Other Pacific Islander (51.26%; $n = 61$) and European American (32.77%; $n = 34$). One-way Analysis of Variance (ANOVA) was conducted to determine whether women who identified as Asian American only (i.e., uniracial Asian Americans) were significantly different from women who identified as multiracial on any study variable. Results showed that uniracial Asian Americans reported significantly higher pressures for Eurocentric ideals ($F(1,429) = 8.89$, $p < .01$, $d = 0.35$) and Eurocentric-ideal internalization ($F(1,429) = 8.70$, $p < .01$, $d = 0.32$) than multiracial Asian Americans. Thus, uniracial vs. multiracial identification was added as a covariate to all path analyses.

Within the overall sample, participants endorsed 14 different Asian ethnicities (see Table 1). With regards to ethnicity, participants were predominantly Filipino (39.5%; $n = 233$), Chinese (20.70%; $n = 89$), and multi-ethnic Asian American (e.g., mixed Japanese, Chinese, and Filipino ancestry; 21.63%; $n = 93$). With regards to birth country, 73.49% ($n = 316$) were born in the US, while 24.42% ($n = 105$) were born outside the US, and 2.09% ($n = 9$) participants did not report their birth place. With regards to generational status, the majority of the sample were first-generation (22.79%; $n = 98$) or second-generation (54.65%; $n = 235$) Americans. One-way ANOVAs were used to test whether participants differed by generational status (i.e., first generation vs. second generation, vs. third generation or higher) on any of the study variables. Results were significant and showed that: (1) first-generation participants reported significantly lower pressures for thinness than second-generation participants ($F(2, 403) = 3.49$, $p = .03$; pairwise $d = 0.29$); (2) second-generation participants had significantly *higher* pressure for Eurocentric ideals ($F(2, 403) = 4.04$, $p = .02$; pairwise $d = 0.33$) and significantly *lower* biculturalism, than third-generation or higher participants ($F(2, 396) = 3.25$, $p = .04$; pairwise $d = 0.42$). As such, generational status was added as a covariate to all path analyses.

With regards to BMI, participants differed by BMI category (i.e., underweight, average weight, overweight, and obese) on disordered eating ($F(3, 392) = 22.88$, $p < .01$, $d = 0.21$-1.26), Eurocentric body-dysmorphic concerns ($F(3, 392) = 4.77$, $p < .01$, d's $= 0.17$-0.67), and pressures for thinness ($F(3, 392) = 17.67$, $p < .01$, d's $= 0.27$-1.38); BMI was also positively correlated with these variables. Accordingly, BMI was added as a covariate to all path analyses.

Table 1. Descriptive Data on BMI, Race, Ethnicity, and Generational Status

Variable	Mean	Standard Deviation
BMI Category	*n*	% total sample
Underweight (<20 kg/m^2)	86	20.00%
Average Weight (20-25 kg/m^2)	206	47.91%
Overweight (25-30 kg/m^2)	68	15.81%
Obese (>30 kg/m^2)	33	7.67%
Missing	37	8.60%
Race	*n*	% total sample
East Asian, Southeast Asian or Asian American	365	84.88%
Native Hawai'ian or Other Pacific Islander	61	14.19%
South Asian or South Asian American	59	13.72%
European American or White	39	9.07%
Latina or Latina American	15	3.49%
African American or Black	7	1.63%
American Indian or Alaskan Native	3	0.70%
Middle Eastern or Middle Eastern American	2	0.47%
Other	1	0.23%
Ethnicity	*n*	% total sample
Filipino	233	54.19%
Chinese	89	20.70%
Japanese	48	11.16%
Other	24	11.16%
Vietnamese	34	7.91%
Korean	32	7.44%
Thai	11	2.56%
Taiwanese	10	2.33%
Cambodian	8	1.86%
Hawai'ian/Pacific Islander	7	1.63%
Indian	7	1.63%
Pakistani	7	1.63%
Laotian	6	1.40%
Sri Lankan	3	0.70%
Malaysian	1	0.23%
Generational Status	*n*	% total sample
International student (non-immigrant)	7	1.63%
First generation	98	22.79%
Second generation	235	54.65%
Third generation	20	4.65%
Fourth generation	21	4.88%
Fifth of greater generation	14	3.26%

Note. BMI = Body Mass Index.

Procedure

Participants were simultaneously recruited via: (1) the university psychology department's online subject pool (i.e., Sona Systems; n = 250, 58.14% of sample) and (2) advertisements in student organizations (e.g., list serves) and flyers posted on campus and in the surrounding community (n = 180; 41.86% of sample). Each participant was automatically assigned a unique numeric code, devoid of any personal identifiers. Informed consent was obtained electronically prior to the completion of the online Qualtrics surveys; individuals who did not consent were not routed to the survey. To minimize missing data, the survey software reminded (but did not require) that participants respond to missed items before proceeding. The questionnaire took approximately two hours to complete. Subject pool participants were automatically awarded two subject pool credits for participation; whereas participants recruited via campus/community advertisements were invited to receive a $10 online Amazon.com gift card. Participant compensation was funded by the UNLV Graduate and Professional Student Association (GPSA) grant ($1,250) and the Psi Chi Graduate Research Grant ($1,500). This study was approved by the UNLV Institutional Review Board (IRB protocol # 788816-3; see Appendix I).

Measures

Disordered Eating Cognitions and Behaviors. The global score of the Eating Disorder Examination Questionnaire (EDE-Q) was used to assess overall levels of disordered eating symptoms (Appendix III). The EDE-Q is a 31-item self-report questionnaire with four subscales: (1) dietary restraint (i.e., dieting, limiting or avoiding food); (2) eating concerns (i.e., preoccupation with food, secretiveness and guilt about eating); (3) shape concerns (i.e., preoccupation with shape, body, or a flat stomach); and (4) weight concerns (i.e., preoccupation

with weight and weight loss). Items are rated over the past 28 days on a 7-point scale (e.g., "No days" to "Every day" or "Not at all" to "Markedly"), with higher scores indicating higher levels of disordered eating symptoms (Fairburn & Beglin, 1994). The EDE-Q global score and subscales have demonstrated good psychometric properties in adult women (Mond, Hay, Rodgers, & Owen, 2006), including Asian American college women (Rakhkovskaya & Warren, 2016) and Japanese college women (Cronbach's alphas from .74 to.89; Nakai et al., 2014). The EDE-Q global score demonstrated excellent internal consistency in this sample (Cronbach's alpha .93).

Eurocentric Body Dysmorphic Concerns. The Satisfaction with Racially Salient Appearance Features (SAT-R; Warren, 2012) questionnaire was used to assess dissatisfaction with racially salient body areas (i.e., Eurocentric body dysmorphic concerns; Appendix IV). The SAT-R is a 32-item measure. Each item stem describes a body part or feature (e.g., skin color; hair texture; cheek bone definition). Items are rated on a 5-point Likert scale ranging from "Very Satisfied" to "Very Dissatisfied". Higher scores indicate higher level of body area dissatisfaction. The SAT-R was validated in and demonstrated adequate to excellent internal consistency in a sample of European American, African American, and Latina American students (Warren, 2012). The SAT-R demonstrated excellent internal consistency in this sample of Asian American women (Cronbach's alpha .93).

Sociocultural Influences on Thin Ideal. Selected subscales of the Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4; Schaefer et al., 2014) were used to assess sociocultural pressures and attitudes regarding the thin-ideal (see Appendix V). The SATAQ-4 is a 22-item measure that includes five subscales: (1) thin-ideal internalization (i.e., endorsement of the mainstream beauty ideal as thin); (2) athletic-ideal internalization (i.e.,

endorsement of the mainstream beauty ideal as athletic or muscular); (3) media pressure (i.e., pressure from mainstream media to adhere to thin or athletic ideal); (4) family pressure (i.e., pressure from family members to adhere to thin or athletic ideal); and (5) peer pressure (i.e., pressure from peers to adhere to thin or athletic ideal). Items are rated on a 5-point Likert scale ranging from "Definitely Disagree" to "Definitely Agree"; thus, higher scores indicate higher body-ideal pressure or internalization. This study combined the media, peer, and family pressures subscales into a combined pressures for thinness scale, similar to prior research on Asian and Asian American women (Rakhkovskaya & Warren, 2016; Yamamiya et al., 2016). Further, this study excluded the athletic-ideal internalization subscale, as it was not theoretically relevant to the research hypotheses. The SATAQ-4 subscales have demonstrated excellent internal consistency in women across ethnic groups (Cronbach's alphas from .86 to .95 for ethnic minority women; Llorente, Gleaves, Warren, Pérez-de-Eulate, & Rakhkovskaya, 2014; Schaefer et al., 2014). Further, the previous version of this measure (i.e., SATAQ-3), which contains highly similar items as the SATAQ-4 for the thin-ideal internalization and media pressures subscales, was validated in four ethnic groups, including Asian American college women (Warren, Gleaves, & Rakhkovskaya, 2013). In this sample, the SATAQ-4 pressures for thinness and thin-ideal internalization subscales demonstrated good to excellent internal consistency (Cronbach's alphas: .80 for thin-ideal internalization; .89 for combined pressures).

Sociocultural Influences on Eurocentric Ideal. The Supplemental Internalization and Pressures Scale (SIPS; see Appendix VI) was developed and used to assess perceived pressures and internalization of Eurocentric beauty ideals (for more details, see Results section). Items are rated on a 5-point Likert scale ranging from "Definitely Disagree" to "Definitely Agree"; thus, higher scores indicate higher Eurocentric-ideal pressure or internalization. The final version of

Sthe SIPS included four subscales: (1) eye-skin-hair ideal internalization (i.e., internalization of Eurocentric ideals for eye color/shape, skin color, and hair texture), (2) nose-ideal internalization (i.e., internalization of Eurocentric ideals for nose shape/size), (3) media pressure (i.e., media pressure to conform to Eurocentric body ideals), and (4) family/peer pressure (i.e, family/peer pressure to conform to Eurocentric body ideals). The two SIPS internalization subscales were combined into an overall Eurocentric-ideal internalzation subscale, while the two SIPS pressures subscales were combined into an overall pressures for Eurocentric ideals subscale (see Results section for justification). The SIPS scales demonstrated good to excellent internal consistency in this sample (Cronbach's alphas: .89 for combined Eurocentric-ideal internalization; .95 for combined Eurocentric-ideal pressures).

Ethnic Identity. The ethnic identity subscale of the Multigroup Ethnic Identity Measure (MEIM-EI; Phinney, 1992) was used to assess ethnic identity (see Appendix VIII). The MEIM is a 22-item self-report scale measuring ethnic attitudes and behaviors across two subscales: (1) ethnic identity (i.e., a sense of belonging to one's ethnic or cultural group); and (2) other-group orientation (i.e., a sense of belonging to the majority culture or group – European American). Items are rated on a 4-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree", with higher scores indicating stronger ethnic identity. This study solely used the ethnic identity subscale to assess participants' attachment to their ethnic or subethnic group (e.g., Asian; Korean), in accordance with extant research on ethnic identity and disordered eating predictors (Rakhkovskaya & Warren, 2014, 2016). The MEIM has been validated in numerous demographic groups, including Asian American college students (R. M. Lee & Yoo, 2004). A

meta-analysis of the psychometric properties of the MEIM found good internal consistency (MEIM-EI Cronbach's alphas from .81 to .92; Ponterotto, Gretchen, Utsey, Stracuzzi, & Saya, 2003), and the MEIM-EI also demonstrated adequate internal consistency in this sample (Cronbach's alpha .75).

Biculturalism. The Cultural Conflict subscale of the Bicultural Identity Integration Scale (BIIS; Benet-Martínez & Haritatos, 2005) was used to assess biculturalism (see Appendix IX). The BIIS is an 8-item self-report scale with two subscales. (1) Cultural Conflict measures an affective perception that one's native and majority cultures clash with one another, which is indicative of a *lack of* cultural integration or *lack of* biculturalism; (Berry, 2005; Berry, Phinney, Sam, & Vedder, 2006). (2) Cultural Distance measures an affective perception that one's native and majority cultures are distant. Items are rated on a 5-point Likert scale, ranging from "Definitely Not True" to "Definitely True". In accordance with prior research (Thomas, Brannen, & Garcia, 2010), only the Cultural Conflict subscale was used to assess biculturalism, because: (1) BIIS Cultural Conflict assesses separation vs. integration of cultures (or, by definition, biculturalism), while BIIS Cultural Distance assesses the separateness of cultures; (2) BIIS Cultural Conflict tends to demonstrate acceptable psychometric properties (e.g., Cronbach's alpha = .74 for BIIS Cultural Conflict; Benet-Martinez et al., 2005), while BIIS Cultural Distance does not (Thomas et al., 2010). *Lower* BIIS Cultural Conflict scores indicate higher levels of biculturalism (Benet-Martínez & Haritatos, 2005). The Cultural Conflict subscale also demonstrated acceptable psychometric properties in this sample (Cronbach's alpha: .86). Furthermore, to ease interpretation, the Cultural Conflict scale was reverse-scored, so that *higher* scores would indicate higher levels of biculturalism (i.e., higher cultural integration).

Acculturative Stress. The Social Attitudinal Familial and Environmental Acculturative Stress Scale (SAFE; Mena, Padilla, & Maldonado, 1987) was used to assess acculturative stress (see Appendix X). The SAFE is a 24-item self-report unidimensional scale, measuring acculturative stress across social, attitudinal, familial and environmental contexts. Items are rated on a 6-point Likert scale, ranging from "Not Stressful" (1) to "Extremely Stressful" (5), with an additional option of "Have Not Experienced" (0). Higher scores indicate higher levels of acculturative stress. Internal consistency for Asian American students was good in the original validation (Cronbach's alpha .89; Mena et al., 1987), in a recent study of UNLV college women (.91; Claudat, White, & Warren, 2016), and in this sample (Cronbach's alpha .90).

Analytic Plan and Statistical Analyses

Statistical Package for Social Sciences (SPSS) version 20 was used for descriptive analyses and exploratory factor analyses. Amos SPSS version 25 was used to conduct path analysis with the maximum likelihood estimation method, per recommendations (Bentler, 2006).

Data Preparation. Scales that contain ten or more items were prorated for participants missing 10% or fewer of items. Scores were coded as missing for participants missing items on scales that contain less than 10 items. A small proportion of data was missing: BMI (n = 7; 1.62% of total sample); EDEQ Weight Concerns (n = 1; 0.23% of total sample); SATAQ Thin-Ideal Internalization subscale (n = 2; 0.46% of total sample); BIIS Cultural Conflict subscale (n = 7; 1.62% of total sample); and SAFE total score (n = 95; 22.09% of total sample). Skewness and kurtosis were examined for all variables. As BMI had positive skew (1.32), multiple transformations were attempted (square root, log, and inverse). The inverse transformation significantly reduced skew and produced the best normality. No other variables were skewed, and no variables were kurtotic. Data were handled using pairwise deletion for descriptive and

correlation analyses, and listwise deletion for exploratory factor analyses. Primary path analysis handled missing data using AMOS maximum likelihood imputation algorithm ($N = 430$).

Prior to conducting path analysis, all continuous predictor and outcome variables were centered. Categorical predictors (i.e., generational status and racial identification) were dummy coded. Then, four interaction term variables were created to allow for the examination of the hypothesized moderation effects. Specifically, ethnic identity was multiplied (1) by pressures for thinness (i.e., ethnic identity x pressures for thinness interaction); (2) by thin-ideal internalization (i.e., ethnic identity x thin-ideal internalization interaction); (3) by pressures for Eurocentric ideals (i.e., ethnic identity x pressures for Eurocentric ideal interaction); and (4) by combined Eurocentric-ideal internalization (i.e., ethnic identity x Eurocentric-ideal internalization interaction).

Descriptive Analyses. Data from the demographic questionnaire were used to determine sample characteristics. Specifically, means and standard deviations were calculated for age, BMI, and all predictor and outcome variables. In addition, the mean global EDEQ score was compared to the clinical mean (i.e., 3.46), determined by norms in disordered eating populations (Aardoom, Dingemans, Slof Op't Landt, & Furth, 2012). Frequencies were calculated for BMI weight status, generational status, and ethnicity. Pearson's correlations were used to examine initial associations between all predictor and outcome variables. Specifically, correlations were examined among the following variables: disordered eating; Eurocentric body dysmorphic concerns; thin-ideal internalization; Eurocentric-ideal internalization; pressure for thinness; pressure for Eurocentric physical appearance ideals; ethnic identity; biculturalism; and acculturative stress.

SIPS Development, Factor Structure, and Revision. SATAQ-4 items were modified to develop a new scale that would assess sociocultural attitudes towards Eurocentric ideals, as opposed to the thin-ideal (see Results section regarding scale development). Psychometric properties for the SIPS were examined using exploratory factor analyses (EFA). Per recommendations (Costello & Osborne, 2005; Gaskin & Happell, 2014; Reio & Shuck, 2015), parallel analysis was used to determine the number of components for the original SIPS (see Appendix VI), and the Velicer's MAP test, scree plot, and prior theory were used to guide interpretation. Similar to the SATAQ-4 (Schaefer et al., 2014) and most constructs in social science (Costello & Osborne, 2005), the SIPS factors were expected to be inter-correlated and therefore only oblique rotations were examined. Item loading minimum was set to .32 (Tabachnick & Fidell, 2007; Treiblmaier & Filzmoser, 2010). Because the SIPS items were not normally distributed, Principal Axis Factoring (PAF) was used, as this method does not assume normality (Norris & Lecavalier, 2010; Reio & Shuck, 2015).

A number of criteria were used to assess the quality of each factor solution. More optimal solutions were those that: (1) had fewer cross-loading items; (2) had fewer items that failed to load on any factor; (3) had fewer items with low communalities (below .30; Costello & Osborne, 2005); (4) explained a higher percentage of SIPS variance; (5) had strong and stable factors. Factors were considered strong, if they had at least five items with loadings above .50 or at least four items with loadings above .60 (Costello & Osborne, 2005; Reio & Shuck, 2015). Factors were considered stable, if they had at least four items with loadings of at least .32 (Reio & Shuck, 2015). Following the original EFA, the SIPS was revised by (1) dropping items that failed to load on any factor and (2) dropping items with low communalities (see Results section).

The psychometric properties of the revised SIPS (see Appendix X) were examined to verify that results supported its use in this sample.

Path Analysis. ***Model Fit.*** Path analysis was an ideal statistical method to test the aims of this study. Path analysis allows for the simultaneous analysis of complex predictive relationships and can empirically assess whether the hypothesized effects provide a good fit to the data, and importantly, which model fits the data best (Streiner, 2005). Given that a well-fitting model does not necessarily mean that specific hypotheses are supported, several strategies were used to test each of the proposed hypotheses. In brief, support for the various hypotheses was determined via (1) percentage of outcome variable variance explained by the model (as indicated by squared multiple correlation indices); (2) significance of the standardized path estimates; (3) changes in model fit between comparison models (e.g., examination of mediation effects; sociocultural model vs. full comprehensive model), and (4) evaluation of model fit indices.

This study focused on four commonly reported fit indices: the chi-square (χ^2) test, Comparative Fit Index (CFI; Bentler, 1990), Root-Mean-Square Error of Approximation (RMSEA; Steiger & Lind, 1980), and Akaike's Information Criterion (AIC; Akaike, 1987). The chi-square statistic was primarily used as a descriptive index of fit, and *a non-significant* and *smaller* χ^2 value is desirable since it indicated a better fitting model (i.e., suggested that the model is consistent with the observed data). However, it is important to note that the χ^2 statistic is sensitive to sample size (e.g., is often significant with large samples), and thus, could erroneously suggest poor fit. Given the limitations of the χ^2 test, alternative fit indices (i.e., CFI, RMSEA, AIC) were also used to further assess model fit. The CFI is not impacted by sample size, and values greater than .90 or .95 indicated adequate or good fit, respectively (Hu &

Bentler, 1999). RMSEA is an informative index since it is sensitive to the number of estimated parameters and favors parsimony. RMSEA values less than .08 indicated adequate fit and values of .06 or less indicate good fit (Hu & Bentler, 1999). The AIC was used as a second form of a parsimony fit index. Smaller AIC values were suggestive of a better fitting, parsimonious model – the model with the lowest AIC was preferred.

Model Comparisons. To evaluate nested model comparisons (i.e., a model versus a submodel, such as Models A and B below), a chi-squared difference test (Bryant & Satorra, 2012) was used to determine goodness-of-fit between models. Namely, degrees of freedom and the chi-squared value from the least restrictive model (e.g., Model A) were subtracted, respectively, from the degrees of freedom and chi-squared value for the more restrictive model (e.g., Model B, a submodel of Model A). The significance of the resulting chi-square difference value (with the remaining degrees of freedom) was evaluated. A significant chi-squared value is suggestive of worse fit. The chi squared difference test can be used to test mediation in path analysis, by comparing two models: one with all predictor, mediator and outcome variable paths (e.g. Model A) and one with predictor to outcome variable path constrained (i.e., set to zero, such that the path has no direct effect; e.g., Model B). In that instance, a non-significant chi-squared difference test would suggest that constraining the path between predictor and outcome variable improved model fit. In other words, a non-significant chi-squared difference test would indicate that the mediator largely accounted for the relationship between predictor and outcome variable.

Importantly, within any of the model comparisons, if two models provided equal fit, the most parsimonious model was selected. Further, for models that provide poor fit to the data or negligible hypothesized effects, model adjustments were considered to improve model fit. Namely, non-significant predictors were dropped, if such adjustments were justified. Per

recommendations for path analyses (Hayes, 2017; Mueller & Hancock, 2008; Schreiber, Stage, King, Nora, & Barlow, 2006), no further trimming was performed for the models. This approach aimed to minimize the total number of statistical tests and to ensure that only theoretically sound alternative models were examined. If poor model fit persisted even after adjustments, path estimates were not interpreted, in accordance with recommendations (Hayes, 2017; Mueller & Hancock, 2008).

Plan of Path Analyses. Table 2 summarized the plan of path analyses. A total of eight models were expected to be tested, not including any model modifications needed due to poor fit or negligible hypothesized effects. Four a priori models were tested for disordered eating (Models A, B, C and D), and four a priori models tested for Eurocentric body dysmorphic concerns predictors (Models E, F, G, and I).

Table 2. Summary of Plan of Path Analyses

Model	Description	H#	Tests
Models for Predictors of Disordered Eating			
Model A	Sociocultural Model of DE predictors	H1:DE	Significance of path between pressure for thinness & DE
Model B	Submodel of Model A, with pressure for thinness to DE constrained	H2:DE	Thin-ideal internalization as full mediator between pressures for thinness & DE
Model C	Comprehensive model of DE predictors	H3:DE	Significance of "ethnic identity x pressures for thinness" path estimate
		H4:DE	Significance of "ethnic identity x thin-ideal internalization" path estimate
		H5:DE	Significance of bidirectional path between ethnic identity and biculturalism
		H6:DE	Significance of path between biculturalism and DE
		H8:DE	Goodness of fit over best sociocultural model (Model A or B)
Model D	Submodel of Model C, with biculturalism to DE path constrained	H7:DE	Acculturative stress as full mediator between biculturalism & DE
Models of Predictors of Euro Body-Dysmorphic Concerns			
Model E	Sociocultural Model of BDC predictors	H1:BDC	Significance of path between pressure for Eurocentric ideals & BDC
Model F	Submodel of Model F, with pressure for Euro ideals to BDC constrained	H2:BDC	Eurocentric-ideal internalization as a full mediator between pressures for Eurocentric ideals & BDC
Model G	Comprehensive model of BDC predictors	H3:BDC	Significance of "ethnic identity x pressures for Eurocentric ideals" path estimate
		H4:BDC	Significance of "ethnic identity x Eurocentric-ideal internalization" path estimate
		H5:BDC	Significance of bidirectional path between ethnic identity and biculturalism
		H6:BDC	Significance of path between biculturalism and BDC
		H8:BDC	Goodness of fit over best sociocultural model (Model E or F)
Model H	Submodel of Model H, with biculturalism to BDC path constrained	H7:BDC	Acculturative stress as a full mediator between biculturalism & BDC

Note. H# = Hypothesis; DE = disordered eating; BDC = Eurocentric body dysmorphic concerns; Euro = Eurocentric.

First, the sociocultural model for predictors of disordered eating was tested, with BMI, generational status, and racial identification added as covariates (Model A). The overall model fit (i.e., χ^2, CFI, RMSEA, AIC values) was evaluated for Model A. Support for **H1:DE** was determined by a significant positive path estimate between pressures for thinness and disordered eating. Second, a submodel was run that constrained the direct path (set to zero, i.e., this path had no direct effect) from pressures for thinness to disordered eating (Model B, a submodel of Model A). Fit comparisons between Model A and Model B were used to determine whether thin-ideal internalization fully mediated the relationship between pressures for thinness and disordered eating (**H2:DE**). Specifically, the χ^2 value (and degrees of freedom) from Model A (i.e., model with the direct path estimated) was subtracted from Model B (i.e., model that constrained the direct path) to provide a chi-square difference test. Significance of the chi-square difference test was used to provide support for **H2:DE**. The better fitting model was used for subsequent analyses (i.e., fit comparison with best-fitting comprehensive model for disordered eating, discussed below).

Third, a full comprehensive model for disordered eating (see Figure 9; Model C) was tested and the overall model fit (i.e., χ^2, CFI, RMSEA, AIC values) was evaluated. Within Model C, support for **H3:DE** and **H4:DE** was determined by significant "ethnic identity x pressures for thinness" and "ethnic identity x thin-ideal internalization" path estimates, respectively. Significant negative path estimates would have indicated that ethnic identity attenuated the predictive effects of sociocultural factors (pressures for thinness or thin-ideal internalization) on disordered eating. Support for **H5:DE** was determined by significance of ethnic identity and biculturalism path estimate; while support for **H6:DE** was determined by significance of biculturalism and disordered eating path estimate.

Fourth, a submodel that constrained the direct path (set to zero) from biculturalism to disordered eating was tested (i.e., Model D, a submodel of Model C). The fit comparisons between Model C and Model D were used to determine whether acculturative stress fully mediated the relationship between biculturalism and disordered eating (**H7:DE**). In particular, the χ^2 value (and degrees of freedom) from Model C (i.e., model with the direct path estimated) was subtracted from Model D (i.e., model that constrained the direct path) to provide a chi-square difference test to provide support for **H7:DE**. The better fitting model was used for subsequent analyses (i.e., fit comparison with best-fitting sociocultural model).

Finally, support for **H8:DE** was determined by evaluating the fit comparisons between the better fitting comprehensive model (i.e., Model C or D) and the better fitting sociocultural Model (i.e., Model A or B). The χ^2 value (and degrees of freedom) from the comprehensive model was subtracted from the best-fitting sociocultural model to provide a chi-square difference test.

In regards to Eurocentric body dysmorphic concerns, an initial model that included sociocultural predictors (Model E) was tested and the overall model fit (i.e., χ^2, CFI, RMSEA, AIC values) was evaluated. Similarly to Model A, BMI, generational status, and racial identification were added as covariates. Support for **H1:BDC** was determined by a significant positive path estimate between pressure for Eurocentric ideas and Eurocentric body dysmorphic concerns.

A submodel that constrained the direct path from pressure for Eurocentric appearance ideals to Eurocentric body dysmorphic concerns was then tested (Model F, a submodel of Model E). Similarly, fit comparisons between Model E and Model F, were used to determine whether Internalization of Eurocentric appearance ideal fully mediated the relationship between pressure

for Eurocentric appearance ideals and Eurocentric body dysmorphic concerns. Specifically, the χ^2 value (and degrees of freedom) from Models E (i.e., model with the direct path estimated) was subtracted from Models F respectively (i.e., model that constrain the direct path) to provide a chi-square difference test to provide support for **H2:BDC**. The better fitting model was used for subsequent analyses (i.e., fit comparison with best-fitting comprehensive model for Eurocentric body dysmorphic concerns, discussed below).

Next, the full comprehensive model containing all predictors of Eurocentric body dysmorphic concerns (see Figure 10; Model G) was tested and the overall model fit (i.e., χ^2, CFI, RMSEA, AIC values) was evaluated. Within Model G, support for **H3:BDC** and **H4:BDC** was determined by significant "ethnic identity x pressures for Eurocentric appearance ideals" and "ethnic identity x internalization of Eurocentric appearance ideal" path estimates, respectively. Significant negative path estimates would have indicated that ethnic identity attenuated the predictive effects of sociocultural factors (pressure for Eurocentric appearance ideals and internalization of Eurocentric appearance ideal) on Eurocentric body dysmorphic concerns. Support for **H5:BDC** was determined by the significance of path between biculturalism and Eurocentric body dysmorphic concerns.

A submodel that constrained the direct path from biculturalism to Eurocentric body dysmorphic concerns was subsequently tested (Model H, a submodel of Model G). The fit comparisons between Model G and Model H were used to determine whether acculturative stress fully mediated the relationship between biculturalism and Eurocentric body dysmorphic concerns (**H6:BDC**). In particular, the χ^2 value (and degrees of freedom) from Model G (i.e., model with the direct path estimated) was subtracted from Model H (i.e., model that constrained the direct path) to provide a chi-square difference test, to provide support for **H7:BDC**. The better fitting

model was used for subsequent analyses (i.e., fit comparison with best-fitting sociocultural model).

Support for **H8:BDC** was determined by evaluating the fit comparisons between the better fitting comprehensive model (i.e., Model G or H) and the better fitting sociocultural model (i.e., Model E or F). The χ^2 value (and degrees of freedom) from the comprehensive model was subtracted from the simpler, sociocultural model to provide a chi-square difference test.

Power Considerations. Sample sizes were estimated following recommendations of a case-to-parameter ratio of 20:1 (e.g., Kline, 2013) and the expectation that relationships amongst most variables would be of small-to-moderate effect size (as reported in Culbert et al., 2015; Rakhkovskaya & Warren, 2016). Given that the path analysis models had a maximum of 19 parameters, a sample size of 430 was determined sufficient for adequate statistical power and precision in estimating the significance of each path within the model.

CHAPTER 4

Results

SIPS Development, Factor Structure, and Revision

Scale Development. SATAQ-4 and SAT-R items were used as a foundation in the development of a new scale assessing perceived pressures and internalization of Eurocentric beauty ideals (i.e., Supplemental Internalization & Pressures Scale or SIPS; see Appendix VI). The purpose of the 50-item measure was to assess sociocultural attitudes towards Eurocentric ideals in appearance, for corollary sociocultural models to the SATAQ-4 thin-ideal items. Specifically, 10 racially salient body features were identified from the SAT-R: eye shape/size; eye color; eyelid fold shape; hair color; hair texture; skin color; nose shape; nose size; breast size; and height. Next, SATAQ-4 items were systematically modified, such that each item assessing thinness was replaced with items assessing each of the 10 Eurocentric features. Based on the SATAQ-4, two types of internalization items were generated for each racially salient body feature: "I think a lot about [body feature]" and "I want my [body feature] to be [more conforming for Eurocentric ideals]. For example, for eye color, two internalization items were generated: "I think a lot about my eye color" and "I want my eyes to be lighter". This resulted in 20 internalization-related items for the SIPS. In addition, three types of pressures items were created: "I feel pressure from the *media* to have [body feature more conforming to Eurocentric ideals]; "I feel pressure from *family members* to have [body feature more conforming to Eurocentric ideals] ; "I feel pressure from *peers* to have [body feature more conforming to Eurocentric ideals]. For example, for eye color, the following three pressure-related items were generated: "I feel pressure from the *media* to have lighter eye color"; "I feel pressure from *family*

members to have lighter eye color"; "I feel pressure from *peers* to have lighter eye color". This resulted in 30 pressure-related items for the SIPS (10 each for media, family, and peer pressures).

Exploratory Factor Analyses. Scree plot (Figure 11), parallel analysis (Table 3), and results from the Velicer's MAP test (not shown) all pointed to a 9-factor structure. However, since the SIPS was closely modeled on the SATAQ-4 (Schaefer et al., 2014), a similar 4-factor structure was hypothesized: (1) Internalization; (2) Media Pressure; (3) Family Pressure; (4) Peer Pressure. As such, both a 9-factor solution and a 4-factor solution were examined.

Figure 11. Scree plot of SIPS Factor Eigenvalues.

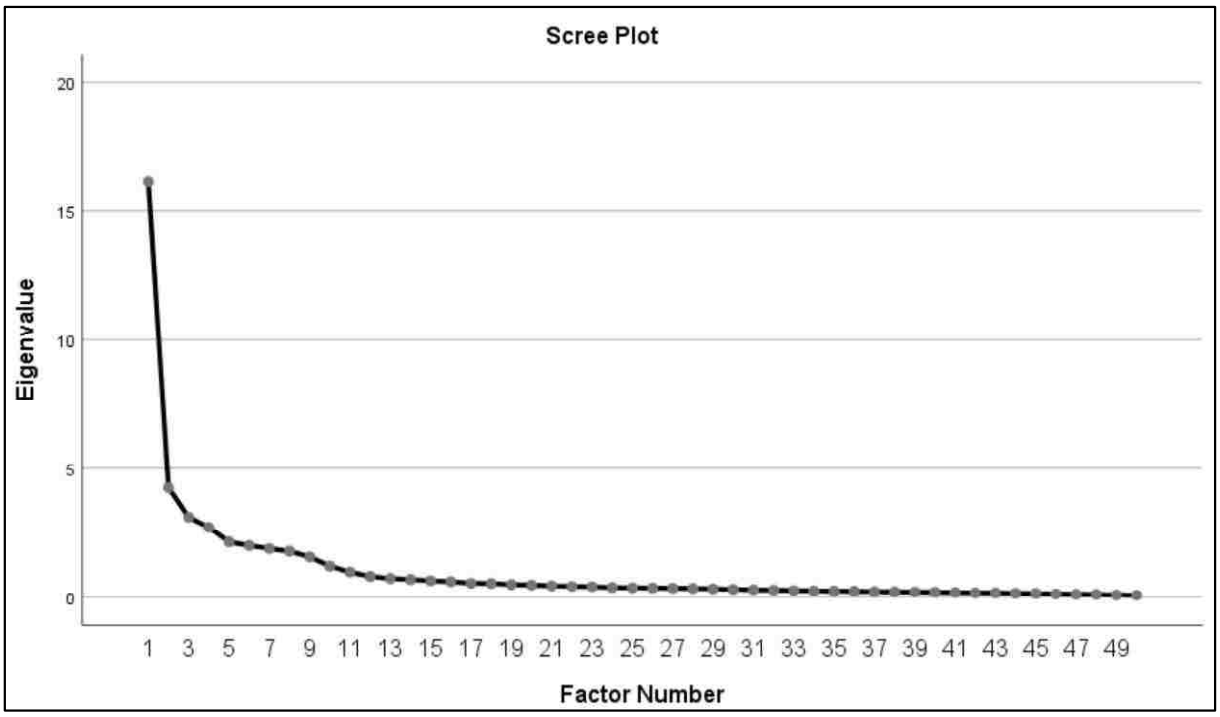


Table 3. SIPS Raw Data Eigenvalues, Mean and Percentile Random Data Eigenvalues

Root	Raw Data	Means	Percentile
1	16.16	1.78	1.85
2	4.25	1.69	1.75
3	3.09	1.64	1.68
4	2.69	1.59	1.63
5	2.12	1.54	1.58
6	1.98	1.50	1.54
7	1.86	1.46	1.50
8	1.76	1.43	1.46
9	1.55	1.39	1.42
10	1.19	1.36	1.39
11	0.96	1.33	1.36
12	0.79	1.30	1.33
13	0.71	1.27	1.30
14	0.67	1.24	1.27
15	0.63	1.21	1.24
16	0.59	1.19	1.21
17	0.53	1.16	1.19
18	0.52	1.14	1.16
19	0.48	1.11	1.14
20	0.46	1.09	1.11
21	0.43	1.06	1.09
22	0.41	1.04	1.06
23	0.40	1.02	1.04
24	0.36	0.99	1.02
25	0.35	0.97	0.99
26	0.35	0.95	0.97
27	0.34	0.93	0.95
28	0.33	0.91	0.93
29	0.31	0.88	0.90
30	0.29	0.86	0.88
31	0.28	0.84	0.87
32	0.26	0.82	0.84
33	0.25	0.80	0.82
34	0.23	0.78	0.80
35	0.22	0.76	0.78
36	0.22	0.74	0.76
37	0.20	0.72	0.75
38	0.20	0.70	0.72
39	0.19	0.68	0.70
40	0.18	0.66	0.68
41	0.17	0.64	0.66
42	0.16	0.62	0.64
43	0.16	0.60	0.62
44	0.14	0.58	0.60
45	0.13	0.56	0.58
46	0.12	0.54	0.56
47	0.10	0.51	0.53
48	0.10	0.49	0.51
49	0.07	0.46	0.49
50	0.07	0.43	0.46

Nine-Factor Solution. The 9-factor solution explained 70% of the SIPS variance. All items had acceptable to strong communalities. Factors 1, 2, and 3 were strong (i.e., each had at least five items with loadings above .50). Factors 4, 5, and 6 were moderately strong (i.e., each had only four items, but all items had loadings above .50). In contrast, Factors 7, 8, and 9 were unstable, as they only had 2 items each. Two items did not load on any factor (items 3 and 4; "I think a lot about my eye color" and "I want my eyes to be lighter"). Eleven items (i.e., items 26, 30, 31, 36, 39, 40, 46, 47, 48, 49, and 50) cross-loaded between two factors, and two of them (i.e., items 40 and 50) had near-equal cross-loadings. Table 4 shows the rotated factor pattern matrix and factor interpretations.

The 9-factor structure of the SIPS largely resembled the 4-factor structure of the SATAQ-4. Specifically, (1) media, family, and peer pressure for thinness factors from the SATAQ-4 closely resembled the media, family, and peer pressure for Eurocentric ideals factors in the SIPS (i.e., Factors 1 through 3); and (2) the thin-ideal internalization factor in the SATAQ-4 resembled the six SIPS factors related to internalization of Eurocentric body ideals (i.e., Factors 4 through 9; Nose Ideal Internalization, Eye Ideal Internalization, Hair Ideal Internalization, Height-Ideal Internalization, Breast Ideal Internalization, and Skin Color Ideal Internalization).

Factor 1, interpreted as Family Pressure, assessed family members' pressure to conform to the Eurocentric ideal (e.g., "I feel pressure from family members to have bigger or rounder eyes"; 10 items). Factor 2, interpreted as Media Pressure, assessed pressure from the media to conform to the Eurocentric ideal (e.g., "I feel pressure from the media to have lighter hair"; 10 items). Factor 3, interpreted as Peer Pressure, assessed pressure from peers to conform to the Eurocentric ideal (e.g., "I feel pressure from peers to have lighter hair color"; 10 items). Factor 4,

interpreted as Nose Ideal Internalization, assessed internalization of the ideal for a smaller and/or sharper nose (e.g., “I want my nose to be smaller”; “I think a lot about my nose shape”; 4 items). Factor 5, interpreted as Eye Ideal Internalization, assessed internalization of the ideal of a larger, rounder, and/or lighter eye (e.g., “I want to have double/folded eyelids”; 4 items). Factor 6, Hair Ideal Internalization, assessed internalization for lighter and finer hair (e.g., “I want my hair to be finer in texture”; 4 items). Factor 7, interpreted as Height-Ideal Internalization, assessed internalization of the ideal for a taller stature (e.g., “I want to be taller”; 2 items). Factor 8, interpreted as Breast Ideal Internalization, assessed internalization of the ideal for larger breasts (e.g., “I want my breasts to be larger”; 2 items). Finally, Factor 9, interpreted as Skin Color Ideal Internalization, assessed for internalization of the ideal for lighter skin (e.g., “I want my skin to be lighter”; 2 items).

Table 4. SIPS Factor Pattern Matrix Results for Nine Rotated Factors

Item	Stem	Factor									h^2
		1	2	3	4	5	6	7	8	9	
23	I feel pressure from family members to have double/folded eyelids	**.87**	.03	.02	.00	.18	.04	.11	.01	.05	*.59*
21	I feel pressure from family members to have bigger or rounder eyes	**.85**	.10	.01	.10	.13	.06	.15	.01	.05	*.58*
22	I feel pressure from family members to have lighter eye color	**.80**	.04	.10	.01	.05	.04	.04	.04	.14	*.45*
24	I feel pressure from family members to have lighter hair	**.78**	.02	.07	.02	.02	.13	.03	.03	.07	*.40*
28	I feel pressure from family members to have a smaller nose	**.76**	.05	.02	.29	.21	.03	.05	.02	.07	*.63*
27	I feel pressure from family members to have a sharper nose	**.72**	.03	.03	.20	.14	.05	.04	.04	.16	*.46*
25	I feel pressure from family members to have finer hair texture	**.70**	.04	.00	.05	.07	.18	.01	.13	.17	*.51*
29	I feel pressure from family members to have larger breasts	**.54**	.07	.10	.10	.07	.03	.01	.32	.11	*.49*
26	I feel pressure from family members to have lighter skin	**.52**	.04	.00	.01	.04	.07	.04	.06	**.40**	*.46*
30	I feel pressure from family members to be taller	**.50**	.01	.04	.06	.00	.11	**.41**	.04	.13	*.53*
42	I feel pressure from the media to have lighter eye color	.01	**.83**	.03	.02	.04	.15	.04	.04	.15	*.58*
43	I feel pressure from the media to have double/folded eyelids	.05	**.80**	.05	.08	.25	.09	.00	.04	.06	*.52*
44	I feel pressure from the media to have lighter hair	.11	**.78**	.08	.04	.14	.27	.03	.08	.12	*.83*
41	I feel pressure from the media to have bigger or rounder eyes	.03	**.77**	.04	.07	.30	.10	.00	.06	.03	*.73*
45	I feel pressure from the media to have finer hair texture	.02	**.74**	.08	.10	.10	.28	.02	.14	.15	*.83*
47	I feel pressure from the media to have a sharper nose	.06	**.69**	.10	**.35**	.03	.16	.04	.02	.10	*.66*
48	I feel pressure from the media to have a smaller nose	.03	**.66**	.06	**.42**	.08	.10	.05	.00	.04	*.49*
46	I feel pressure from the media to have lighter skin	.05	**.63**	.02	.05	.03	.01	.00	.00	**.49**	*.58*
49	I feel pressure from the media to have larger breasts	.06	**.57**	.01	.02	.11	.10	.02	**.55**	.02	*.60*
50	I feel pressure from the media to be taller	.03	**.54**	.02	.04	.07	.06	**.54**	.01	.07	*.63*

Note. h^2 = communality. Factor 1: Family Pressure; Factor 2: Media Pressure; Factor 3: Peer Pressure; Factor 4: Nose Ideal Internalization; Factor 5: Eye Ideal Internalization; Factor 6: Hair Ideal Internalization; Factor 7: Height-Ideal Internalization; Factor 8: Breast Ideal Internalization; Factor 9, interpreted as Skin Color Ideal Internalization.

Table 4 (Continued). SIPS Factor Pattern Matrix Results for Nine Rotated Factors.

Item	Stem	Factor									h^2
		1	2	3	4	5	6	7	8	9	
38	I feel pressure from peers to have a smaller nose	.02	.04	**.86**	.30	.11	.00	.06	.10	.04	*.77*
37	I feel pressure from peers to have a sharper nose	.02	.06	**.81**	.27	.04	.07	.10	.04	.01	*.77*
35	I feel pressure from peers to have finer hair texture	.00	.07	**.73**	.14	.06	.23	.04	.09	.15	*.79*
32	I feel pressure from peers to have lighter eye color	.20	.00	**.72**	.00	.02	.05	.00	.05	.12	*.71*
36	I feel pressure from peers to have lighter skin	.12	.03	**.67**	.11	.05	.01	.05	.08	**.47**	*.60*
34	I feel pressure from peers to have lighter hair	.09	.03	**.67**	.08	.07	.20	.08	.02	.09	*.55*
39	I feel pressure from peers to have larger breasts	.01	.05	**.63**	.09	.13	.01	.00	**.46**	.08	*.62*
31	I feel pressure from peers to have bigger or rounder eyes	.10	.04	**.63**	.10	**.36**	.12	.01	.03	.04	*.67*
33	I feel pressure from peers to have double/folded eyelids	.22	.07	**.60**	.13	.30	.15	.06	.02	.05	*.48*
40	I feel pressure from peers to be taller	.02	.07	**.54**	.03	.04	.08	**.54**	.01	.01	*.55*
15	I think a lot about my nose size	.03	.01	.05	**.86**	.05	.04	.01	.02	.02	*.71*
13	I think a lot about my nose shape	.02	.06	.04	**.84**	.10	.05	.02	.06	.05	*.72*
16	I want my nose to be smaller	.05	.03	.03	**.81**	.00	.01	.03	.02	.03	*.74*
14	I want my nose to be sharper	.00	.02	.01	**.79**	.10	.03	.05	.02	.04	*.60*
5	I think a lot about the shape of my eyelids	.03	.09	.04	.05	**.74**	.03	.05	.05	.22	*.66*
2	I want my eyes to be bigger or rounder	.04	.12	.00	.00	**.71**	.01	.08	.03	.02	*.67*
1	I think a lot about the shape of my eyelids	.01	.02	.03	.06	**.67**	.07	.01	.02	.18	*.73*
6	I want to have double/folded eyelids	.01	.06	.06	.09	**.59**	.01	.05	.02	.16	*.76*
10	I want my hair to be finer in texture	.04	.06	.10	.04	.00	**.65**	.01	.20	.31	*.64*
9	I think a lot about my hair texture	.03	.01	.09	.00	.03	**.62**	.04	.03	.25	*.60*
7	I think a lot about my hair color	.03	.05	.01	.02	.09	**.57**	.09	.13	.01	*.71*
8	I want my hair to be lighter	.12	.09	.08	.01	.02	**.56**	.05	.18	.06	*.71*

Note. h^2 = communality. Factor 1: Family Pressure; Factor 2: Media Pressure; Factor 3: Peer Pressure; Factor 4: Nose Ideal Internalization; Factor 5: Eye Ideal Internalization; Factor 6: Hair Ideal Internalization; Factor 7: Height-Ideal Internalization; Factor 8: Breast Ideal Internalization; Factor 9, interpreted as Skin Color Ideal Internalization.

Table 4 (Continued). SIPS Factor Pattern Matrix Results for Nine Rotated Factors.

Item	Stem	Factor									h^2
		1	2	3	4	5	6	7	8	9	
20	I want to be taller	.05	.04	.10	.05	.11	.02	**.84**	.18	.05	*.75*
19	I think a lot about my height	.06	.02	.06	.05	.08	.12	**.72**	.03	.05	*.71*
18	I want my breasts to be larger	.01	.00	.04	.01	.03	.00	.11	**.79**	.08	*.69*
17	I think a lot about my breast size	.02	.04	.09	.08	.09	.12	.03	**.65**	.13	*.70*
12	I want my skin to be lighter	.05	.01	.04	.09	.23	.14	.02	.06	**.57**	*.79*
11	I think a lot about my skin color	.04	.12	.05	.10	.23	.28	.02	.14	**.55**	*.76*
3	I think a lot about my eye color	.02	.03	.12	.18	.30	.30	.08	.07	.14	*.69*
4	I want my eyes to be lighter	.10	.11	.05	.20	.30	.24	.01	.14	.17	*.68*

Note. h^2 = communality. Factor 1: Family Pressure; Factor 2: Media Pressure; Factor 3: Peer Pressure; Factor 4: Nose Ideal Internalization; Factor 5: Eye Ideal Internalization; Factor 6: Hair Ideal Internalization; Factor 7: Height-Ideal Internalization; Factor 8: Breast Ideal Internalization; Factor 9, interpreted as Skin Color Ideal Internalization.

Four-Factor Solution. Oblimin rotation with Delta set to 0 was determined optimal, as it produced the fewest cross-loading items (4) and the most hyperplanars (98). Table 5 shows the rotated factor pattern matrix and factor interpretations. The 4-factor solution explained 49% of the SIPS variance. Six items that assessed internalization for Eurocentric ideals for hair texture, height, and breast size had communalities below .30 (items 9, 10, 17, 18, 19, and 20); one item (item 18; "I want my breasts to be larger") did not load on any factors. All other items had acceptable to strong communalities, and the four identified factors were strong and stable. Four items cross-loaded (items 37, 38, 45, and 46); however, all items clearly loaded more strongly on one factor (i.e., loadings of .67-.69 for primary factor vs. .38-.46 for secondary factor).

The 4-factor structure of the SIPS largely resembled the 4-factor structure of the SATAQ-4. Specifically, (1) family, peer, and media pressure for thinness factors from the SATAQ-4 closely resembled the family/peer and media pressure for Eurocentric ideals factors in the SIPS (i.e., Factors 1 and 3); and (2) the thin-ideal internalization factor in the SATAQ-4 resembled the two SIPS factors related to internalization of Eurocentric body ideals (i.e., Factors 2 and 4; Nose-Ideal Internalization and Eye-Skin-Hair Ideal Internalization). However, (1) in contrast to three pressure-related factors in the SATAQ-4, the SIPS produced two pressure-related factors (i.e., family/peer pressure and media pressure); and (2) in contrast to a single internalization-related factor in the SATAQ-4, the SIPS produced two internalization-relation factors (i.e., nose-ideal internalization and eye-skin-hair ideal internalization).

Factor 1, interpreted as Family & Peer Pressures, assessed peers' and family members' pressure to conform to the Eurocentric ideal (e.g., "I feel pressure from family members to have bigger or rounder eyes"; "I feel pressure from peers to be taller"; 20 items). Factor 2, interpreted as Nose Ideal Internalization, assessed internalization of the ideal for a smaller and/or sharper

nose (e.g., “I want my nose to be smaller”; 4 items). Factor 3, interpreted as Media Pressure, assessed pressure from the media to conform to the Eurocentric ideal (e.g., “I feel pressure from the media to have lighter hair”; 10 items). Factor 4, interpreted as Eye-Skin-Hair Ideal Internalization assessed internalization of an ideal for Eurocentric physical features, including eye shape/color, hair color (e.g., “I think a lot about the shape of my eyelids”; “I want my skin to be lighter”; 15 items).

Factor Structure Conclusion. The 4-factor solution for the SIPS was determined to be optimal, because: (1) it had strong, stable, and easily interpretable factors; (2) it had fewer cross-loading items and only one item that failed to load; (3) although it explained less SIPS variance than the 9-factor solution, percentage of SIPS variance explained was still in the acceptable range (Reio & Shuck, 2015); and (4) it matched the underlying theory driving this project (i.e., sociocultural predictors of Eurocentric body dysmorphic concerns).

Table 5. SIPS Factor Pattern Matrix Results for Four Rotated Factors.

		Factor				
Item	Stem	1	2	3	4	h^2
22	I feel pressure from family to have lighter eye color	**.81**	.16	.00	.07	.67
32	I feel pressure from peers to have lighter eye color	**.80**	.01	.00	.01	.64
21	I feel pressure from family to have bigger or rounder eyes	**.79**	.19	.04	.02	.63
23	I feel pressure from family to have double/folded eyelids	**.79**	.11	.07	.12	.64
33	I feel pressure from peers to have double/folded eyelids	**.78**	.05	.01	.04	.63
24	I feel pressure from family to have lighter hair	**.76**	.16	.02	.13	.63
31	I feel pressure from peers to have bigger or rounder eyes	**.70**	.01	.01	.13	.57
37	I feel pressure from peers to have a sharper nose	**.69**	**.38**	.03	.13	.64
38	I feel pressure from peers to have a smaller nose	**.68**	**.38**	.02	.14	.63
28	I feel pressure from family to have a smaller nose	**.67**	.19	.04	.08	.52
25	I feel pressure from family to have finer hair texture	**.66**	.08	.00	.09	.48
35	I feel pressure from peers to have finer hair texture	**.66**	.02	.05	.03	.49
34	I feel pressure from peers to have lighter hair	**.65**	.06	.06	.07	.49
27	I feel pressure from family to have a sharper nose	**.62**	.16	.08	.05	.48
29	I feel pressure from family to have larger breasts	**.57**	.11	.07	.03	.36
36	I feel pressure from peers to have lighter skin	**.53**	.20	.03	.04	.41
26	I feel pressure from family to have lighter skin	**.52**	.10	.11	.01	.38
39	I feel pressure from peers to have larger breasts	**.50**	.01	.16	.03	.33
30	I feel pressure from family to be taller	**.46**	.08	.13	.11	.33
40	I feel pressure from peers to be taller	**.45**	.01	.11	.08	.31
15	I think a lot about my nose size	.02	**.78**	.06	.23	.79
13	I think a lot about my nose shape	.02	**.78**	.02	.30	.80
14	I want my nose to be sharper	.02	**.74**	.08	.21	.70
16	I want my nose to be smaller	.03	**.70**	.09	.14	.59

Note. h^2 = communality. Factor 1: Family & Peer Pressures; Factor 2: Nose-Ideal Internalization; Factor 3: Media Pressure; Factor 4: Eye-Skin-Hair Ideal Internalization.

Table 5 (Continued). SIPS Factor Pattern Matrix Results for Four Rotated Factors.

		Factor				
Item	Stem	1	2	3	4	h^2
42	I feel pressure from the media to have lighter eye color	.06	.04	**.76**	.05	.64
44	I feel pressure from the media to have lighter hair	.08	.13	**.74**	.08	.64
49	I feel pressure from the media to have larger breasts	.00	.01	**.72**	.05	.48
47	I feel pressure from the media to have a sharper nose	.10	**.45**	**.69**	.14	.78
43	I feel pressure from the media to have double/folded eyelids	.16	.01	**.68**	.10	.66
48	I feel pressure from the media to have a smaller nose	.08	**.46**	**.67**	.13	.76
50	I feel pressure from the media to be taller	.07	.07	**.64**	.08	.49
41	I feel pressure from the media to have bigger or rounder eyes	.14	.01	**.64**	.12	.60
45	I feel pressure from the media to have finer hair texture	.19	.02	**.62**	.07	.57
46	I feel pressure from the media to have lighter skin	.09	.19	**.60**	.04	.52
5	I think a lot about the shape of my eyelids	.13	.12	.15	**.64**	.47
1	I think a lot about the size or shape of my eyes	.16	.12	.11	**.62**	.49
7	I think a lot about my hair color	.05	.09	.07	**.59**	.40
2	I want my eyes to be bigger or rounder	.10	.02	.01	**.59**	.41
3	I think a lot about my eye color	.13	.05	.04	**.56**	.39
6	I want to have double/folded eyelids	.06	.14	.02	**.54**	.37
8	I want my hair to be lighter	.04	.16	.12	**.53**	.35
11	I think a lot about my skin color	.08	.25	.06	**.52**	.42
4	I want my eyes to be lighter	.03	.08	.10	**.50**	.31
9	I think a lot about my hair texture	.08	.04	.02	**.45**	.24
10	I want my hair to be finer in texture	.11	.04	.03	**.44**	.25
19	I think a lot about my height	.05	.01	.17	**.43**	.25
12	I want my skin to be lighter	.11	.28	.01	**.38**	.34
17	I think a lot about my breast size	.08	.06	.18	**.35**	.19
20	I want to be taller	.07	.03	.10	**.34**	.13
18	I want my breasts to be larger	.03	.01	.24	.18	.11

Note. h^2 = communality. Factor 1: Family & Peer Pressures; Factor 2: Nose-Ideal Internalization; Factor 3: Media Pressure; Factor 4: Eye-Skin-Hair Ideal Internalization.

Scale Revision. A test of the originally developed 50 items using EFA indicated revision of the SIPS was necessary. Once the 4-factor solution was selected, item loadings and communalities were examined for scale revision. Six items were selected to be omitted, because they had communalities below .30 (items 9, 10, 17, 18, 19, and 20) and/or because they failed to load on any factor (item 18). All dropped items, excepting item 18, loaded on Factor 4 (Eye-Skin-Hair Ideal Internalization). The dropped items were the sole items that assessed breast size (e.g., "I want my breasts to be larger"), hair texture (but not hair color; e.g., "I think a lot about my hair texture"), and height (e.g., "I want to be taller"). While it is unclear why these items were less robust, it is possible that participants did not wish to change/spend time thinking about their beast size, hair texture, or height, because they already possess these attributes in congruence with Eurocentric ideals (e.g., Eurocentric ideals include straight hair and many Asian American women have straight hair), or because these attributes are more easily altered (e.g., using padded bras, hair products, and high heels). As such, these findings may indicate that Eurocentric-ideal internalization includes numerous aspects/parts of the body, but does not include ideals regarding breast size, hair texture, or height, at least in Asian American women.

Following item omission, the revised version of the SIPS (44 items, see Appendix VII) was examined. The PAF was re-run to ensure factor structure had actually improved (not shown). Indeed, the resulting factor structure was identical in interpretation, but now explained 57% of SIPS variance (i.e., an 8% increase), had no items that failed to load, and only had one item with a lower communality (.27; item 8). The same four items (items 37, 38, 45, and 46) continued to cross-load. This revised version of the SIPS was used in subsequent analyses.

Convergent Validity. The SIPS subscales demonstrated modest, but significant positive associations with SATAQ-4 subscales (r's = .15-.54; r^2's = .02-.29, $p < .01$ for all) and the SAT-

R (r's = .37-.50; r^2's = .14-.25, $p < .01$ for all), demonstrating that internalization and pressures for Eurocentric features are related yet distinct from thin-ideal internalization, pressures for thinness, and Eurocentric body dysmorphic concerns. For path analyses, two SIPS internalization subscales were combined into an overall Eurocentric-ideal internalzation subscale, while the two SIPS pressures subscales were combined into an overall pressures for Eurocentric ideals subscale. This was done for two reasons. First, this approach increased simplicity in the models and allowed to test for interaction terms without losing statistical power in the models. Secondly, the subscales that were combined were highly correlated ($r = .55$, $p < .01$ for media pressure and family/peer pressure; $r = .51$, $p < .01$ for nose-ideal internalization and eye-skin-hair ideal internalization), indicative of singificant construct overlap and shared variance. The use of these composite scores simplified the path analyses and allowed this set of analyses for Eurocentric body dysmorphic concerns to more closely resemble those conducted for disordered eating.

Descriptive Statistics.

Descriptive data are presented in Table 6. A fifth (21.63%; $n = 93$) of the participants had global EDE-Q scores above the clinical mean (3.46; Aardoom et al., 2012), indicating that a substantial proportion of participants scored in a clinically significant range.

Table 6. Means and Standard Deviations for Age, BMI, and Model Variables.

Variable	Mean	Standard Deviation	% Above Clinical Mean
Age	20.64	2.61	-
BMI	23.23	4.55	-
EDE-Q Global Score	2.25	1.34	21.63%
SAT-R Total	86.24	19.31	-
SATAQ-4 Pressures for Thinness	3.03	0.89	-
SATAQ-4 Thin-Ideal Internalization	3.84	0.65	-
SIPS Pressures for Eurocentric Ideals	59.99	23.13	-
SIPS Eurocentric-Ideal Internalization	35.49	11.45	-
MEIM Ethnic Identity	37.08	6.20	-
BIIS Cultural Integration	3.40	1.16	-
SAFE Total	52.39	14.13	-

Note. Clinical Mean = mean EDE-Q global score for disordered eating populations (see Aardoom et al., 2012). BMI = Body Mass Index; EDE-Q = Eating Disorders Examination Questionnaire; SAT-R = Satisfaction with Racially Salient Appearance Features Questionnaire; SATAQ-4 = Sociocultural Attitudes Towards Appearance Questionnaire-4; SIPS = Supplemental Internalization and Pressures Scale; MEIM = Multigroup Ethnic Identity Measure; BIIS = Bicultural Integration Scale; SAFE = Social Attitudinal Familial and Environmental Acculturative Stress Scale.

Pearson's Correlations

Table 7 presents results of Pearson's correlations among variables. Disordered eating was significantly positively correlated with Eurocentric body dysmorphic concerns, as well as with all sociocultural variables (i.e., pressures for thinness and thin-ideal internalization variables; pressures for Eurocentric ideals and internalization of Eurocentric features variables; *r*'s = .23-

.65; *p's* < .01). A substantial amount of variance was unique to each outcome measure (i.e., disordered eating and Eurocentric body dysmorphic concerns; r^2= .25), as expected.

Ethnic identity was significantly negatively correlated with Eurocentric body dysmorphic concerns (*r* = -.15; *p* < .01), but no other measure. Biculturalism was significantly negatively correlated with all measures (*r*'s = -.16 to -.30; *p's* < .01), except ethnic identity. Acculturative stress was significantly positively correlated with all measures (*r*'s = .13-.36; *p's* < .05), except ethnic identity (no association) and biculturalism (negative association: *r* = -.35 *p* < .01). BMI was significantly positively correlated with disordered eating, Eurocentric body dysmorphic concerns, as well as all pressures for thinness variables (*r*'s .16-.45; *p's* < .01).

Table 7. Pearson's Correlations among Variables.

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Disordered eating	**.50****	**.62****	**.48****	**.50****	**.43****	**.65****	**.30****	**.30****	**.23****	**.31****	**.30****	**.23****	-.05	**-.17****	**.21****	**.36****
2. Euro body dysmorphic concerns	-	**.46****	**.38****	**.31****	**.35****	**.39****	**.45****	**.44****	**.37****	**.54****	**.50****	**.43****	**-.15****	**-.19****	**.28****	**.18****
3. Combined pressures for thinness		-	**.79****	**.75****	**.72****	**.55****	**.48****	**.47****	**.39****	**.35****	**.33****	**.28****	.02	**-.23****	**.23****	**.35****
4. Media pressure for thinness			-	**.36****	**.45****	**.57****	**.41****	**.54****	**.22****	**.29****	**.25****	**.27****	.05	**-.14****	**.16****	**.16****
5. Family pressure for thinness				-	**.26****	**.31****	**.30****	**.23****	**.29****	**.23****	**.24****	**.15****	.06	**-.22****	**.16****	**.45****
6. Peer pressure for thinness					-	**.38****	**.39****	**.31****	**.37****	**.29****	**.27****	**.23****	-.08	**-.16****	**.20****	**.16****
7. Thin-ideal internalization						-	**.27****	**.31****	**.17****	**.32****	**.30****	**.24****	-.01	**-.16****	**.13***	.08
8. Combined pressures for Euro ideals							-	**.85****	**.91****	**.60****	**.58****	**.44****	.03	**-.30****	**.36****	.03
9. Media pressure for Euro ideals								-	**.55****	**.53****	**.49****	**.43****	.05	**-.26****	**.34****	.02
10. Family/peer pressure for Euro ideals									-	**.53****	**.53****	**.36****	.00	**-.27****	**.30****	.03
11. Euro-ideal internalization										-	**.93****	**.79****	-.04	**-.24****	**.29****	-.01
12. Eye-skin-hair ideal internalization											-	**.51****	-.03	**-.22****	**.27****	.00
13. Nose-ideal internalization												-	-.04	**-.21****	**.21****	-.01
14. Ethnic identity													-	-.05	-.04	.01
15. Biculturalism														-	**-.35****	-.03
16. Acculturative stress															-	.03
17. BMI																-

Note. $^{**}p < .01$; $^{*}p < .05$; BMI = Body Mass Index. Euro = Eurocentric. Bolded text indicates a significant correlation. Raw SATAQ-4 (i.e., separate media, family, and peer pressures for thinness) and SIPS (i.e., separate media, family, and peer pressures for Eurocentric ideals) subscales are presented for descriptive purposes; however, the "combined pressures" scores from SATAQ-4 and SIPS were used in subsequent analyses.

Path Analyses

Table 8 summarizes goodness-of-fit statistics for the eight a-priori path analyses and four post-hoc simplified models (discussed in more detail below).

Model Identification. As the proposed models were under-identified, additional constraints were required to attain model identification and proceed with analyses. First, means of standardized variables (i.e., all variables, except ethnic identity by sociocultural predictors interaction terms) were set to zero, in accordance with recommendations (Gunzler & Morris, 2015). This approach increased degrees of freedom to help achieve model over-identification without losing model generality. In other words, constraining standardized variables' means to zero did not unduly influence the models, as these means were already known to equal zero, as a virtue of standardization. Secondly, the regression weights of all error terms were set to 1, per recommendations (Arbuckle, 2016). This further helped achieve model identification through assigning the error terms a unit of measurement. According to Arbuckle (2016), this approach likewise did not unduly influence the models, as standardized regression terms are unaffected by choice of identification constraints.

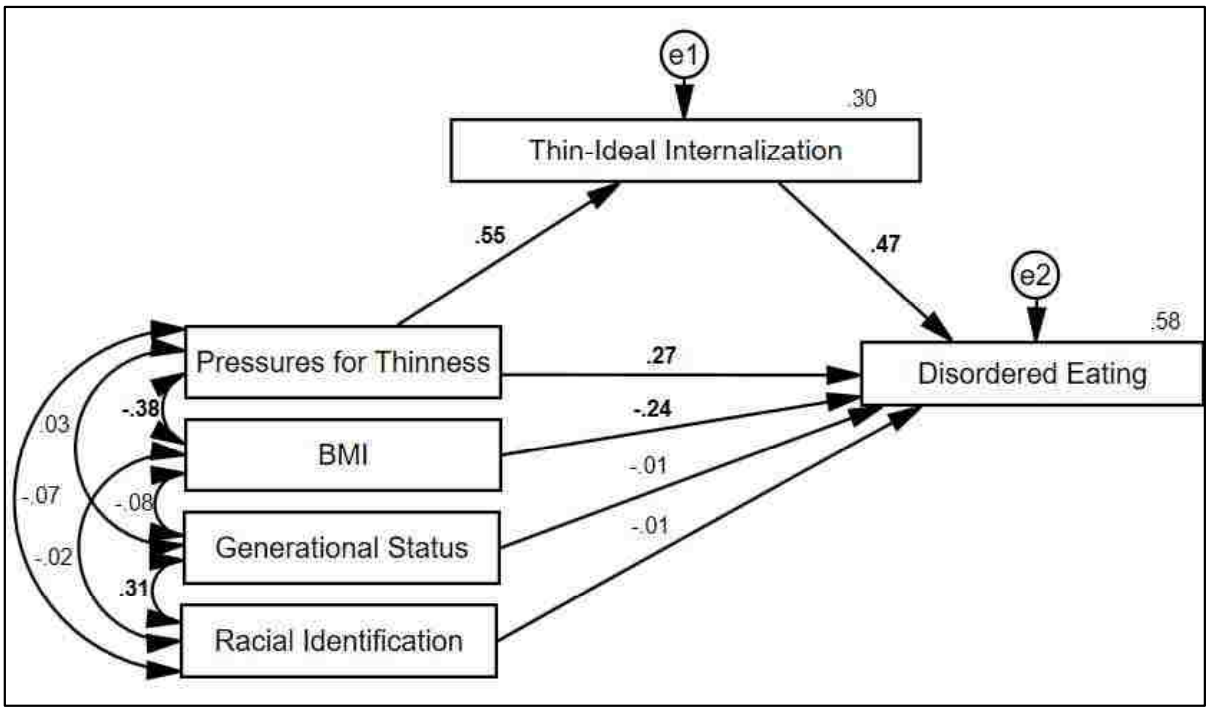
Table 8. Goodness-of-fit Statistics for Path Analyses.

Model	Description	% var	χ^2	df	CFI	RMSEA	AIC	$\Delta\chi^2$(df)	*p*-value	Interpretation
Models Predicting Disordered Eating										
A	Sociocultural model of DE predictors	58%	10.29	9	.99	.02	46.29	-	-	-
AltA	Modified model of DE predictors	58%	7.12	5	.99	.03	25.12	A - AltA: 3.16 (4)	.53	Model AltA has better fit
B	Submodel of Model AltA, with pressure for thinness to DE constrained (testing full mediation)	55%	48.01	6	.93	.13	64.01	AltA - B: 40.89 (1)	<.01	Model AltA has better fit (partial mediation only)
C	Comprehensive model of DE predictors	58%	249.44	45	.76	.10	313.44	-	-	-
AltC	Modified comprehensive model for DE predictors	58%	46.16	13	.95	.08	74.16	-	-	-
D	Submodel of Model AltC, with biculturalism to DE path constrained (testing full mediation)	58%	46.21	14	.95	.07	72.21	AltC - D: 0.05 (1) D - AltA: 39.09 (9)	.82 <.01	Model D has better fit (full mediation) Model AltA has better fit (sociocultural model is preferred)
Models Predicting Eurocentric Body Dysmorphic Concerns										
E	Sociocultural model of BDC predictors	35%	5.70	9	.99	.00	41.70	-	-	-
AltE	Modified sociocultural model of BDC predictors	33%	1.68	6	.99	.00	17.68	E - AltE: 4.02 (3)	.26	Model AltE has better fit
F	Submodel of Model AltE, with pressure for Eurocentric ideals to BDC constrained (testing full mediation)	32%	16.33	7	.97	.06	30.33	AltE -F: 14.55 (1)	<.01	Model AltE has better fit (partial mediation only)
G	Comprehensive model of DE predictors	37%	292.23	45	.66	.11	356.23	-	-	-
AltG	Modified comprehensive model of BDC predictors	36%	278.50	33	.64	.13	320.50	-	-	-
H	Submodel of Model G, with biculturalism to BDC path constrained (testing full mediation)	37%	292.23	46	.66	.11	354.23	-	-	Model AltE has better fit (sociocultural model is preferred)

Note. DE = Disordered Eating. BDC = Eurocentric Body Dysmorphic Concerns. % var = percentage of DE or BDC variance explained by model; χ^2= chi-squared statistic; df = degrees of freedom; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; AIC = Akaike's information criterion; $\Delta\chi^2$ = chi-squared difference statistic, with degrees of freedom indicated in parentheses; *p*-value = *p*-value of chi-squared difference statistic. For model comparisons, least restrictive models are subtracted from most restrictive models (e.g., A – AltA), such that (1) a *non-significant* $\Delta\chi^2$ indicates that the *least* restrictive model has better fit; and (2) a *significant* $\Delta\chi^2$ indicates that the *most* restrictive model has better fit.

Models Predicting Disordered Eating. Model A, which examined sociocultural predictors of disordered eating, accounted for 58% of disordered eating variance and demonstrated excellent overall fit (see Table 8). Path estimates for Model A are depicted in Figure 12. In support of **H1:DE**, the pressures for thinness to thin-ideal internalization path, the thin-ideal internalization to disordered eating path, and the pressures for thinness to disordered eating path were all positive and highly statistically significant ($p < .01$). Higher BMI was also a significant predictor of higher levels of disordered eating[2] ($p < .01$).

Figure 12. Model A: Sociocultural Model for Disordered Eating Predictors.

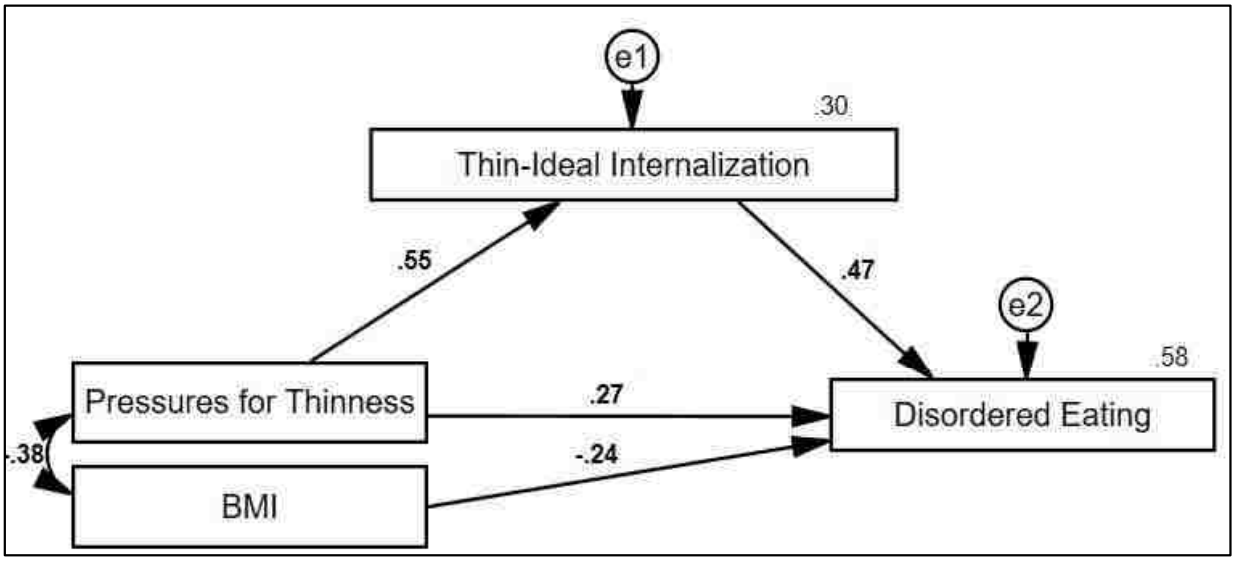


Note. e1 and e2 = error terms. BMI = Body mass index. Statistically significant path estimates are in bold ($p < .01$).

[2] Due to BMI being inverse-transformed for all path analysis, the valence of the path estimates is opposite of the actual relationships between BMI and other variables. For example, a negative path estimate between BMI and disordered eating indicates that BMI is a *positive* predictor of disordered eating.

As Model A included a number of non-significant predictors, the non-significant predictors were dropped to attain a better fitting model (i.e., Alternative Model A or Model AltA). Specifically, generational status and racial identification were dropped from the model. Path estimates for Model AltA are depicted in Figure 13. The pressures for thinness to thin-ideal internalization path, the thin-ideal internalization to disordered eating path, and the pressures for thinness to disordered eating path were all positive and highly statistically significant ($p < .01$). The chi-square difference between Model A and Model AltA was not statistically significant ($\chi^2(4) = 3.16$, $p = .53$), suggesting that Model AltA had significantly better fit.

Figure 13. Model AltA: Modified Sociocultural Model for Disordered Eating.

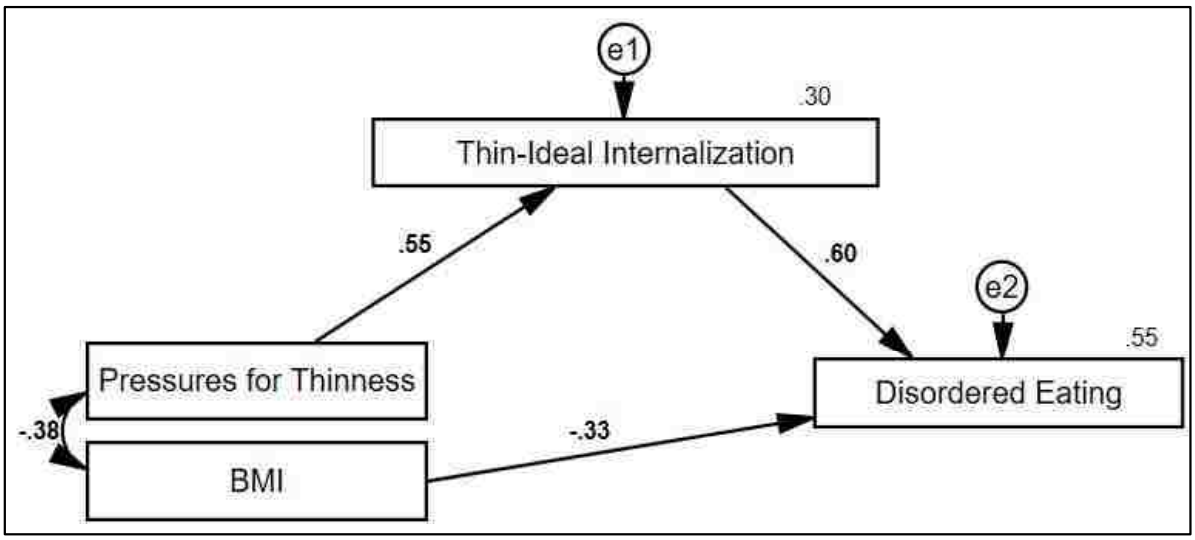


Note. e1 and e2 = error terms. BMI = Body mass index. Statistically significant path estimates are in bold ($p < .01$).

Model B was a submodel of the better-fitting sociocultural model (i.e., Model AltA), with pressures for thinness to disordered eating path constrained. The model accounted for 55% of disordered eating variance and demonstrated adequate overall fit (see Table 8). Figure 14 depicts path estimates for Model B. The pressures for thinness to thin-ideal internalization path and the

thin-ideal internalization to disordered eating path were both positive and highly statistically significant ($p < .01$). The chi-square difference between Model AltA and Model B was statistically significant ($\chi^2(1) = 40.89$, $p < .01$), suggesting that Model AltA had better fit. Therefore, contrary to **H2:DE**, thin-ideal internalization did not fully mediate the relationship between pressures of thinness and disordered eating. Notably, the significant positive relationship between thin-ideal internalization and disordered eating, between pressures for thinness and disordered eating, and between pressures for thinness and thin-ideal internalization (see Model AltA) jointly suggested that pressures for thinness was a *partial* (rather than full) mediator.

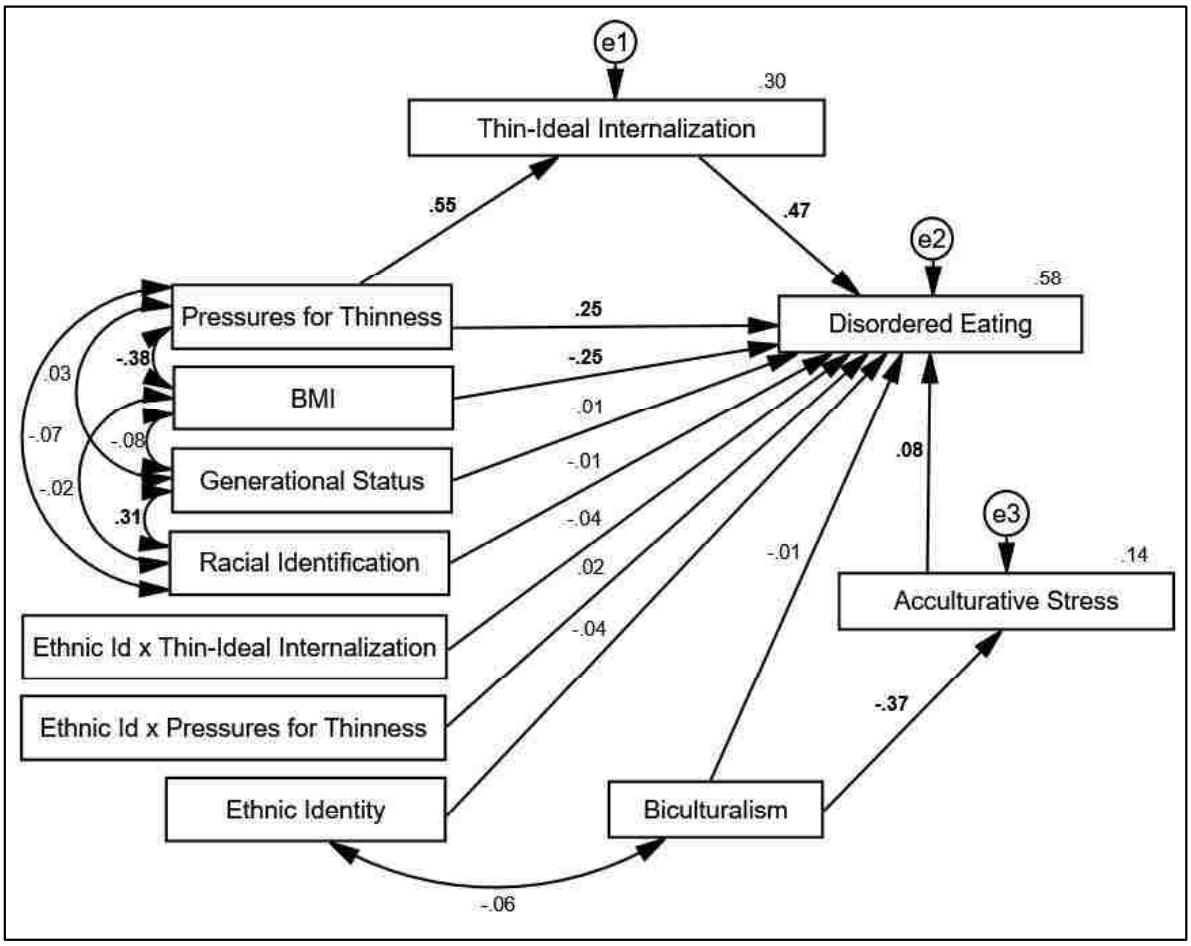
Figure 14. Model B: Sociocultural Model With Pressure for Thinness to Disordered Eating Path Constrained.



Note. e1 and e2 = error terms. BMI = Body mass index. Statistically significant path estimates are in bold ($p < .01$).

Model C, which was the comprehensive model for sociocultural and culture-specific predictors of eating, accounted for 58% of disordered eating variance and demonstrated poor overall fit (see Table 8). Figure 15 depicts path estimates for Model C.

Figure 15. Model C: Comprehensive Model of Disordered Eating Predictors.

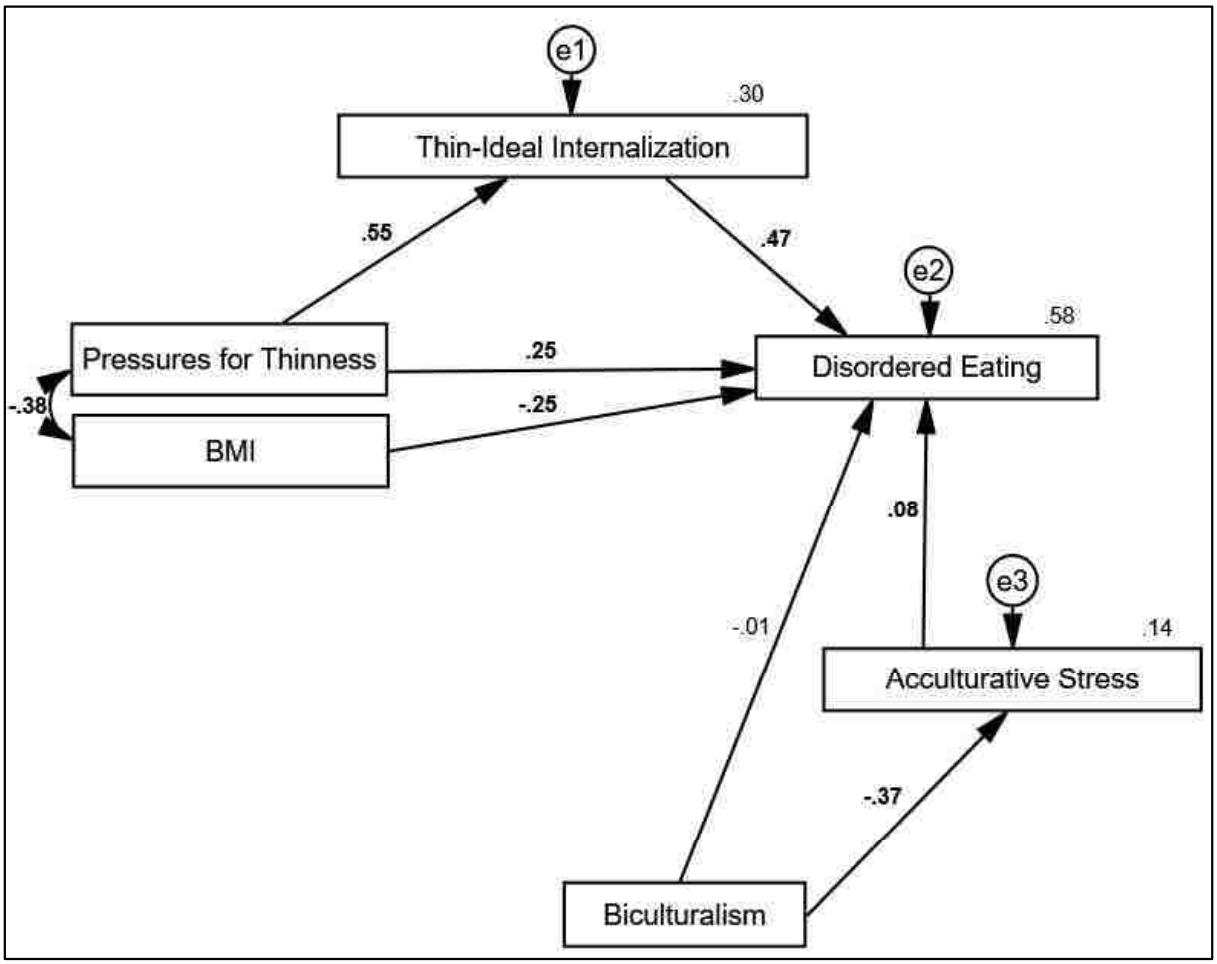


Note. Ethnic Id x Thin Internalization = ethnic identity by thin-ideal internalization interaction term; Ethnic Id x Pressure for Thinness = ethnic identity by pressures for thinness interaction term. BMI = Body mass index. e1 through e3 = error terms. Statistically significant path estimates are in bold ($p < .05$).

In light of the poor fit for Model C, model modification was attempted to produce a simplified model that is more representative of the data and to improve model fit (i.e., Model AltC, Figure 16). Specifically, the non-significant (1) ethnic identity, ethnic identity x thin-ideal internalization interaction and ethnic identity x pressures for thinness interaction paths were dropped; and (2) generational status, and racial identification were dropped. The biculturalism to

disordered eating path was retained, despite being non-significant, to allow for the subsequent test of acculturative stress mediation effects (i.e., **H7:DE;** Model D), as full mediation is possible in the absence of direct effects (Hayes, 2017)**.** This revised model (AltC) resulted in improved fit (see Table 8), and based on the aforementioned non-significant effects, it was concluded that **H3:DE through H6:DE** were not supported. Specifically, ethnic identity did not play a significant direct or indirect role for disordered eating (contrary to **H3:DE** and **H4:DE**), and biculturalism had no direct effects on disordered eating or ethnic identity (contrary to **H5:DE** and **H6:DE**).

Figure 16. Model AltC: Modified Comprehensive Model for Disordered Eating Predictors.

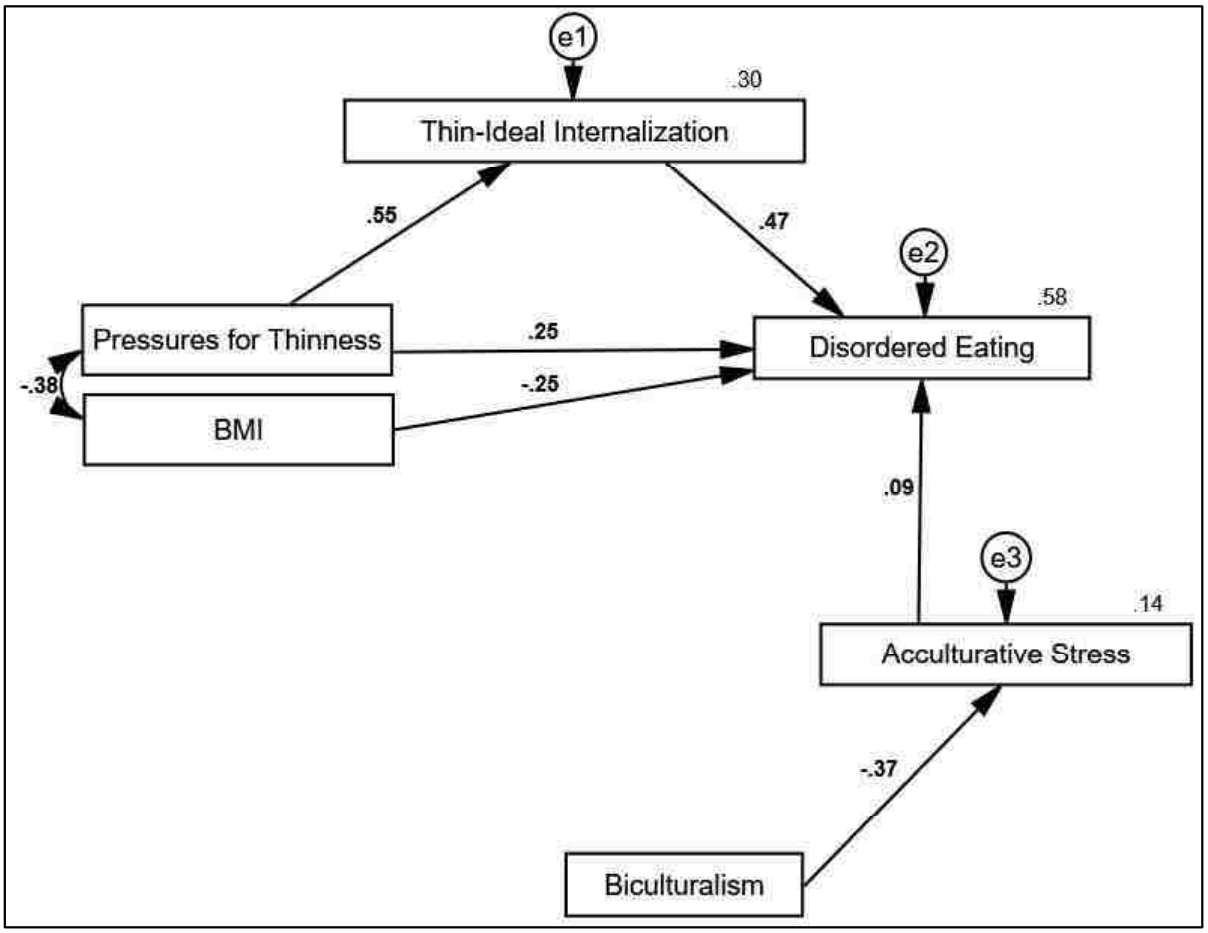


Note. e1 through e3 = error terms. BMI = Body mass index. Statistically significant path estimates are in bold ($p < .05$).

Model D, which was a submodel of Model AltC, constrained the biculturalism to disordered eating path and was used to test acculturative stress as a mediator of biculturalism and disordered eating**.** Model D accounted for 58% of disordered eating variance and demonstrated good overall fit (see Table 8). Figure 17 depicts significance of path estimates for Model D. The chi-square difference between Model AltC and Model D was non-significant ($\chi^2(1) = .05$, $p = .82$), suggesting that Model D had better fit than Model AltC. Therefore, in support of **H7:DE,** constraining the biculturalism to disordered eating path improved over model fit, suggesting that

the relationship between biculturalism and disordered eating was fully mediated by acculturative stress. Next, the best-fitting sociocultural model (i.e., Model AltC) was compared to the best-fitting comprehensive model for disordered eating (i.e., Model D) to test **H8:DE**. The chi-square difference between Model D and Model AltA was statistically significant $\chi^2(9) = .39.09$, $p <$ .01), suggesting that Model AltA had significantly better fit. Therefore, contrary to **H8:DE**, the more parsimonious sociocultural model was superior to the modified, comprehensive model for disordered eating. In other words, the addition of ethnic identity, biculturalism, and acculturative stress did not significantly improve model fit or increase the proportion of variance explained.

Figure 17. Model D: Comprehensive Model with Biculturalism to Disordered Eating Path Constrained.

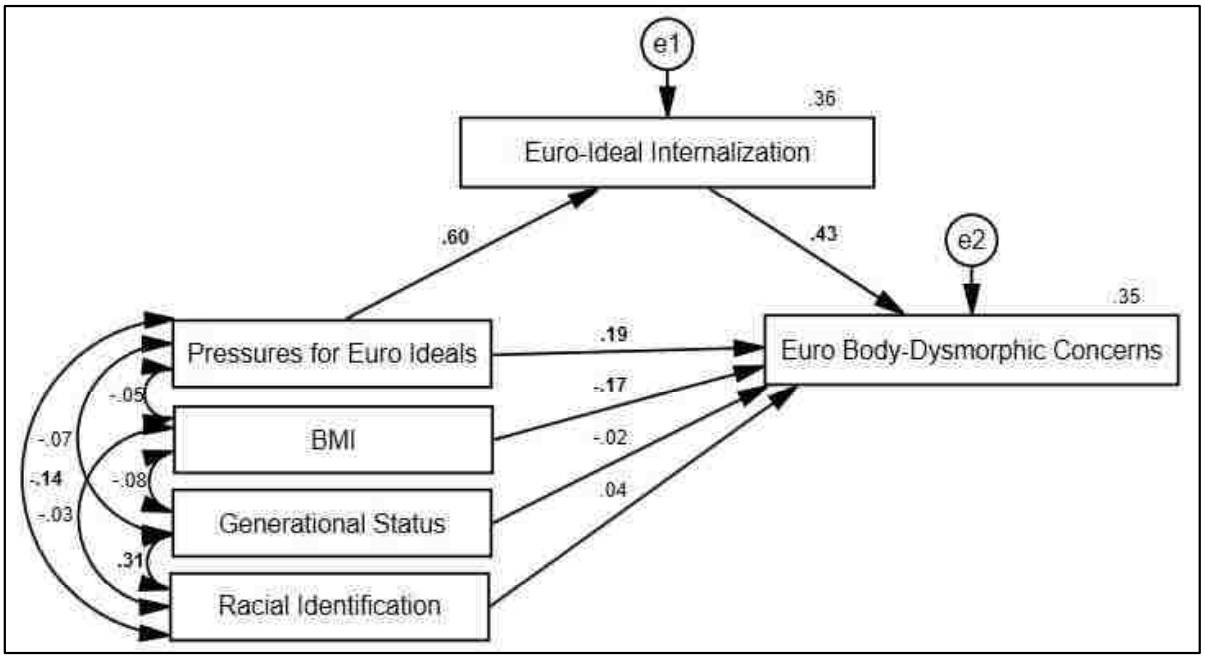


Note. BMI = Body mass index. e1 through e3 = error terms. Statistically significant path estimates are in bold ($p < .05$).

Models Predicting Eurocentric Body Dysmorphic Concerns. Model E, which examined sociocultural predictors of Eurocentric body dysmorphic concerns, explained 35% of variance in Eurocentric body dysmorphic concerns and demonstrated excellent overall fit (see Table 8). Figure 18 depicts significance of path estimate for Model E. In support of **H1:BDC**, the pressure for Eurocentric ideals to Eurocentric-ideal internalization path and the Eurocentric-ideal internalization to Eurocentric body dysmorphic concerns path were both positive and

highly statistically significant ($p < .01$). The BMI to Eurocentric body dysmorphic concerns path was negative and statistically significant ($p < .01$).

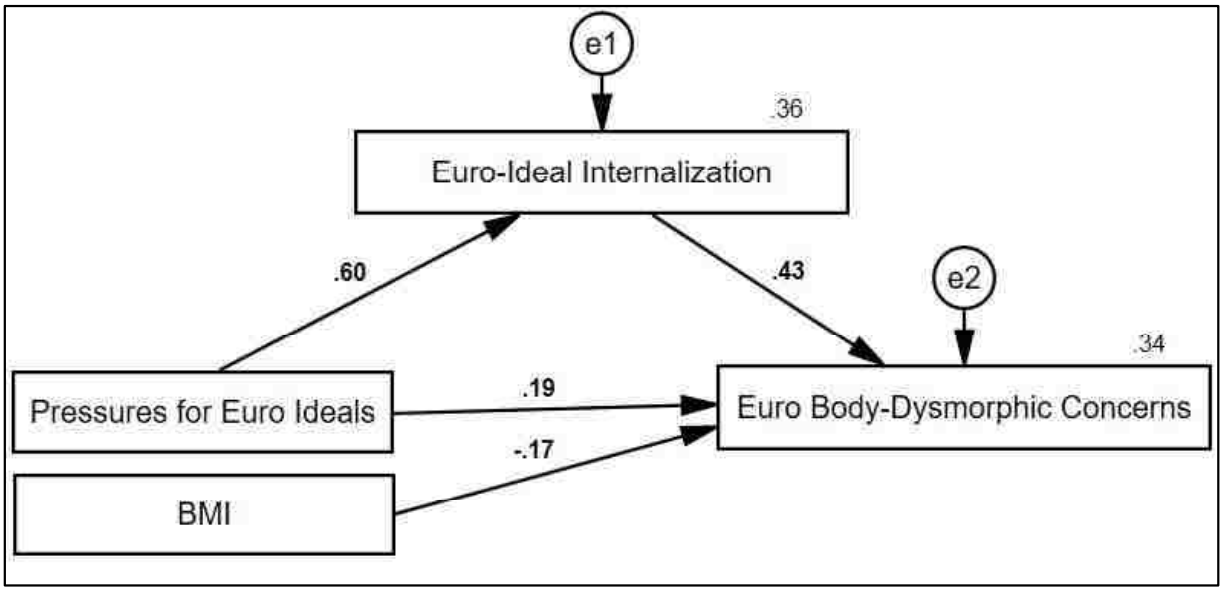
Figure 18. Model E: Sociocultural Model of Eurocentric Body Dysmorphic Concerns Predictors.



Note. Euro = Eurocentric. BMI = Body mass index. e1 and e2 = error terms. Statistically significant path estimates are in bold ($p < .05$).

As Model E included a number of non-significant predictors, the non-significant predictors and covariates were dropped to attain a better fitting model (i.e., Model AltE). Specifically, (1) generational status, (2) racial identification, and (3) the BMI and pressures for Eurocentric ideals covariate were dropped from the model. Path estimates for Model AltE are depicted in Figure 19. The pressure for Eurocentric ideals to Eurocentric-ideal internalization path and the Eurocentric-ideal internalization to Eurocentric body dysmorphic concerns path were both positive and highly statistically significant ($p < .01$). The chi-square difference between Model E and Model AltE was not statistically significant ($\chi^2(3) = 4.02$, $p = .26$), suggesting that Model AltE had significantly better fit.

Figure 19. Model AltE: Modified Sociocultural Model of Eurocentric Body Dysmorphic Concerns Predictors.

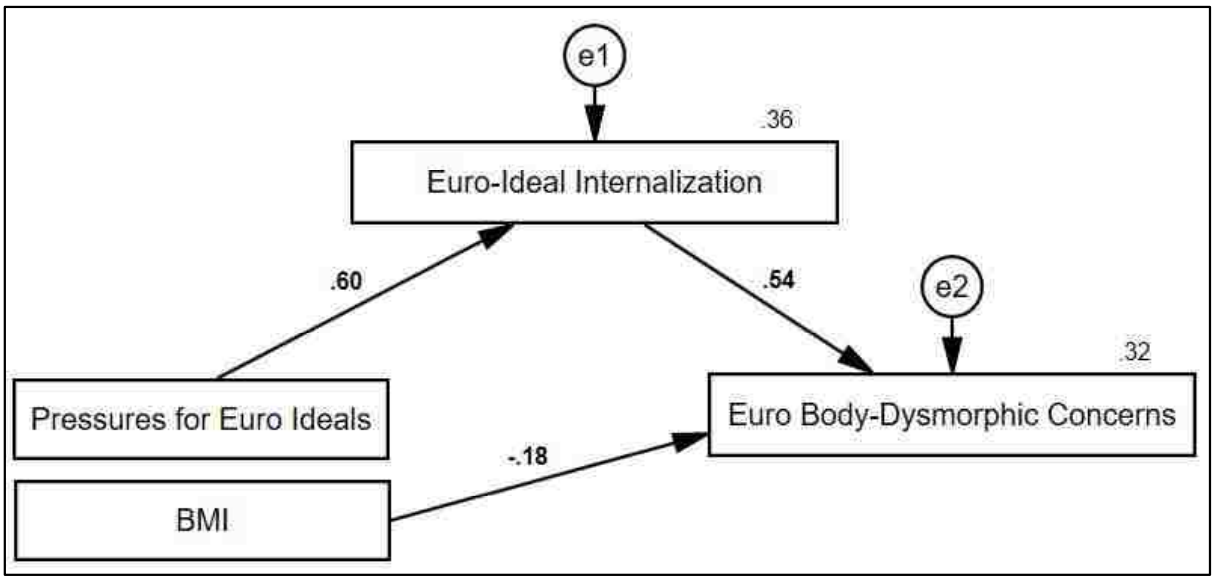


Note. Euro = Eurocentric. BMI = Body mass index. e1 and e2 = error terms. Statistically significant path estimates are in bold ($p < .05$).

Model F tested the sociocultural model for Eurocentric body dysmorphic concerns, which the pressures for Eurocentric ideals to Eurocentric body dysmorphic concerns path constrained. Model F explained 32% of Eurocentric body dysmorphic concerns variance and demonstrated excellent overall fit (see Table 8). Figure 20 depicts path estimates for Model F. The pressure for Eurocentric ideals to Eurocentric-ideal internalization path and the Eurocentric-ideal internalization to Eurocentric body dysmorphic concerns path were both positive and statistically significant ($p < .01$). The chi-square difference between Model AltE and Model F was statistically significant ($\chi^2(1) = 14.55$, $p < .01$), indicating Model F had significantly worse fit and Model E is preferred. Therefore, contrary to **H2:BDC**, Eurocentric-ideal internalization did

not fully mediate the relationship between pressures of Eurocentric ideals and Eurocentric body dysmorphic concerns. Nonetheless, the significant positive relationship between Eurocentric-ideal internalization and Eurocentric body dysmorphic concerns, between pressures for Eurocentric ideals and Eurocentric body dysmorphic concerns, and between pressures for Eurocentric ideals and Eurocentric-ideal internalization (see Model E) jointly suggests that pressures for Eurocentric ideals was a *partial* (rather than full) mediator.

Figure 20. Model F: Sociocultural Model with Pressure for Eurocentric Appearance Ideals to Eurocentric Body Dysmorphic Concerns Path Constrained

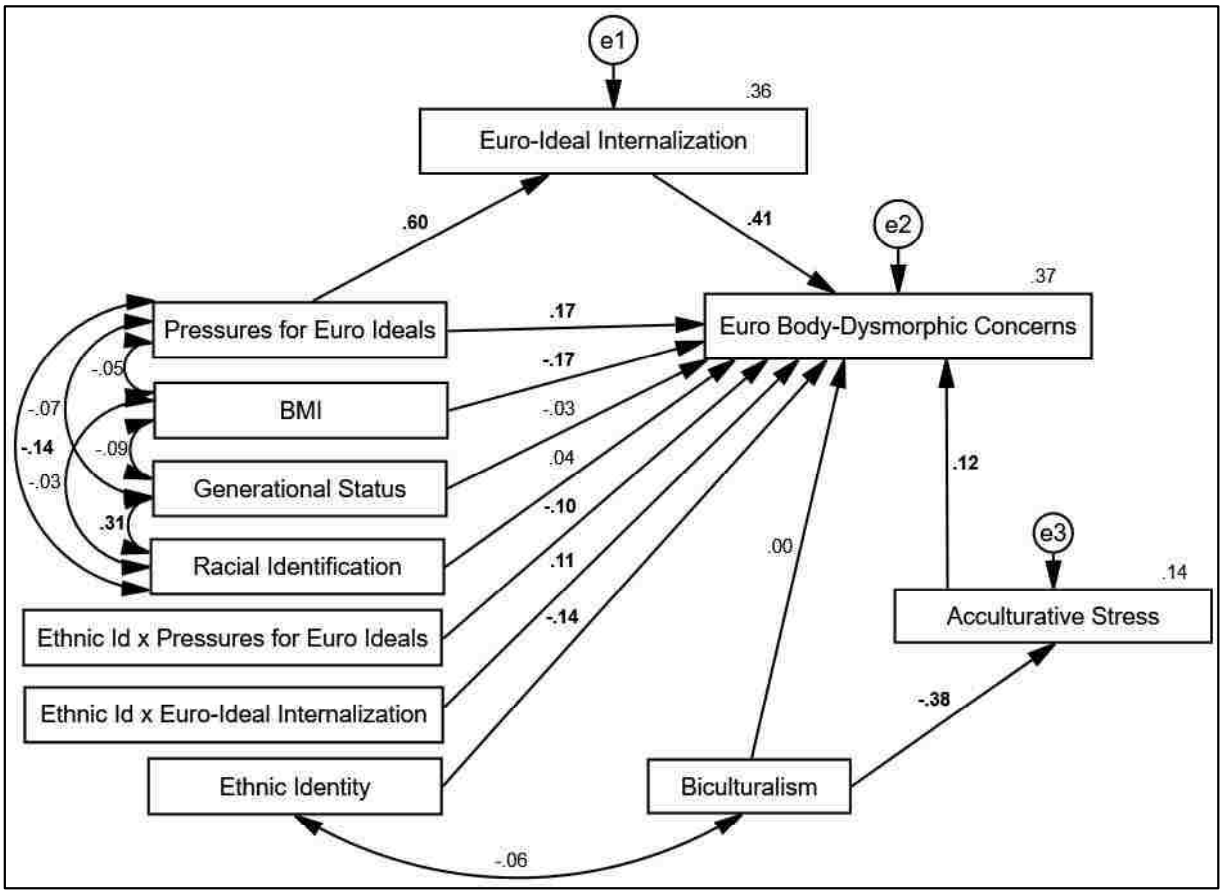


Note. Euro = Eurocentric. BMI = Body mass index. e1 and e2 = error terms. Statistically significant path estimates are in bold ($p < .05$).

Model G, the comprehensive model of sociocultural and culture-specific predictors of Eurocentric body dysmorphic concerns, explained 37% of Eurocentric body dysmorphic concerns variance and demonstrated poor overall fit (see Table 8). Figure 21 depicts path estimates for Model G. While some significant estimates emerged, support for **H3:BDC through H7:BDC** could not be evaluated due to the poor model fit.

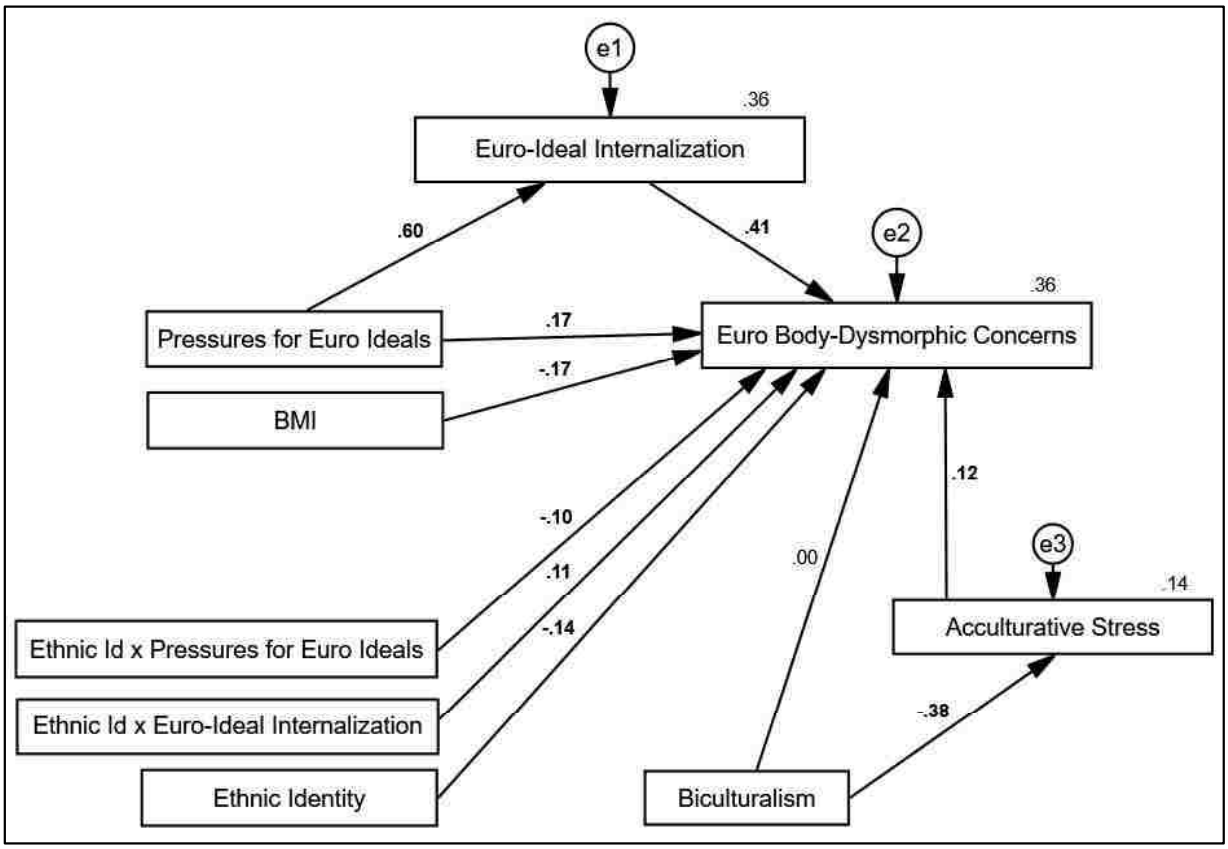
In light of the poor fit for Model G, model modification was attempted to improve model fit. This was attempted to (1) produce a simplified model of Eurocentric body dysmorphic concerns predictors that is more representative of the data (i.e., Alternative Model G: AltG, Figure 22); and (2) subsequently verify support for H3:BDC, H4:BDC, and H7:BDC (given adequate model fit of AltG). Specifically, (1) generational status and racial identification were dropped as predictors; and (2) the ethnic identity and biculturalism covariance path was dropped. Despite being non-significant, the biculturalism to Eurocentric body dysmorphic path was *not* dropped, as full mediation is possible in the absence of direct effects (Hayes, 2017). Retaining biculturalism allowed for the subsequent testing of mediation effects (i.e., H7:BDC; Model F). The revised simplified model (AltG) was tested, but improved fit was not achieved (in fact, Model AltG demonstrated slightly worse fit; see Table 8). As such, results for **H3:BDC, H4:BDC**, and **H7:BDC** remained uninterpretable despite the detection of significant path estimates (see Figure 19).

Figure 21. Model G: Comprehensive Model of Eurocentric Body Dysmorphic Concerns Predictors.



Note. Euro = Eurocentric. BMI = Body mass index. Ethnic Id x Euro-Ideal Internalization = ethnic identity by European-ideal internalization interaction term. Ethnic id x Pressures for European Ideals = ethnic identity by pressures for European body ideals interaction term. e1through e3 = error terms. Statistically significant path estimates are in bold ($p < .05$).

Figure 22. Model AltG: Simplified Model for Eurocentric Body Dysmorphic Concerns.

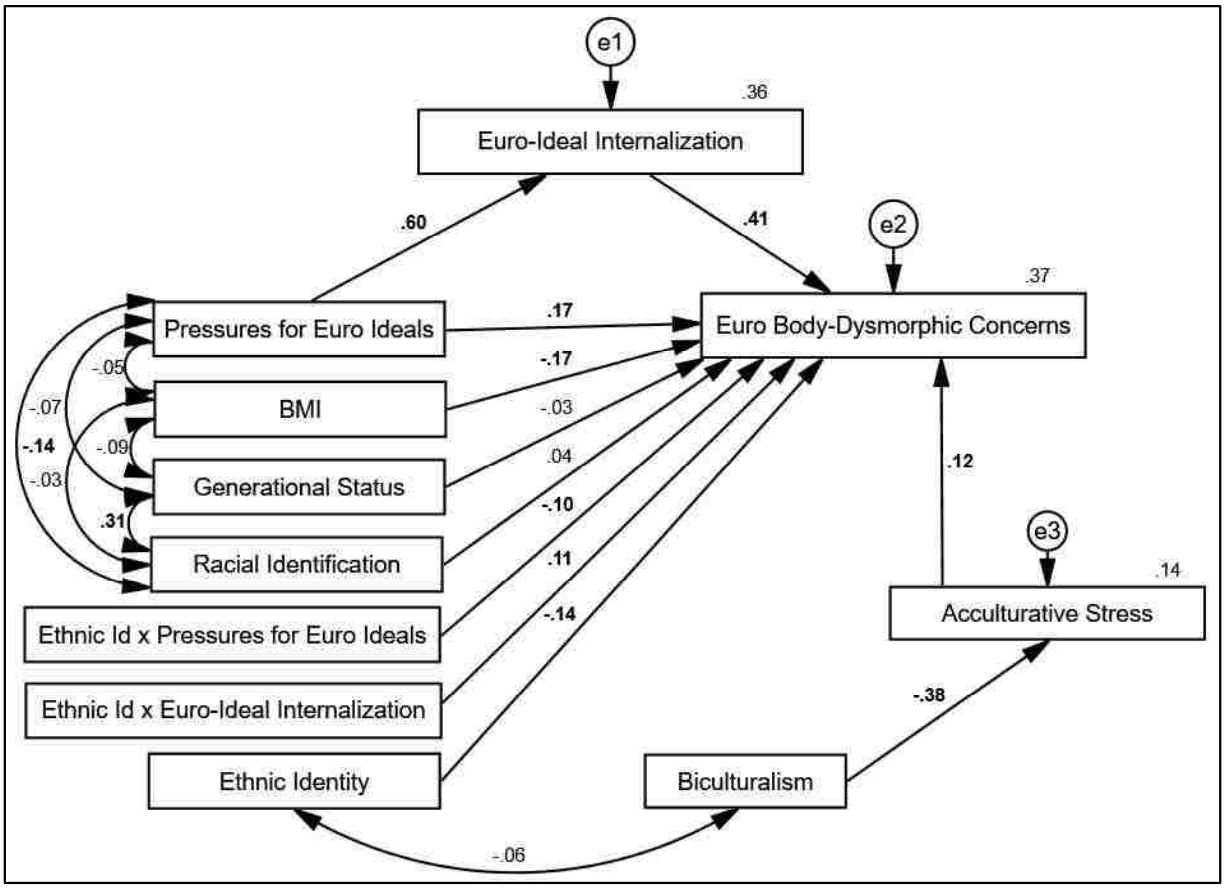


Note. Euro = Eurocentric. BMI = Body mass index. Ethnic Id x Euro-Ideal Internalization = ethnic identity by European-ideal internalization interaction term. Ethnic id x Pressures for European Ideals = ethnic identity by pressures for European body ideals interaction term. e1through e3 = error terms. Statistically significant path estimates are in bold ($p < .05$).

Further, although Model AltG resulted in poor fit, the submodel H was tested to determine (1) whether acculturative stress significantly mediated the relationship between biculturalism and Eurocentric body dysmorphic concerns; and (2) whether this model provided adequate fit. Nonetheless, similar to Model AltG, Model H demonstrated poor overall fit (see Table 8). Therefore, parameter estimates remained uninterpretable and support for **H7:BDC** could not be determined. Model H explained 37% for Eurocentric body dysmorphic concerns

variance. Figure 23 depicts significance of path estimates for Model H. Since no comprehensive model for Eurocentric body-dysmorphic concerns (i.e., Models G, AltG, or H) demonstrated adequate fit, Model E was determined to have superior fit, contrary to **H8:BDC**.

Figure 23. Model H: Comprehensive Model with Biculturalism to Eurocentric Body Dysmorphic Concerns Path Constrained.



Note. Euro = Eurocentric. BMI = Body mass index. Ethnic Id x Euro-Ideal Internalization = ethnic identity by European-ideal internalization interaction term. Ethnic id x Pressures for European Ideals = ethnic identity by pressures for European body ideals interaction term. e1through e3 = error terms. Statistically significant path estimates are in bold ($p < .05$).

Summary of a Priori Path Analysis Results. Table 9 summarizes hypotheses supported and unsupported by results of structural equation modeling.

Table 9. Summary of a Priori Path Analysis Results.

Model	Figure	Description	H#	Tests	Supported: Yes/No?
Models for Predictors of Disordered Eating					
AltA	12	Sociocultural Model of DE predictors	**H1:DE**	**Significance of path between pressure for thinness and DE**	**Yes**
B	13	Submodel of Model A, with pressure for thinness to DE constrained	H2:DE	Thin-ideal internalization as a *complete* mediator between pressures for thinness and DE	No
AltC	15	Comprehensive model of DE predictors	H3:DE	Significance of "ethnic identity x pressures for thinness" path estimate	No
			H4:DE	Significance of "ethnic identity x thin-ideal internalization" path estimate	No
			H5:DE	Significance of bidirectional path between ethnic identity biculturalism	No
			H6:DE	Significance of direct path between biculturalism and DE	No
			H8:DE	Goodness of fit over better fitting sociocultural model (Model A)	No
D	16	Submodel of Model C, with biculturalism to DE path constrained	**H7:DE**	**Acculturative stress as mediator between biculturalism and DE**	**Yes**
Models for Predictors of Eurocentric Body Dysmorphic Concerns					
AltE	18	Sociocultural Model of BDC predictors	**H1:BDC**	**Significance of path between pressure for Eurocentric ideals and BDC**	**Yes**
F	19	Submodel of Model E, with pressure for Eurocentric ideals to BDC constrained	H2:BDC	Eurocentric-ideal internalization as *complete* mediator between Eurocentric-ideal pressures and BDC	No
AltG	21	Comprehensive model of BDC predictors	H3:BDC	Significance of "ethnic identity x pressures for Eurocentric ideals" path estimate	No†
			H4:BDC	Significance of "ethnic identity x Eurocentric-ideal internalization" path estimate	No†
			H5:BDC	Significance of bidirectional path between ethnic identity and biculturalism	No
			H6:BDC	Significance of path between biculturalism	No
			H8:BDC	Goodness of fit over better fitting sociocultural model (Model E)	No
H	22	Submodel of Model G, with biculturalism to BDC path constrained	H7:BDC	Acculturative stress as mediator between biculturalism and BDC	No†

Note. H# = Hypothesis; DE = disordered eating; BDC = Eurocentric body dysmorphic concerns. Supported hypotheses are in bold.
† = paths were significant, but hypotheses could not be verified, due to poor model fit.

CHAPTER 5

Discussion

This was the first known study to explore the intersection of sociocultural and culture-specific predictors of disordered eating and Eurocentric body dysmorphic concerns in a large sample of Asian American college women. This study focused on Asian American women, as they are a growing, yet understudied group (Mackun et al., 2011; Soh & Walter, 2013), who present with similar rates of disordered eating to European American women (Davis & Katzman, 1997, 1998; Kok & Tian, 1994; H.-Y. Lee & Lock, 2007; Sing Lee, 2009; Sing Lee & Lee, 2000; Sing Lee et al., 1996; Mujtaba & Furnham, 2001; Mumford & Choudry, 2000) and further demonstrate elevated Eurocentric body dysmorphic concerns (Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011). As such, this study filled a critical gap in literature, examining predictors of highly distressing and impairing symptoms (Birmingham et al., 2005; Crow & Peterson, 2003; Hay, 2003; Hay & Mond, 2005; Löwe et al., 2001) in a chronically overlooked and stigmatized population (Abe-Kim et al., 2007; Alegría et al., 2004; Sunmin Lee et al., 2009; Nicdao et al., 2007; Osajima, 2005).

This study demonstrated that the well-established sociocultural model for disordered eating (Cafri et al., 2005; Thompson & Stice, 2001) applies to Asian American women and further tested whether a similar sociocultural model predicts Eurocentric body dysmorphic concerns. Furthermore, this study built on emergent findings (Henrickson et al., 2010; Rakhkovskaya & Warren, 2014, 2016; Schooler et al., 2004; Stein et al., 2010; Stojek et al., 2010; Turnage, 2005) to test ethnic identity as a predictor and moderator of sociocultural predictors of disordered eating, and explored whether ethnic identity plays a similar role directly or indirectly predicting Eurocentric body dysmorphic concerns. Finally, this was the first known

study to test whether biculturalism and acculturative stress predict disordered eating and/or Eurocentric body dysmorphic concerns in Asian American women.

This section provides interpretation of the study's results in regards to: (1) measurement of sociocultural influences of Eurocentric body dysmorphic concerns (i.e., the SIPS); (2) predictors of disordered eating; and (3) predictors of Eurocentric body dysmorphic concerns. Next, limitations, and future directions are discussed.

Measurement of Sociocultural Influences of Eurocentric Body Dysmorphic Concerns

Validation of the SIPS. The Supplemental Internalization and Pressures Scale (SIPS) was designed for this study in effort to assess sociocultural influences for Eurocentric body dysmorphic concern. Several items (i.e., those assessing hair texture, breast size, and height) on the administered version of the SIPS demonstarted weak psychometric properties and were removed to create a revised and psychometrically adequate version of the SIPS. This pattern of findings, in which items assessing hair texture, breast size, and heights did not load on any factors, may indicate differences in the ways in which the thin ideal versus Eurocentric body ideals are internalized in Asian American women. Specifically, Asian American women may internalize some aspects of Eurocentric body ideals, but not others (e.g., they may wish to have larger eyes, but not larger breasts or straighter hair). This calls for a more nuanced assessment of Eurocentric body-dysmorphic concerns. Additionally, it is notable that the particuar physical features that did not load on any factors (i.e., hair texture, breast size, and height) are more easily altered than other SIPS items. Most Asian American women have the ability to wear high heels, wear a padded/push-up bra, or straighten their hair (in fact, most Asian American women already have straight hair, congruent with Eurocentric ideals). In contrast, the ability to change skin color or nose shape are less accessible for most Asian American women.

Differences Between SIPS and SATAQ-4. Although the SIPS was modeled after the SATAQ-4 (Schaefer et al., 2014), several differences emerged between the measures. First, numerous SIPS items cross-loaded on one internalization-focused factor and one pressures-focused factor. Second, the SIPS showed a combined family/peer pressure factor, in contrast to the separate family pressure and peer pressure factors in the SATAQ-4. This pattern of findings could be explained by the fact the Eurocentric ideal is somewhat less explicit that than the thin ideal in mainstream Western media (Prieler & Choi, 2014) and perhaps in peer and family interactions. In other words, most women in Western countries receive numerous *explicit* messages promoting the thin ideal (e.g., weight loss advertisements) and many experience *explicit* pressure from peers or family to conform (e.g., dieting advice). However, mainstream Western media may only *implicitly* promote the Eurocentric body ideal (e.g., often casting lightest-skinned actresses as protagonists), while rarely *explicitly* promoting it (e.g., rarely advertising skin-lightening products). Similarly, for Asian American women, *implicit* family and/or peer Eurocentric-ideal pressures (e.g., family often describing individuals with larger eyes as more attractive) may be more common than *explicit* pressures for conform to Eurocentric body ideal (e.g., family rarely recommending epicanthoplasty). If so, Asian American women exposed to these various implicit messages may have difficulties identifying their source. Namely, Asian American women may not be able to identify whether their Eurocentric-ideal experience stems from their own internalization, their peers, their families, or mainstream Western media. As such, their reported Eurocentric-ideal internalization and pressures may be enmeshed, rather than distinct. Unfortunately, research on explicit vs. implicit natures for sociocultural factors for Eurocentric body dysmorphic concerns is lacking.

Another explanation for the high number of cross-loading SIPS items is that Asian American women may have a more interdependent self-concept (Buss, 2001; Carpenter, 2000). Individuals from collectivist cultures, such as Asian and/or Asian American cultures, tend to view themselves as integrally inter-connected within their families, peers, and cultural groups (i.e., *interdependent self-concept*). In contrast, individuals from individualistic cultures, such as European and/or European American cultures, tend to view themselves as independent entities (i.e., *independent self-concept*). For individuals with an *interdependent* self-concept, their personal desires or views may be inherently enmeshed with (and, therefore, difficult to separate from) their peers', families', or cultural desires or views. In contrast, for individuals with an *independent* self-concept, their personal desires or views are clearly distinct from their peers', families', or cultural desires or views.

To date, studies comparing sociocultural influences for individuals with an independent vs. interdependent self-concept are lacking. However, emergent data on culture-bound syndromes predominantly prevalent in Asian and Asian American cultures (see Cole, 2013; Yeh et al., 2014 for reviews) indicate interdependent self-concept may play an important role in symptoms presentation. Of most interest is *taijin kyofusho*, or the persistent fear of offending others with certain attributes of one's body (Cole, 2013; Veale & Matsunaga, 2014; Yeh et al., 2014). While distinct from body dysmorphic concerns from a Eurocentric conceptualization, recent reviews (Cole, 2013; Yeh et al., 2014) have argued that this syndrome may yet be conceptualized as body dysmorphic concerns within collectivist cultures among Asians and Asian Americans. In other words *taijin kyofusho*, may be a manifestation of body dysmorphic concerns from an interdependent, rather than independent self-concept lens. While no prevalence data exists for these culture-bound syndromes, these findings highlight the cultural relevance of

body dysmorphic and related concerns in Asian and Asian American cultures, as well as identify interdependent self-construct as a key influence.

Disordered Eating Predictors

Sociocultural Predictors of Disordered Eating. This study replicated the sociocultural model for disordered eating predictors, as well as tested a more comprehensive model for disordered eating predictors, including three culture-specific variables: ethnic identity, biculturalism, and acculturative stress. These results suggest that the sociocultural model, in which pressures for thinness and thin-ideal internalization act together to predict disordered eating (Cafri et al., 2005), is relevant to Asian American women. Specifically, findings from this study indicated that pressures for thinness and thin-ideal internalization were positive predictors of disordered eating and thin-ideal internalization partially mediated this relationship. Overall, results add to a growing literature on sociocultural predictors for disordered eating in Asian American women (Lai et al., 2013; Omori et al., 2016; Phan & Tylka, 2006; Rakhkovskaya & Warren, 2016) and further highlight that pressures for thinness and subsequent thin-ideal internalization likely contribute to disordered eating risk across cultures (Keel & Forney, 2013).

Culture-Specific Predictors of Disordered Eating.

Role of Biculturalism and Acculturative Stress. This was the first known study to examine whether the biculturalism-acculturative stress model (Oh et al., 2002) extends to disordered eating in Asian American women (or in any ethnic group). In contrast to expectations, results from this study did not support an integrative/comprehensive (i.e., encompassing sociocultural and culture-specific effects) etiologic model for disordered eating. The sociocultural model provided the best fit, despite the detection of some significant culture-specific effects (i.e., acculturative stress was a direct positive predictor, while biculturalism was

an indirect negative predictor of disordered eating). That is, the addition of culture-specific variables (i.e., ethnic identity, biculturalism, acculturative stress) did not improve model fit or the amount of variance explained. Biculturalism and acculturative stress exerted relatively small effects and did not substantially add to overall prediction of disordered eating in this sample of Asian American women. In other words, the sociocultural factors substantially predicted individual variation of disordered eating symptoms in Asian American women, such that adding the culture-specific variables examined in this study did not improve the overall predictive model.

That said, significant Pearson's correlations showed that biculturalism and acculturative stress are nevertheless of interest, and as predicted, path analysis indicated that acculturative stress was a significant positive predictor for disordered eating and fully mediated the relationship between biculturalism and disordered eating. In addition, acculturative stress was significantly positively correlated with disordered eating, pressures for thinness, and thin-ideal internalization. These results lend support to extant research on the negative association between acculturative stress and mental health (Krishnan & Berry, 1992; Oh et al., 2002), particularly disordered eating (Claudat et al., 2016; Reddy & Crowther, 2007). Furthermore, these findings highlighted biculturalism as a negative predictor of acculturative stress, an indirect predictor of disordered eating, as well as a negative correlate of disordered eating, pressures for thinness and thin-ideal internalization. This pattern of results is consistent with acculturation theory (Krishnan & Berry, 1992; Oh et al., 2002), highlighting acculturation as a multi-dimensional construct. Importantly, biculturalism and acculturative stress were also associated with pressures for thinness and thin-ideal internalization, suggesting that biculturalism and acculturative stress may influence the sociocultural model (rather than function parallel to it). As such, examinations of

biculturalism and acculturative stress as mediators or moderators of the sociocultural predictors of disordered eating may yield more significant results.

Role of Ethnic Identity. Contrary to extant findings in women of color (Henrickson et al., 2010; Rakhkovskaya & Warren, 2014, 2016; Schooler et al., 2004; Stein et al., 2010; Stojek et al., 2010; Turnage, 2005), ethnic identity did not directly or indirectly predict disordered eating in this sample of Asian American women. In fact, with the exception of Eurocentric body dysmorphic concerns, ethnic identity was not significantly correlated with any variables in this study. The causes for inconsistent findings between prior research and the current study are unclear. A prior study of Asian American women (n = 232; Rakhkovskaya & Warren, 2016) showed a similar lack of *direct* correlate or predictive effects for ethnic identity on weight and shape concerns, but showed that ethnic identity moderated the effect of sociocultural factors on weight and shape concerns. Several possible explanations for this inconsistency were examined.

One considered explanation for this inconsistency is the different outcome variable – Rakhkovskaya and Warren (2016) used only the weight and shape concerns subscales of the EDE-Q, instead of the total score. It was considered that ethnic identity indeed may act as a buffer of sociocultural predictors, but does so differentially across the EDE-Q subscales. In other words, ethnic identity may diminish the link between sociocultural predictors and weight/shape concerns, but not between sociocultural predictors and eating concerns and dietary restraint. However, post hoc analyses showed that ethnic identity was not differentially correlated with EDE-Q subscales – all correlations were non-significant and close to zero (r's = -.06 to -.02, p's = .20 to .57; not shown). As such, differences in the outcome variable between Rakhkovskaya and Warren (2016) and this study could not explain the inconsistency in results.

Another explanation is that Asian and Asian American cultures endorse similar value for the thin ideal to Western cultures (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko et al., 2007; Gillen & Lefkowitz, 2012; Grabe & Hyde, 2006). As such, Asian or Asian American women may internalize and/or feel pressure to conform to the thin-ideal regardless of their sense of pride in or belonging to their ethnic group. In other words, Asian American women who identify strongly with Asian and/or Asian American culture may be just as likely to endorse a thin body ideal as Asian American women who do not have a strong ethnic identity. Indeed, one-way ANOVAs (not shown) showed that participants with low vs. high ethnic identity did not differ on thin-ideal internalization or pressures for thinness ($F(1, 426) = 0.74$, $p = .39$; $F(1, 428) = 0.50$, $p = .48$, respectively). While consistent with research on thin ideals in Asian and Asian American cultures (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko et al., 2007; Gillen & Lefkowitz, 2012; Grabe & Hyde, 2006), this pattern of results points to another difference between this sample and that of Rakhkovskaya and Warren (2016). Moving forward, it will be important to further elucidate the relationship between disordered eating, sociocultural effects, and ethnic identity in Asian American women.

Eurocentric Body Dysmorphic Concerns Predictors

Sociocultural Predictors of Eurocentric Body Dysmorphic Concerns. This was the first known study to test a corollary sociocultural model for predictors of Eurocentric body dysmorphic concerns. Results showed strong support for a model similar to the sociocultural model for eating disorders (Cafri et al., 2005). Namely, both pressures for Eurocentric ideals and Eurocentric-ideal internalization were strong positive predictors for Eurocentric body dysmorphic concerns, *and* Eurocentric-ideal internalization partially mediated the relationship between pressures for Eurocentric ideals and Eurocentric body dysmorphic concerns. These

findings fit with the notion that the beauty ideal promoted by mainstream Western media is Eurocentric, as well as thin (Scharrer, 2013). Further, the results from this study are the first to tie the internalization of and pressure to conform to the Eurocentric beauty ideal to body dysmorphic concerns. This is a particularly important finding for Asian American women, who have been shown to exhibit elevated incidence of body dysmorphic disorder, Eurocentric body dysmorphic concerns, and preoccupation with racially salient features (Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011). As such, this study highlights that exposure to mainstream Western media may result in unique, additional distress and impairment for Asian American women.

Culture-Specific Predictors of Eurocentric Body Dysmorphic Concerns. The sociocultural model provided adequate fit for Eurocentric body dysmorphic concerns, but similar to the disordered eating analyses, there was negligible evidence for culture-specific effects. Specifically, the tested comprehensive models that incorporated culture-specific predictors all resulted in poor fit. Dropping of non-significant predictors for Eurocentric body dysmorphic concerns did not achieve adequate fit (i.e., Model AltG). Models that contain significant path estimates yet demonstrate poor fit, even after trimming, could indicate the following: (1) there is a flaw in the underlying structural theory; (2) there are misspecifications in the measurement or structure of the model (Mueller & Hancock, 2008). It is possible that both of these factors were at play. In fact, while the comprehensive model for disordered eating was based on sparse evidence, the comprehensive model for Eurocentric body dysmorphic concerns was based on almost no prior data. Very few studies have examined culture-specific predictors of disordered eating in Asian American women and no known studies have examined culture-specific predictors of Eurocentric body-dysmorphic concerns. As such, it is possible that the underlying

theory driving this project was inaccurate, particularly for Eurocentric body dysmorphic concerns. Culture-specific predictors may play no role or they may function differently for Eurocentric body dysmorphic concerns. For example, culture-specific predictors could be mediated fully via sociocultural predictors. Alternatively, culture-specific predictors may be influenced by other variables not included in the model (e.g., openness to cosmetic surgery; experience of the "model minority" stereotype).

The poor fit of comprehensive models for Eurocentric body dysmorphic concerns could also be impacted by measurement-related errors. Specifically, this study relied on measures (e.g., BIIS, SAT-R) that have not been extensively validated in Asian American women, as well as a new measure (i.e., SIPS) that was developed for this study. It cannot be concluded with absolute confidence that this study accurately assessed Eurocentric body dysmorphic concerns, their sociocultural predictors, or biculturalism in Asian American women. Thus, it is possible that ethnic identity, biculturalism, and acculturative stress do indeed play an important role in Eurocentric body dysmorphic concerns, but their relationships were not captured accurately by the current study. This issue is further discussed in the Limitations and Future Directions section.

Although the poor model fit hinders the ability to draw conclusions about the potential effects of culture-specific predictors on Eurocentric body dysmorphic concerns, the direction of the aforementioned relationships is worth noting. Specifically, detected associations were in the hypothesized direction, in that lower levels of biculturalism and ethnic identity and higher levels of acculturative stress were positively associated with Eurocentric body dysmorphic concerns. Furthermore, biculturalism was negatively associated with pressures for Eurocentric ideals and Eurocentric-ideal internalization. This indicates that, biculturalism may mediate or moderate sociocultural influences on Eurocentric body dysmorphic concerns, whereas ethnic identity and

acculturative stress may predict Eurocentric body dysmorphic concerns separately from the sociocultural model.

This pattern of results suggests that culture-specific predictors from Eurocentric body dysmorphic concerns warrant further study. Moreover, it is possible that further validation and improvement of study measures/constructs (i.e., SIPS, SAT-R, and BIIS) in Asian American populations could enhance the ability to elucidate their etiologic contributions to Eurocentric body dysmorphic concerns. Future studies may also benefit from examining more simplified models before exploring potential connections between theorized risk factors.

Limitations and Future Directions

The findings of this study must be considered in lights of its limitations. The major limitations of this study fall within (1) methodological constraints; (2) limited generalizability; and (3) unclear clinical implications.

Methodological Constraints. This was a correlational study, and thus, findings from path analysis models cannot be used to make causal inferences. Although prior research was used to determine the directions of the measured relationships (e.g., sociocultural factors were expected to predict disordered eating, and not vice versa), a number of relationships examined in this study were exploratory. As such, it is theoretically possible that relationships that were predicted unidirectionally (e.g., acculturative stress as a predictor of disordered eating) were reversed in direction or bidirectional. Furthermore, it is possible that the proposed unidirectional relationships are, in fact, cyclical in nature. For example, acculturative stress may exacerbate Eurocentric body dysmorphic concerns, which may in turn, exacerbate acculturative stress. However, these possibilities remain unexamined, for purposes of keeping this study design

grounded in extant (if sparse) literature, as well as to avoid Type I error due to overanalyzing the data.

Accordingly, future studies should build on this correlational study by implementing longitudinal and experimental designs, in order to help establish causality among the predicted relationships. Namely, longitudinal studies should track sociocultural and culture-specific predictors of Eurocentric body dysmorphic concerns across development. Such an approach would help determine whether the sociocultural model indeed extends to Eurocentric body dysmorphic concerns, such that Eurocentric-ideal internalization and/or pressure for Eurocentric ideals result in elevated Eurocentric body dysmorphic concerns later in life, for some Asian American women.

Similarly, longitudinal studies could assess acculturative processes and subsequent acculturative stress across development. This approach would allow testing whether and how acculturative stress is impacted by acculturation processes for Asian American women. For example, longitudinal designs may detect cyclical relationships between variables. Moreover, this approach would test whether acculturative stress indeed predicts disordered eating later in life. With both approaches, it would be useful to test whether and how Eurocentric vs. non-racial body dysmorphic concerns predict the development of body dysmorphic disorder, for some Asian American women.

Furthermore, future studies could rely on experimental designs to manipulate exposure for thin-ideal and/or Eurocentric-ideal media, and subsequently measure short-term changes in disordered eating cognitions and/or Eurocentric body dysmorphic concerns. Furthermore, given evidence of implicit communication style common in Asian and/or Asian American cultures (Gudykunst, 2001; Park & Kim, 2008), experimental studies could assess implicit internalization

of the thin and/or Eurocentric ideals. Coupled with media analyses, this methodology may elucidate whether promotion of Eurocentric ideals is indeed more implicit than promotion of the thin ideal; as well as whether the implicit vs. explicit media messaging makes a difference in outcome variables.

One possible future direction is the Implicit Attitudes Test (IAT; Greenwald, McGhee, & Schwartz, 1998), which is a method of measuring differential response times to stimuli congruent and incongruent to one's beliefs. For example, Asian American women who internalize the Eurocentric ideal would be expected to pair Eurocentric media images with the word "attractive" *at a faster rate* than pairing Eurocentric media images with the word "unattractive". Such approaches would help assess implicit thin-ideal and/or Eurocentric-ideal internalization for Asian American women who may not endorse it explicitly, due to cultural differences in communication style or self-concept.

Notably, participants were also assumed to complete the survey in an honest and attentive manner. The measures in this study were not counterbalanced; all participants completed the measures in the same order (e.g., outcome measures were first, followed by sociocultural measures and then culture-specific measures; additional measures not related to the specific study aims came last). This ordering approach was done to maximize accurate and complete responsiveness to measures key for this study. Indeed, this strategy resulted in a larger sample for analyses. A number of participants were technically "non-completers", but completed at least 50% of the survey, and were thus included in this study. Nevertheless, the study design made it impossible to account for participants' response fatigue. Furthermore, when participants left responses blank (despite encouragement to respond within the survey design), it is possible that some responses were inaccurate due to inattention and/or participants' discomfort with the

subject matter. That said, the assumption of response accuracy was aided by results suggesting randomness of missing data, as well as the removal of evidently careless responders from the sample. A replication of this study using counterbalanced measures to account for response fatigue is an important future direction.

Additionally, given a general lack of culture-oriented research, this study relied on measures that have not been rigorously validated in Asian and/or Asian American samples (e.g., the BIIS), as well as a new measure specifically designed for the current study (i.e., the SIPS). The use of these less-know measures may have affected the construct validity of the study, such that this study may not have accurately assessed biculturalism, endorsement of Eurocentric body ideals, or other measures. However, gold-standard measures were not available to assess these constructs. Specifically, most extant acculturation measures assessed acculturation unidimentionally, rather than multidimensionally (i.e., most measures assessed assimilation to US culture, not biculturalism). Furthermore, most of the available measures have been examined only once, in a single sample of Asian Americans. In addition, no known measure assessed endorsement of Eurocentric body ideals.

The general lack of gold-standard measures of the aforementioned constructs could have negatively impacted model fit, particularly for Eurocentric body dysmorphic concerns, where model fit tended to be poor. As noted above, the lack of significant effects and/or well-fitted models does not necessarily negate the potential importance of culture-specific predictors for disordered eating and Eurocentric body dysmorphic concerns. The findings from this study may have been hindered by psychometric limitations, and thus, further development of psychometrically sound measures and the examination of culture-specific predictors in both disordered eating and Eurocentric body dysmorphic concerns is warranted. Specifically, future

studies would benefit from using well-validated measures, as well as gaining an enhanced understanding of the constructs of interest for Asian American women. Along these lines, future studies should confirm the factor structures of the SIPS in Asian American women and aim to determine whether pressures and internalization might be enmeshed constructs for Asian American women. It will also be important to continue to explore the psychometric properties and factor structure of other measures (e.g., EDE-Q, SAT-R, BIIS) in Asian American women given the general dearth of research and lack of gold-standard measures for the constructs of interest.

Finally, both the SIPS and the SATAQ-4 assess media influences, but do not differentiate between types of media (e.g., television and magazines vs. online social media), relative frequency of exposure, or consistency of beauty ideals across media sources. The sociocultural model was validated when social media was nascent, as such various modern media sources remain relatively unexamined. It is possible that media ideals vary across sources. For example, internet social media (e.g., Instagram) may include more ethnically diverse and body positive portrayals of women than mainstream television, which remains relatively thin-ideal focused and Eurocentric. In order to better understand the role of media in disordered eating and Eurocentric body dysmorphic concerns, future studies should examine a variety of media sources and explore the diversification of media ideals in some outlets.

Limited Generalizability. The unavailability of gold-standard measures for biculturalism, validated across ethnic groups (or at least on multiple Asian American samples) sheds light on the question of etic vs. emic lenses, present throughout this study. Specifically, the implications of this study may be conceptualized as both too narrow and not narrow enough. The results of the present study are *not* necessarily generalizable to: (1) Asian women, (2) Asian

American women from ethnic groups absent from the sample (e.g., Bhutanese American women); (3) Asian Americans of other genders; (4) Asian American girls, adolescents, or older women; (5) women of Asian descent in other diasporas (e.g., Asian Australian women); and (6) other ethnic minority women in the US. Furthermore, participants were UNLV students, suggesting they live in Las Vegas metropolitan area – a region with a unique appearance-focused micro-culture. Living in Las Vegas may result in elevated symptoms of disordered eating, Eurocentric body dysmorphic concerns and sociocultural factors for women. In fact, Las Vegas cultural climate may explain the elevated incidence of disordered eating symptoms in this non-clinical sample. These limitations underscore the importance of replication efforts to the various aforementioned samples in order to increase knowledge around the potential breadth of the findings.

One important future direction is elucidating which findings are unique to Asian American women vs. women of color in general. On one hand, Asian American women are the only known ethnic minority group with comparable levels of disordered eating and elevated Eurocentric body dysmorphic concerns, compared to European American women (Davis & Katzman, 1997, 1998; Jangda et al., 2017; Kok & Tian, 1994; H.-Y. Lee & Lock, 2007; Sing Lee, 2009; Sing Lee & Lee, 2000; Sing Lee et al., 1996; Liao et al., 2010; Marques et al., 2011; Mujtaba & Furnham, 2001; Mumford & Choudry, 2000). As such, it is possible that the relationships among sociocultural factors, ethnic identity, acculturative stress, and Eurocentric body dysmorphic concerns are unique to Asian American women.

On the other hand, the proposed model stems from Eurocentric mainstream Western media ideals. These messages reach nearly all women in Western cultures and promote beauty ideals that are particularly unattainable for women of color. Specifically, like Asian American

women, other women of color may be exposed to the mainstream beauty ideal that is Eurocentric, as well as thin (Scharrer, 2013), and is therefore particularly unattainable for them. Likewise, it is possible that ethnic minority women likewise experience pressure to conform to Eurocentric ideals from media, peers, and family, as well as Eurocentric-ideal internalization. As such, it is possible that, although other ethnic minority groups do not demonstrate elevated Eurocentric body dysmorphic concerns, sociocultural influences function similarly for other women of color. It is furthermore possible that culture-specific influences, such as ethnic identity and acculturative stress play a significant role for other women of color. If so, these models may be particularly salient for women of color with lower generational status (e.g., Latina Americans), who are actively navigating processes of acculturation and changes identity. Accordingly, future studies should replicate this study in other ethnic minority women.

Although biculturalism was not a direct predictor for disordered eating, nor for Eurocentric body dysmorphic concerns, it is possible that other stages of acculturation (i.e., marginalization, assimilation, separation) are salient to the models, for Asian American or other ethnic minority women. If so, future studies should examine whether and how different stages of acculturation relate to ethnic identity, differentially from biculturalism (integration stage). Furthermore, future studies should examine whether and how different stages of acculturation influence the relationships between ethnic identity and Eurocentric body dysmorphic concerns, as well as between acculturative stress and Eurocentric body dysmorphic concerns. Finally, it would be important to confirm prior findings (Barry & Garner, 2001; Gowen et al., 2010; Stark-Wroblewski et al., 2005) suggesting that acculturative stress is not related to sociocultural factors, for Asian American or other ethnic minority women.

Should this study's findings prove unique for Asian American women, the next critical steps is examining why that is the case. A number of factors of interest differentiate Asian Americans from other ethnic minority groups. First, both Asian and mainstream American cultures value a thinner and Eurocentric beauty ideal (Arriaza & Mann, 2001; Crago & Shisslak, 2003; Franko, Becker, Thomas, & Herzog, 2007; Gillen & Lefkowitz, 2012). As such, Asian American women may be in a double bind, such that they experience the distress and impairment resulting from sociocultural factors, regardless of what culture they identify with the most. Accordingly, future studies should examine Asian vs. American media consumption among Asian American women; as well as, differences between Asian and American media.

Second, compared to other ethnic minority groups in the US, Asian Americans are the most likely to endorse an interdependent self-concept and/or engage in implicit communication style (Gudykunst, 2001; Park & Kim, 2008). As such, Asian American women may report disordered eating and/or Eurocentric body dysmorphic concerns, solely or mostly due to outside pressures, possibly without actual internalization of these ideals. Alternatively, it is possible that, due to and enmeshed conceptualization of personal and others' needs, sociocultural pressures may be a more important risk-factor than internalization. In other words, it is possible that, for Asian American women, pressures for thinness explain a higher proportion of disordered eating variance, than for other ethnic groups. Similarly, it is possible that, for Asian American women, pressures for Eurocentric ideals explain a higher proportion of Eurocentric body dysmorphic variance, than for other ethnic groups. Accordingly, future studies should examine proportion of outcome variable variance explained by internalization vs. pressures, for Asian American women, compared to women from groups with a more independent self-concept (e.g., European Americans).

Third, Asian Americans are the only known ethnic minority group widely subject the "model minority" stereotype (Sunmin Lee et al., 2009; Osajima, 2005). As such, understanding how the "model minority" stereotype affects the variables of interest is the next critical step. Specifically, future studies should examine whether Asian American women minimize explicitly reported symptoms, as well as deny distress or impairment, despite elevated disordered eating symptoms or elevated Eurocentric body dysmorphic concerns. If so, it would be important to determine whether Asian American women minimize symptoms because they internalize the "model minority" stereotype, or because they simply expect to be dismissed by researchers or providers.

Emic considerations are likewise an important future direction. Namely, this study's participants were heterogeneous in regards to ethnic group membership: one third were multiracial and almost one fifth were multi-ethnic. Furthermore, participants endorsed membership of 16 different ethnic groups, spanning South, East, and Southeast Asia, as well as Hawai'i. As the implications of the study are both specific to Asian American women (e.g., elevated incidence of Eurocentric body dysmorphic concerns; Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011) and generalized to women of color in general (e.g., exposure to Eurocentric and thin ideal), the generalizability of the findings are unclear. Accordingly, examination of within-group differences among Asian American women is a critical next step. This study ruled out differences by generational status and racial identification (i.e., multiracial vs. uniracial Asian American) with regards to disordered eating and Eurocentric body dysmorphic concerns. Nevertheless, important differences may exist between women with different regions of origin (e.g., South Asia vs. East Asia vs. Southeast Asia). For example, it was expected that internalization of eye shape and eye size ideals would function differently

between South Asians and East/Southeast Asians, because South Asians tend to have larger eyes, without an epicanthic fold. As such, eye shapes promoted by mainstream Western media are congruent and attainable for South Asian women, but likely not East Asian or Southeast Asian women.

Alternatively, Asian American women may differ in symptomatology, due to coming from urban/developed vs. rural/underdeveloped areas, due to immigrating for better economic opportunities vs. fleeing poverty or dangerous conditions, etc. In addition, Asian or Asian American women may consume different media, at different rates, resulting in differentiation in body ideals across regions in Asia and/or urban vs. rural areas. Finally, it is unknown how identifying with Hawai'ian diaspora/origins affects Asian American women's cultural values or experiences in the US. Accordingly, future studies should replicate this study design in larger samples of Asian American women, to allow comparisons among ethnic and sub-ethnic groups.

Finally, when considering culture-specific predictors, this study included variables shown to directly or indirectly affect disordered eating (i.e., ethnic identity; acculturative stress, and, indirectly, biculturalism). As such, this study did not take into consideration a number of unexamined factors, which may be important to examine in future research. Specifically, this study did not include universal risk factors for disordered eating, such as higher levels of perfectionism or negative emotionality (Culbert et al., 2015), because they not fit within the cultures-specific scope of this project. While unexplored, these factors may have also contributed to Eurocentric body dysmorphic concerns in Asian American women. Conversely, this study did not take into consideration key variables in Asian or Asian American cultures, not previously linked with disordered eating or Eurocentric body dysmorphic concerns. Specifically, this study did not examine: interdependent self-concept (Buss, 2001), collectivistic cultural norms (Jang &

Kim, 2010), *filial piety* (i.e., the obligation of children to obey parents and make them proud; (Bedford & Yeh, 2019), and other family and meal-culture related factors (Edirisingha, Ferguson, & Aitken, 2015). Taken together, these factors may exacerbate family/peer pressures for thinness and/or Eurocentric body dysmorphic concerns for Asian American women. As such, examination of these factors in conjunction with sociocultural models is warranted.

Clinical Implications. Disordered eating and body dysmorphic concerns are both serious mental health issues, associated with elevated distress and impairment (APA, 2013; Bowe et al., 2007; Schneider et al., 2017), particularly salient for Asian American women (Jangda et al., 2017; Liao et al., 2010; Marques et al., 2011). Indeed, almost a fifth of the participants in this study scored above the clinical mean on disordered eating, indicating higher than expected incidence of disordered eating for a non-clinical sample (Aardoom et al., 2012). As such, understanding of etiology, assessment, and treatment of disordered eating and Eurocentric body dysmorphic concerns in Asian American women is a critical next step.

Broadly, providers should consider Asian American women's experience as an ethnic minority group, exposed to racially-incongruent, largely unattainable mainstream media ideals. Providers must keep in mind that the mainstream media ideal is Eurocentric, as well as thin. As such, it is crucial to simultaneously assess for Eurocentric body dysmorphic concerns and disordered eating symptoms for Asian American women. Furthermore, assessment of ethnic identity and acculturative stress would be important indications of prognosis for body dysmorphic concerns recovery for Asian American women. Future studies should examine whether additional assessments of biculturalism, acculturative stress, and sociocultural predictors for Eurocentric body dysmorphic concerns improve accuracy in prognosis for Asian American women with disordered eating symptoms and/or Eurocentric body dysmorphic concerns.

Finally, future studies should incorporate extant findings on Asian and Asian American cultures for culturally appropriate intervention designs. Important considerations should be given with how the "model minority" stereotype (Sunmin Lee et al., 2009) affects providers' assessment of symptom severity for Asian American women, as well as whether and how Asian American women present to treatment. Furthermore, providers should enhance their understanding of an implicit communication style that some Asian American clients may use (Gudykunst, 2001; Park & Kim, 2008), potentially resulting in hesitance in symptom endorsement. Finally, providers must understand the interpersonal self-concepts that may be salient for some Asian American clients. For such clients, group and/or family needs may override individual needs (Buss, 2001; Carpenter, 2000), which could affect traditional psychotherapies, particularly in family therapy and group settings. Future studies should examine whether culturally-sensitive family or group psychotherapies are more effective tools for Asian American clients with an interdependent self-concept (compared to individual psychotherapies, which may neglect family or peer factors).

Conclusion

This was the first known study to simultaneously examine sociocultural and culture-specific predictors for disordered eating and Eurocentric body dysmorphic concerns in Asian American women. This study highlights that Asian American women are not immune to the detrimental effects of mainstream Western media, contrary to the "model minority" stereotype. Key leading factors identified in European and European American samples (i.e., thin-ideal internalization and pressures for thinness) are highly relevant for understanding disordered eating in Asian American women. Furthermore, this study highlights how Asian American women's experiences within a minority culture may result in unique mental health difficulties (i.e.,

heightened disordered eating symptoms and Eurocentric body dysmorphic concerns), that are less prevalent among other ethnic minority groups. Finally, culture-specific factors, such as acculturative stress and biculturalism, may play a role in elucidating disordered eating risk in Asian American women. Findings highlight the importance of focusing on sociocultural factors as key players of disordered eating and Eurocentric body dysmorphic concerns, while also remaining open to the potential relevance of culture-specific factors, such as acculturative stress and biculturalism.

APPENDIX I

IRB Approval

UNLV Social/Behavioral IRB - Expedited Review
Approval Notice

DATE:	March 24, 2017
TO:	Kristen Culbert, PhD
FROM:	UNLV Social/Behavioral IRB
PROTOCOL TITLE:	[788816-3] Eating, Mood, and Personality in Asian American Women
SUBMISSION TYPE:	Continuing Review/Progress Report
ACTION:	APPROVED
APPROVAL DATE:	March 24, 2017
EXPIRATION DATE:	March 23, 2018
REVIEW TYPE:	Expedited Review

Thank you for submission of Continuing Review/Progress Report materials for this protocol. The UNLV Social/Behavioral IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a protocol design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This IRB action will reset your expiration date for this protocol. The protocol is approved for a period of one year from the date of IRB approval. The new expiration date for this protocol is March 23, 2018.

PLEASE NOTE:
Attached with this approval notice is the **official Informed Consent/Assent (IC/A) Form** for this study. Only copies of this official IC/A form may be used when obtaining consent. Please keep the original for your records.

Should there be *any* change to the protocol, it will be necessary to submit a **Modification Form** through ORI - Human Subjects. No changes may be made to the existing protocol until modifications have been approved.

ALL UNANTICIPATED PROBLEMS involving risk to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NONCOMPLIANCE issues or COMPLAINTS regarding this protocol must be reported promptly to this office.
This protocol has been determined to be a Minimal Risk protocol. Based on the risks, this protocol requires continuing review by this committee on an annual basis. Submission of the **Continuing Review**

Request Form must be received with sufficient time for review and continued approval before the expiration date of March 23, 2018.

If you have questions, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 702-895-2794. Please include your protocol title and IRBNet ID in all correspondence.

Office of Research Integrity - Human Subjects
4505 Maryland Parkway . Box 451047 . Las Vegas, Nevada 89154-1047
(702) 895-2794 . FAX: (702) 895-0805 . IRB@unlv.edu

APPENDIX II

Demographic Questionnaire

1. Which of the following describes your gender?
   - ☐ Man
   - ☐ Transgender or genderfluid
   - ☐ Woman
   - ☐ Other: _____

2. Which of the following describes your sexual orientation?
   - ☐ Heterosexual or Straight;
   - ☐ Gay or lesbian;
   - ☐ Bisexual;
   - ☐ Transgendered;
   - ☐ Other; or
   - ☐ Don't know

3. What is your date of birth? (month/day/year) _____

4. In what city were you born? _____

5. In what state/province were you born? _____

6. In what country were you born? _____

7. Which of the following best applies to you?

- ☐ International student (non-immigrant)
- ☐ First generation: you were born in another country but live in the USA.
- ☐ Second generation: you were born in the USA; either parent was born in another country.
- ☐ Third generation: you were born in the USA; both parents were born in the USA and all grandparents were born in another country.
- ☐ Fourth generation: you and your parents were born in the USA and at least one grandparent was born in another country with the remainder born in the USA.
- ☐ Fifth or greater generation: you and your parents were born in the USA and all of your grandparents were born in the USA.
- ☐ Not Applicable/Don't Know

8. If born outside of US: How many years have you lived in the United States? _____

9. Are you of Hispanic or Latino origin?
   - ☐ No
   - ☐ Yes

10. How would you describe your racial/ethnic background? (Choose all that apply)
- ☐ African American or Black
- ☐ American Indian or Alaskan Native
- ☐ East Asian, Southeast Asian, South Asian, or Asian American
- ☐ European American or White (of non-Hispanic origins)
- ☐ Latina or Latina American
- ☐ Middle Eastern or Middle Eastern American
- ☐ Native Hawai'ian or Other Pacific Islander
- ☐ Other: _____

11. How would you describe your ethnic or cultural background? (Choose all that apply)
- ☐ Bengali
- ☐ Bhutanese
- ☐ Cambodian
- ☐ Chinese
- ☐ Filipino
- ☐ Indian
- ☐ Indonesian
- ☐ Japanese
- ☐ Korean
- ☐ Laotian
- ☐ Malaysian
- ☐ Nepali
- ☐ Pakistani
- ☐ Singaporean
- ☐ Sri Lankan
- ☐ Taiwanese
- ☐ Thai
- ☐ Vietnamese
- ☐ Other:_____
- ☐ Not Applicable

12. Are you of Hawai'ian and/or Pacific Islander origin?
- ☐ Yes
- ☐ No

13. If you are of Hawai'ian/Pacific Islander origins, which of the following apply to you? (Choose all that apply)
- ☐ Native Hawai'ian and/or Other Pacific Islander Origins
- ☐ Asian origins
- ☐ European/White origins
- ☐ Hispanic/Latino origins
- ☐ Other: _____
- ☐ Not Applicable

14. Were you adopted?
- ☐ Yes
- ☐ No

15. If you were adopted, what is the racial/ethnic background of your adoptive parents? (Choose all that apply)
- ☐ African American; Black
- ☐ American Indian or Alaskan Native
- ☐ European American; White
- ☐ Latina or Latina American
- ☐ Middle Eastern or Middle Eastern American
- ☐ Native Hawai'ian or Other Pacific Islander
- ☐ South Asian or South Asian American
- ☐ Other: _____
- ☐ Not Applicable

16. If you were adopted, what is the racial/ethnic background of your biological parents? (Choose all that apply)
- ☐ African American; Black
- ☐ American Indian or Alaskan Native
- ☐ European American; White
- ☐ Latina or Latina American
- ☐ Middle Eastern or Middle Eastern American
- ☐ Native Hawai'ian or Other Pacific Islander
- ☐ South Asian or South Asian American
- ☐ Other: _____
- ☐ Unknown
- ☐ Not Applicable

17. If you were adopted, what is the ethnic/cultural background of your biological parents? (Choose all that apply)

☐ Bengali	☐ Japanese	☐ Sri Lankan
☐ Bhutanese	☐ Korean	☐ Taiwanese
☐ Cambodian	☐ Laotian	☐ Thai
☐ Chinese	☐ Malaysian	☐ Vietnamese
☐ Filipino	☐ Nepali	☐ Other:_____
☐ Indian	☐ Pakistani	☐ Not Applicable
☐ Indonesian	☐ Singaporean	

18. What is your religious orientation?

☐ Agnostic	☐ Christian Orthodox	☐ Shintoist
☐ Atheist	☐ Confucian	☐ Taoist
☐ Buddhist	☐ Jewish	☐ Unaffiliated
☐ Catholic	☐ Muslim	☐ Other:_____

19. What is your current marital status?

☐ Never married	☐ Married once
☐ Divorced	☐ Divorced, remarried
☐ Widowed	☐ Widowed, remarried
☐ Separated	☐ Living with significant other

20. Have you been divorced?
- ☐ No
- ☐ Yes

21. Do you have any children?
- ☐ No
- ☐ Yes How many sons? _____ How many daughters? _____

22. What is your current primary role?
- ☐ Wage earner
- ☐ Homemaker
- ☐ Student
- ☐ Retired
- ☐ Other (specify): _____

23. What is your **occupation**? (**PLEASE BE AS SPECIFIC AS POSSIBLE.** For example, if a teacher, specify if primary, secondary, collegiate, etc.)

_____

24. What is the highest level of education or grade in school that you have completed?
- ☐ Less than seventh grade
- ☐ Junior high school (9^{th} grade)
- ☐ Partial high school (10^{th} or 11^{th} grade)
- ☐ High school graduate
- ☐ Trade school (after graduating high school)
- ☐ Some college (at least 1 year)
- ☐ Associate's degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Advanced degree (more than 2 years of graduate school. i.e., Ph.D., M.D., J.D., etc.)

25. Approximate average annual combined income of your household:
- ☐ Under $20,000
- ☐ $20,000 - $40,000
- ☐ $40,000 - $60,000
- ☐ $60,000 - $100,000
- ☐ Over $ 100,000

26. Current Height: _____ feet _____ inches

27. Current Weight (in lbs.): _____

APPENDIX III

Eating Disorder Examination Questionnaire

Instructions: The following questions are concerned with the past FOUR WEEKS (28 days) ONLY. Please read each question carefully and indicate the answer that best describes your thoughts and/or behaviors.

Questions 1 to 12: Please circle the appropriate number on the right. Remember that the questions only refer to the past FOUR WEEKS (28 days) ONLY.

On how many of the past 28 days…	**No Days**	**1-5 Days**	**6-12 Days**	**13-15 Days**	**16-22 Days**	**23-27 Days**	**Every day**
1. Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
2. Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?	0	1	2	3	4	5	6
3. Have you tried to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
4. Have you tried to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6

On how many of the past 28 days…	No Days	1-5 Days	6-12 Days	13-15 Days	16-22 Days	23-27 Days	Every day
5. Have you had a definite desire to have an empty stomach with the aim of influencing your shape or weight?	0	1	2	3	4	5	6
6. Have you had a definite desire to have a totally flat stomach?	0	1	2	3	4	5	6
7. Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
8. Has thinking about shape or weight made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
9. Have you had a definite fear of losing control over eating?	0	1	2	3	4	5	6
10. Have you had a definite fear that you might gain weight?	0	1	2	3	4	5	6
11. Have you felt fat?	0	1	2	3	4	5	6
12. Have you had a strong desire lose weight?	0	1	2	3	4	5	6

Questions 13 to 19: Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to the past FOUR WEEKS (28 days).

Over the past four weeks (28 days)……	
13a. Over the past four weeks (28 days), have there been any times when you felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances?	__Yes __No
13b. Over the past four weeks (28 days), how many times (i.e., # of episodes) have you eaten what other people would regard as an unusually large amount of food given the circumstances?	_____
13c. On how many of these episodes of overeating did you have a sense of having lost control over your eating (at the time that you were eating, you just could not stop)?	_____
13d. On how many **DAYS** have such episodes of overeating occurred, i.e., where you have eaten an unusually large amount of food and have had a sense of loss of control at the time?	_____
14a. Over the past four weeks (28 days), have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have not eaten an unusually large amount of food given the circumstances?	__Yes __No
14b. Over the past four weeks (28 days), how many times (i.e., # of episodes) did you have a sense of having lost control over your eating (at the time you were eating, you just could not stop), but you did not eat an unusually large amount of food given the circumstances?	_____
15a. Over the past four weeks (28 days), have there been any times when you have made yourself sick (vomit) as a means of controlling your shape or weight?	__Yes __No
15b. Over the past 28 days, how many times (i.e., # of episodes) have you made yourself sick (vomit) as a means of controlling your shape or weight?	_____
16a. Over the past four weeks (28 days), have there been any times when you have taken laxatives as a means of controlling your shape or weight?	__Yes __No
16b. Over the past 28 days, how many times have you taken laxatives as a means of controlling your shape or weight?	_____

Questions 13 to 19: Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to the past FOUR WEEKS (28 days).

17a. Over the past four weeks (28 days), have there been any times when you have taken diuretics (water tablets) as a means of controlling your shape or weight?	__Yes __No
17b. Over the past 28 days, how many times have you taken diuretics as a means of controlling your shape or weight?	_____
18a. Over the past four weeks (28 days), have there been any times when you have taken diet pills as a means of controlling your shape or weight?	__Yes __No
18b. Over the past 28 days, how many times have you taken diet pills as a means of controlling your shape or weight?	_____
19a. Over the past four weeks (28 days), have there been any times when you have exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?	__Yes __No
19b. Over the past 28 days, how many times have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?	_____

Questions 20 to 22: Please select the appropriate number. Please note that for these questions the term "binge eating" means: eating what others would regard as an unusually *large amount of food* for the circumstances, accompanied by a *sense of having loss of control over eating (e.g., feeling as though you could not stop eating)*.

	No Day	**1-5 Days**	**6-12 Days**	**13-15 Days**	**16-22 Days**	**23-27 Days**	**Every day**
20. Over the past 28 days, on how many days have you eaten in secret (i.e., furtively)? ..... Do not count episodes of binge eating	0	1	2	3	4	5	6
21. Over the past 28 days, on what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? .....Do not count episodes of binge eating	0	1	2	3	4	5	6
22. Over the past 28 days, how concerned have you been about other people seeing you eat?.... Do not count episodes of binge eating	0	1	2	3	4	5	6

Questions 23 to 29: Please select the appropriate number. Remember that the questions only refer to the past FOUR WEEKS (28 days).

Over the past 28 days…	**Not at all**		**Slightly**	**Moderately**		**Markedly**
23. Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24. Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
25. How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
26. How dissatisfied have you been with your weight?	0	1	2	3	4	5	6
27. How dissatisfied have you been with your shape?	0	1	2	3	4	5	6

Questions 23 to 29: Please select the appropriate number. Remember that the questions only refer to the past FOUR WEEKS (28 days).

Over the past 28 days…	**Not at all**			**Slightly**	**Moderately**		**Markedly**
28. How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
29. How uncomfortable have you felt about others seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

30. What is your weight at present? (Please give your best estimate.) **_____ lbs.**

31. What is your height? (Please give your best estimate.) **____ feet ____ inches**

32. **If female:** Over the past three-to-four months have you missed any menstrual periods? **Yes___ No___**
If so, how many?_____

33. **If female:** Please report the dates of your last three menstrual periods. If cannot remember, write "do not know."
Most Recent (Month 1): _____/_____/_____
Month Prior (Month 2): _____/_____/_____
Month Prior (Month 3): _____/_____/_____

34. **If female**: Have you been taking the "pill" or another form of birth control?

☐ Birth control pills (specify brand, if known):
☐ Birth control injections (e.g. Depo-Provera, specify type if known):
☐ Other (specify):

APPENDIX IV

The Satisfaction with Racially Salient Appearance Features Questionnaire

Directions: Please indicate your level of satisfaction with the following parts of your body.

	Very Satisfied	**Satisfied**	**Neutral**	**Dissatisfied**	**Very Dissatisfied**
1. Cheek bone definition	1	2	3	4	5
2. Face shape (e.g., round, heart-shaped, oval).	1	2	3	4	5
3. Depth of facial features (i.e., flatness or indentation)	1	2	3	4	5
4. Eye size	1	2	3	4	5
5. Distance between eyes	1	2	3	4	5
6. Eye color	1	2	3	4	5
7. Eyelids (i.e., double-fold, depth of lids)	1	2	3	4	5
8. Hair length	1	2	3	4	5
9. Hair color (of hair on head)	1	2	3	4	5
10. Hair texture (i.e., coarse, fine)	1	2	3	4	5
11. Hair “style-ability”, grooming or manageability (i.e., the way you can wear your hair, ability to color/perm hair)	1	2	3	4	5
12. Hair shape (i.e., curly, straight)	1	2	3	4	5
13. Hair thickness	1	2	3	4	5
14. Lip color	1	2	3	4	5
15. Lip fullness	1	2	3	4	5
16. Skin color	1	2	3	4	5
17. Color of inside of hands and feet	1	2	3	4	5

Directions: Please indicate your level of satisfaction with the following parts of your body.

	Very Satisfied	**Satisfied**	**Neutral**	**Dissatisfied**	**Very Dissatisfied**
18. Hair on body (e.g., legs, torso, arms)	1	2	3	4	5
19. Nipple color	1	2	3	4	5
20. Nose width	1	2	3	4	5
21. Nose height/length	1	2	3	4	5
22. Nose shape	1	2	3	4	5
23. Leg length	1	2	3	4	5
24. Hip size	1	2	3	4	5
25. Leg shape	1	2	3	4	5`
26. Thigh muscle size	1	2	3	4	5
27. Buttock size	1	2	3	4	5
28. Buttock shape/prominence (e.g., flatness, fullness)	1	2	3	4	5
29. Weight	1	2	3	4	5
30. Body fatness	1	2	3	4	5
31. Body proportions	1	2	3	4	5
32. Frame size	1	2	3	4	5

APPENDIX V

Sociocultural Attitudes Towards Appearance Questionnaire-4

Directions: Please read each of the following items carefully and select the answer that best reflects your agreement with each statement.

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Mostly Agree**
1. It is important for me to look athletic.	1	2	3	4	5
2. I think a lot about looking muscular.	1	2	3	4	5
3. I want my body to look very thin.	1	2	3	4	5
4. I want my body to look like it has little fat.	1	2	3	4	5
5. I think a lot about looking thin.	1	2	3	4	5
6. I spend a lot of time doing things to look more athletic.	1	2	3	4	5
7. I think a lot about looking athletic.	1	2	3	4	5
8. I want my body to look very lean.	1	2	3	4	5
9. I think a lot about having very little body fat.	1	2	3	4	5
10. I spend a lot of time doing things to look more muscular.	1	2	3	4	5

Directions: Please answer the following questions with relevance to your FAMILY (include: parents, brothers, sisters, relatives).

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Mostly Agree**
11. I feel pressure from family members to look thinner.	1	2	3	4	5
12. I feel pressure from family members to improve my appearance.	1	2	3	4	5
13. Family members encourage me to decrease my level of body fat.	1	2	3	4	5
14. Family members encourage me to get in better shape.	1	2	3	4	5

Directions: Please answer the following questions with relevance to your PEERS (include: close friends, classmates, other social contacts).

	Definitely Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Mostly Agree
15. My peers encourage me to get thinner.	1	2	3	4	5
16. I feel pressure from my peers to improve my appearance.	1	2	3	4	5
17. I feel pressure from my peers to look in better shape.	1	2	3	4	5
18. I get pressure from my peers to decrease my level of body fat.	1	2	3	4	5

Directions: Please answer the following questions with relevance to the MEDIA (include: television, magazines, the Internet, movies, billboards, and advertisements).

	Definitely Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Mostly Agree
19. I feel pressure from the media to look in better shape.	1	2	3	4	5
20. I feel pressure from the media to look thinner.	1	2	3	4	5
21. I feel pressure from the media to improve my appearance.	1	2	3	4	5
22. I feel pressure from the media to decrease my level of body fat.	1	2	3	4	5

APPENDIX VI

Supplemental Internalization and Pressures Scale (Original)

Please read each of the following items carefully and select the answer that best reflects your agreement with each statement.

	Definitely Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Definitely Agree
1. I think a lot about the size or shape of my eyes.	1	2	3	4	5
2. I want my eyes to be bigger or rounder.	1	2	3	4	5
3. I think a lot about my eye color.	1	2	3	4	5
4. I want my eyes to be lighter.	1	2	3	4	5
5. I think a lot about the shape of my eyelids.	1	2	3	4	5
6. I want to have double/folded eyelids.	1	2	3	4	5
7. I think a lot about my hair color.	1	2	3	4	5
8. I want my hair to be lighter.	1	2	3	4	5
9. I think a lot about my hair texture.	1	2	3	4	5
10. I want my hair to be finer in texture.	1	2	3	4	5
11. I think a lot about my skin color.	1	2	3	4	5
12. I want my skin to be lighter.	1	2	3	4	5
13. I think a lot about my nose shape.	1	2	3	4	5
14. I want my nose to be sharper.	1	2	3	4	5
15. I think a lot about my nose size.	1	2	3	4	5
16. I want my nose to be smaller.	1	2	3	4	5
17. I think a lot about my breast size.	1	2	3	4	5
18. I want my breasts to be larger.	1	2	3	4	5

Please read each of the following items carefully and select the answer that best reflects your agreement with each statement.

	Definitely Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Definitely Agree
19. I think a lot about my height.	1	2	3	4	5
20. I want to be taller.	1	2	3	4	5

Please answer the following questions with relevance to your FAMILY (include: parents, siblings, relatives).

	Definitely Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Definitely Agree
21. I feel pressure from family members have bigger or rounder eyes.	1	2	3	4	5
22. I feel pressure from family members to have lighter eye color.	1	2	3	4	5
23. I feel pressure from family members to have double/folded eyelids.	1	2	3	4	5
24. I feel pressure from family members to have lighter hair.	1	2	3	4	5
25. I feel pressure from family members to have finer hair texture.	1	2	3	4	5
26. I feel pressure from family members to have lighter skin.	1	2	3	4	5
27. I feel pressure from family members to have a *sharper* nose.	1	2	3	4	5
28. I feel pressure from family members to have a *smaller* nose.	1	2	3	4	5
29. I feel pressure from family members to have larger breasts.	1	2	3	4	5
30. I feel pressure from family members to be taller.	1	2	3	4	5

Please answer the following questions with relevance to your PEERS (include: close friends, classmates, etc.)

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Definitely Agree**
31. I feel pressure from peers have bigger or rounder eyes.	1	2	3	4	5
32. I feel pressure from peers to have lighter eye color.	1	2	3	4	5
33. I feel pressure from peers to have double/folded eyelids.	1	2	3	4	5
34. I feel pressure from peers to have lighter hair.	1	2	3	4	5
35. I feel pressure from peers to have finer hair texture.	1	2	3	4	5
36. I feel pressure from peers to have lighter skin.	1	2	3	4	5
37. I feel pressure from peers to have a *sharper* nose.	1	2	3	4	5
38. I feel pressure from peers to have a *smaller* nose.	1	2	3	4	5
39. I feel pressure from peers to have larger breasts.	1	2	3	4	5
40. I feel pressure from peers to be taller.	1	2	3	4	5

Please answer the following questions with relevance to the MEDIA (include: television, magazines, the Internet, movies, billboards, and advertisements).

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Definitely Agree**
41. I feel pressure from the media have bigger or rounder eyes.	1	2	3	4	5
42. I feel pressure from the media to have lighter eye color.	1	2	3	4	5
43. I feel pressure from the media to have double/folded eyelids.	1	2	3	4	5
44. I feel pressure from the media to have lighter hair.	1	2	3	4	5
45. I feel pressure from the media to have finer hair texture.	1	2	3	4	5
46. I feel pressure from the media to have lighter skin.	1	2	3	4	5
47. I feel pressure from the media to have a *sharper* nose.	1	2	3	4	5
48. I feel pressure from the media to have a *smaller* nose.	1	2	3	4	5
49. I feel pressure from the media to have larger breasts.	1	2	3	4	5
50. I feel pressure from the media to be taller.	1	2	3	4	5

APPENDIX VII

Supplemental Internalization and Pressures Scale (Revised)

Please read each of the following items carefully and select the answer that best reflects your agreement with each statement.

	Definitely Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Definitely Agree
1. I think a lot about the size or shape of my eyes.	1	2	3	4	5
2. I want my eyes to be bigger or rounder.	1	2	3	4	5
3. I think a lot about my eye color.	1	2	3	4	5
4. I want my eyes to be lighter.	1	2	3	4	5
5. I think a lot about the shape of my eyelids.	1	2	3	4	5
6. I want to have double/folded eyelids.	1	2	3	4	5
7. I think a lot about my hair color.	1	2	3	4	5
8. I want my hair to be lighter.	1	2	3	4	5
9. I think a lot about my skin color.	1	2	3	4	5
10. I want my skin to be lighter.	1	2	3	4	5
11. I think a lot about my nose shape.	1	2	3	4	5
12. I want my nose to be sharper.	1	2	3	4	5
13. I think a lot about my nose size.	1	2	3	4	5
14. I want my nose to be smaller.	1	2	3	4	5

Please answer the following questions with relevance to your FAMILY (include: parents, siblings, relatives).

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Definitely Agree**
15. I feel pressure from family members have bigger or rounder eyes.	1	2	3	4	5
16. I feel pressure from family members to have lighter eye color.	1	2	3	4	5
17. I feel pressure from family members to have double/folded eyelids.	1	2	3	4	5
18. I feel pressure from family members to have lighter hair.	1	2	3	4	5
19. I feel pressure from family members to have finer hair texture.	1	2	3	4	5
20. I feel pressure from family members to have lighter skin.	1	2	3	4	5
21. I feel pressure from family members to have a *sharper* nose.	1	2	3	4	5
22. I feel pressure from family members to have a *smaller* nose.	1	2	3	4	5
23. I feel pressure from family members to have larger breasts.	1	2	3	4	5
24. I feel pressure from family members to be taller.	1	2	3	4	5

Please answer the following questions with relevance to your PEERS (include: close friends, classmates, etc.)

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Definitely Agree**
25. I feel pressure from peers have bigger or rounder eyes.	1	2	3	4	5
26. I feel pressure from peers to have lighter eye color.	1	2	3	4	5
27. I feel pressure from peers to have double/folded eyelids.	1	2	3	4	5
28. I feel pressure from peers to have lighter hair.	1	2	3	4	5
29. I feel pressure from peers to have finer hair texture.	1	2	3	4	5
30. I feel pressure from peers to have lighter skin.	1	2	3	4	5
31. I feel pressure from peers to have a *sharper* nose.	1	2	3	4	5
32. I feel pressure from peers to have a *smaller* nose.	1	2	3	4	5
33. I feel pressure from peers to have larger breasts.	1	2	3	4	5
34. I feel pressure from peers to be taller.	1	2	3	4	5

Please answer the following questions with relevance to the MEDIA (include: television, magazines, the Internet, movies, billboards, and advertisements).

	Definitely Disagree	**Mostly Disagree**	**Neither Agree nor Disagree**	**Mostly Agree**	**Definitely Agree**
35. I feel pressure from the media have bigger or rounder eyes.	1	2	3	4	5
36. I feel pressure from the media to have lighter eye color.	1	2	3	4	5
37. I feel pressure from the media to have double/folded eyelids.	1	2	3	4	5
38. I feel pressure from the media to have lighter hair.	1	2	3	4	5
39. I feel pressure from the media to have finer hair texture.	1	2	3	4	5
40. I feel pressure from the media to have lighter skin.	1	2	3	4	5
41. I feel pressure from the media to have a *sharper* nose.	1	2	3	4	5
42. I feel pressure from the media to have a *smaller* nose.	1	2	3	4	5
43. I feel pressure from the media to have larger breasts.	1	2	3	4	5
44. I feel pressure from the media to be taller.	1	2	3	4	5

APPENDIX VIII

Multigroup Ethnic Identity Measure

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

Please fill in:
In terms of ethnic group, I consider myself to be _____
My father's ethnicity is _____
My mother's ethnicity is _____

Please indicate how much you agree or disagree with each statement:

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs.	1	2	3	4
2. I am active in organizations or social groups that include mostly members of my own ethnic group.	1	2	3	4
3. I have a clear sense of my ethnic background and what it means for me.	1	2	3	4
4. I like meeting and getting to know people from ethnic groups other than my own.	1	2	3	4
5. I think a lot about how my life will be affected by my ethnic group membership.	1	2	3	4
6. I am happy that I am a member of the group I belong to.	1	2	3	4
7. I sometimes feel it would be better if different ethnic groups didn't try to mix together.	1	2	3	4
8. I am not very clear about the role of my ethnicity in my life.	1	2	3	4
9. I often spend time with people from ethnic groups other than my own.	1	2	3	4

Please indicate how much you agree or disagree with each statement:

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
10. I really have not spent much time trying to learn more about the culture and history of my ethnic group.	1	2	3	4
11. I have a strong sense of belonging to my own ethnic group.	1	2	3	4
12. I understand pretty well what my ethnic membership means to me, in terms of how to relate to my own group and other groups.	1	2	3	4
13. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.	1	2	3	4
14. I have a lot of pride in my ethnic group and its accomplishments.	1	2	3	4
15. I don't try to become friends with people from other ethnic groups.	1	2	3	4
16. I participate in cultural practices of my own group, such as special food, music, or customs.	1	2	3	4
17. I am involved in activities with people from other ethnic groups.	1	2	3	4
18. I feel a strong attachment towards my own ethnic group.	1	2	3	4
19. I enjoy being around people from ethnic groups other than my own.	1	2	3	4
20. I feel good about my cultural or ethnic background.	1	2	3	4

APPENDIX IX

Bicultural Identity Integration Scale

Please answer the following statements. For each statement below, please check only one box:

1 = Definitely Not True, 2 = Mostly Not True, 3 = Neither True Nor Untrue, 4 = Mostly True, and 5 = Definitely True

	Definitely Not True	**Mostly Not True**	**Neither True Nor Untrue**	**Mostly True**	**Definitely True**
1. I am simply an Asian who lives in North America.	1	2	3	4	5
2. I keep Asian and American cultures separate.	1	2	3	4	5
3. I feel Asian American.	1	2	3	4	5
4. I feel part of a combined culture.	1	2	3	4	5
5. I am conflicted between the American and Asian ways of doing things.	1	2	3	4	5
6. I feel like someone moving between two cultures.	1	2	3	4	5
7. I feel caught between the Asian and American cultures.	1	2	3	4	5
8. I don't feel trapped between the Asian and American cultures.	1	2	3	4	5

APPENDIX X

Social Attitudinal Familial and Environmental Acculturative Stress Scale

The following statements indicate how you perceive cultural stress. For each statement below, please check only one box:

1 = Strongly Agree, 2 = Agree, 3 = Disagree, and 4 = Strongly Disagree

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1. I feel uncomfortable when others make jokes about Asian culture.	1	2	3	4
2. My family members do not understand my American values.	1	2	3	4
3. My family members and I have different expectations about my future.	1	2	3	4
4. It bothers me that I cannot be with my family.	1	2	3	4
5. Being Asian can be a limitation in looking for a good job.	1	2	3	4
6. Many people have stereotypes about Asian culture.	1	2	3	4
7. Living in the U.S. gives me stress.	1	2	3	4
8. It bothers me when I think of my limited English skills.	1	2	3	4
9. Other ethnic people try to stop me from advancing.	1	2	3	4
10. I get pressure from others to become a part of the American culture.	1	2	3	4
11. Because I am Asian, I do not get enough credit for the work I do.	1	2	3	4
12. It bothers me when I lose contacts with friends or families in Asia.	1	2	3	4
13. Other ethnic friends exclude me from activities because of my Asian background.	1	2	3	4
14. People look down upon me when I practice my Asian customs.	1	2	3	4
15. It will be better if I have more Asians in my neighborhood.	1	2	3	4
16. I will gain more respect if I were in Asia.	1	2	3	4

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